

# Situation analysis of newborn health in Uganda

*Current status and opportunities  
to improve care and survival*



**MINISTRY OF HEALTH**  
GOVERNMENT OF UGANDA

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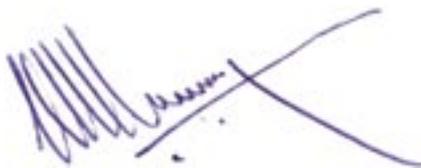
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# FOREWORD

During the last 20 years Uganda has witnessed improvements in child health. However, still around 200,000 children under the age of five years still die each year in this country. Of these, more than half die during their first year, and 45,000 within the first month of life – the newborn period. The Government of Uganda, in collaboration with development partners is committed to the reduction of childhood morbidity and mortality to achieve the Poverty Eradication Action Plan and the Millennium Development Goals (MDGs). A child survival strategy has been developed to prioritise cost-effective interventions and delivery mechanisms that will lead to the attainment of the fourth MDG for child survival.

In line with the Health Sector Strategic Plan II for 2005-2010, the Government of Uganda has committed to develop and implement an effective, comprehensive and responsive health system to reach all newborns and their mothers, in order to reduce unnecessary deaths and improve newborn health within a continuum of care. The Situation Analysis of Newborn Health in Uganda assesses the state of newborn care practices, as well as strategic opportunities to improve care provided to the nation's most vulnerable citizens – children in their first month of life. Based on the extensive research conducted for this situation analysis, recommendations are proposed to improve newborn survival within the continuum of care, by time period and at various levels of service delivery. These recommendations also serve as an inter-sectoral call to action for the overall health of women, newborns and children in Uganda, including the household, community, district level and national stakeholders.

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**Dr. Jeremiah Twa-Twa**  
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# ACRONYMS

<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>ANC</b>	Antenatal Care
<b>ARV</b>	Antiretroviral drugs
<b>BCG</b>	Bacille Calmette-Guérin vaccine for tuberculosis
<b>CDC</b>	Center for Disease Control and Prevention
<b>CPR</b>	Contraceptive Prevalence Rate
<b>DHS</b>	Demographic and Health Survey
<b>DPT</b>	Diphtheria, Pertussis and Tetanus vaccine
<b>EmOC</b>	Emergency Obstetric Care
<b>FGD</b>	Focus Group Discussion
<b>GDP</b>	Gross Domestic Product
<b>HMIS</b>	Health Management Information System
<b>HIV</b>	Human Immunodeficiency Virus
<b>HSSP</b>	Health Sector Strategic Plan
<b>IDP</b>	Internally Displaced People
<b>IMR</b>	Infant Mortality Rate
<b>IPTp</b>	Intermittent Preventive Treatment for malaria in pregnancy
<b>ITN</b>	Insecticide Treated Net
<b>KMC</b>	Kangaroo Mother Care
<b>MDG</b>	Millennium Development Goal
<b>MMR</b>	Maternal Mortality Ratio
<b>MNCH</b>	Maternal, Newborn and Child Health
<b>MoH</b>	Ministry of Health
<b>NGO</b>	Non Governmental Organization
<b>NMR</b>	Neonatal Mortality Rate
<b>ORS</b>	Oral Rehydration Solution
<b>PEAP</b>	Poverty Eradication Action Plan
<b>PMNCH</b>	Partnership for Maternal, Newborn and Child Health
<b>PMTCT</b>	Prevention of Mother to Child Transmission
<b>TBA</b>	Traditional Birth Attendant
<b>TT</b>	Tetanus Toxoid vaccine
<b>U5MR</b>	Under Five-Mortality Rate
<b>UBOS</b>	Uganda Bureau of Statistics
<b>UDHS</b>	Uganda Demographic Health Survey
<b>UNDP</b>	United Nations Development Programme
<b>UNEPI</b>	Uganda National Expanded Programme for Immunization
<b>UNICEF</b>	United Nations Children Fund
<b>USAID</b>	United States Agency for International Development
<b>VCT</b>	Voluntary Counselling and Testing
<b>VHT</b>	Village Health Team
<b>WHO</b>	World Health Organization

# EXECUTIVE SUMMARY

The *Situation Analysis of Newborn Health in Uganda* focuses on the prevailing health and care practices for newborns. It is Government's response, in line with Health Sector Strategic Plan II for 2005-10, to develop and implement an effective, comprehensive and responsive health system to reach all newborns and their mothers, to reduce unwanted deaths and improve newborn health within a continuum of care.

The overall objective was to carry out a situation analysis of newborn health and care in the country, determining levels and trends of newborn mortality and morbidity, risk factors for ill health. In addition, current practices regarding newborn care at facility and community level were reviewed along with existing services, policies and programmes. It was also critical to understand the levels of skill and capacity of health care providers and community-based workers. This information was drawn together in order to highlight gaps in policies, programmes, services and to identify steps forward to improve newborn health in Uganda.

The study was conducted through a literature review and complemented by a field study in eight rural districts (Iganga, Kumi, Kayunga, Rakai, Kabarole, Bushenyi, Arua, Lira) and two urban divisions of Kampala. It employed both qualitative and quantitative methods, including a review of documents and health facility records, 152 key informant interviews, 21 focus group discussions, 39 facility observations and 1,136 household interviews with mothers with infants less than 6 months old. Data were collected between the months of February and April 2007.

## **Major Findings**

### **Neonatal mortality and risk factors**

#### **Key message:**

**Each year in Uganda at least 45,000 newborns die, with an equal number stillborn. Many more do not reach their full potential due to preventable illness or disability.**

Birth, the first 24 hours and the first six days of life are the most critical for newborn survival. At least 45,000 newborn deaths occur each year and an equal number are stillborn. Uganda's neonatal mortality rate (NMR), possibly an under-estimate, is very high at 29 deaths per 1,000 live births, has not declined over a period of 15 years. More newborn deaths occur at home, among the rural poor, internally displaced persons (IDP) camps and in western and central regions. The common causes of neonatal deaths in Uganda are similar to the rest of Africa and include birth asphyxia, infections and complications of preterm birth. Underlying causes of death are related to poor access and utilisation of health services during pregnancy and childbirth, especially the high number of deliveries that take place without skilled attendance. National health targets have not adequately captured newborn health indicators, resulting in the exclusion of newborn survival from national development efforts.

### **Policies and programmes for newborn health**

#### **Key message:**

**Uganda has many good policies in place to protect women and their newborns and to provide integrated care. However, there continues to be a need to address care during the early postnatal period and effectively disseminate and implement such policies.**

Little newborn-specific data has been collected and few national targets have been set, which has led to a lack of newborn representation on the health and development agenda. The postnatal period in particular is an

important policy gap. Even where policies do exist, they are not sufficiently disseminated and implemented at district and health facility levels. Appropriate resources have also not been made available to support effective implementation. Yet current policies, strategies and interventions of safe motherhood and childhood survival programmes have the potential to sufficiently address neonatal health in the country. Uganda's new approach to integrated policies, strategies and interventions within a continuum of care approach has the potential to maximise impact.

## Practices at household and community level

### Key message:

**Many newborn deaths are preventable with appropriate knowledge and practices at the family and community levels, and with appropriate care-seeking when danger signs are recognised. However, life-saving practices are not always followed due to poverty, cultural beliefs, lack of household food security and poor access to health care.**

Practices at community and household levels do not meet expected standards due to poverty, lack of household food security and poor access to health care. Prevention and treatment of diseases and ill health is inadequate for malaria, HIV/AIDS and tetanus. Traditional care-seeking practices during pregnancy are not always supportive of formal care. The benefits of birth preparedness are widely appreciated but many poor households do not seek care for cultural or financial reasons. This is compounded by lack of male and/or spousal support for women. There are a number of dangerous practices that take place during childbirth, many of which are linked to unskilled care and poor hygienic practices at home and at Traditional Birth Attendant (TBA) facilities. Postnatal practices related to early breastfeeding and maintaining body temperature are fair but the common use of pre-lacteal feeds, early bathing and poor infection control place newborns at risk. Few women receive counselling before or after birth to encourage healthy behaviours for newborn care. The care of preterm infants and actions taken when a newborn fails to cry at birth are inadequate or non-existent. Although mothers recognise danger signs in the newborn and themselves, their response is inappropriate, often due to poor access to quality health care.



## Services access, utilisation and quality

### Key message:

**Uganda has a strong network of health centres and hospitals to provide a continuum of care to mothers and newborns. While most women access the formal health system during pregnancy, quality of care and links between facilities must be improved in order to address the gap in service utilisation around the time of childbirth and the early postnatal period, when most maternal and newborn deaths occur.**

There are important gaps in service utilisation in Uganda, beginning with the marked imbalance in the distribution of health facilities, between regions and rural versus urban centres for hospitals and higher health centres which have the mandate to provide newborn services. Lower grade facilities are mandated to give limited care services despite being closer to rural communities where newborn mortality risks are highest. Even where facilities are mandated to provide a package of newborn care, most cannot provide these services. The availability, access and quality of services are affected by insufficient numbers of trained staff and uneven distribution of available skilled personnel.

Service providers during antenatal and childbirth care traditionally focus more on the mother despite this being a key time to promote, and later practice, essential newborn care. Provision of quality immediate and early postnatal

## EXECUTIVE SUMMARY

care services was constrained by a lack of basic equipment. Basic equipment and essential drugs for newborn care are lacking in many hospitals; nearly all higher grade health centres and many maternity units lack resuscitation kits. Services for managing sick newborns and low birth weight babies were inadequate in the majority of the facilities that were closest to the communities, and within the communities themselves. Care for sick newborns especially in the first week of life is inadequate, but there is potential for existing staff and facilities to be maximised.



## Recommendations

Based on the extensive research conducted for this situation analysis, recommendations are proposed for immediate and long-term action to improve newborn survival within the continuum of care, by time period and different levels of service delivery. These recommendations also serve as an inter-sectoral call to action for the overall health of women, newborns and children in Uganda, including the family and community, district level and national stakeholders.

### **Immediate actions by level of care**

#### ***Community level***

- The Ministry of Health together with partners should develop a community-based strategy to provide quality reproductive health and newborn care information to rural women and their families.
- Develop and include newborn care in the Village Health Team (VHT) and Community-Integrated Management of Childhood Illness (IMCI) strategy and equip at least one member of the VHT to provide community based care for newborns.

#### ***Health facility level***

- The Ministry of Health should review and update the newborn care service package and policy guidelines especially for the postnatal period and have it widely disseminated among health workers and managers.
- Improve in-service training in care for newborns at delivery (e.g. resuscitation and immediate newborn care) and both routine and emergency postnatal care.
- Increase the speed of roll-out of Kangaroo Mother Care (KMC) for low birth weight babies in facilities with strong links to communities.
- District managers should plan and equip health facilities with basic supplies, including essential drugs for newborn care.
- Improve national vital statistics and the Health Management Information System (HMIS) through institutionalising maternal and perinatal mortality audits and improving record-keeping in health units.

### **Long term actions by time period**

#### ***Pre-pregnancy period***

- Increase access to family planning services to adolescents and young women.
- Improve service availability and quality for disease prevention (sexually transmitted infections, HIV/AIDS, malaria and tetanus) in adolescents.
- Provide nutrition and health education to girls and women through school health programmes and community-based programmes.

#### ***Pregnancy/Antenatal period***

- Scale up and improve implementation of four-visit, goal-oriented ANC, including basic maternal and newborn care included in prevention of mother-to-child transmission of HIV (PMTCT).

#### ***Childbirth period***

- Expedite filling of all vacant midwifery posts at Health Centre (HC) III level.
- Strengthen health worker skills for newborn care, especially resuscitation, at all levels.
- Provide basic equipment and supplies for essential and emergency newborn care.
- Improve quality of services to meet minimum standards of care (skilled attendance, clean delivery, emergency obstetric and newborn care) at all levels.

**Postnatal period**

- o Define service package and timing for postnatal care to cater for newborns during the first week of life.
- o Orient health workers on the revised IMCI protocols which include the first week of life.
- o Allow for first level care of sick newborns at HC II and HC III through provision of essential drugs and supplies.
- o Address gaps in care at community level through equipping a member of the VHT to mobilise and support mothers to provide proper care for their newborns.
- o Implement behaviour change campaigns to support activities of the VHT at the community level.

**Actions to improve general welfare**

There is an immediate opportunity for policymakers to take a leading role to improve newborn health from the highest level in both public and private health facilities and to influence the care newborns receive at home. This can be achieved by making and disseminating appropriate policies, improving staffing levels and supervision in health facilities, and providing an enabling environment for community-level care.

Newborn health champions should be sought to mount a high level newborn health campaign to raise the issue on the national agenda and to help mobilise resources to support newborn health programmes.

Newborn survival is not only dependent on the health sector; inter-sectoral collaboration is necessary to empower girls and deliver long-term health benefits, which will then be passed on to their families. Urgent effort is needed to improve food security, reduce household poverty and improve girls' education through universal primary and secondary education in order to improve the welfare of all Ugandans.







## CHAPTER I

# BACKGROUND AND RESEARCH METHODS

This chapter presents the overall situation and trends for maternal, newborn and child health in Uganda and outlines the background, objectives and methodology of the *Situation analysis of newborn health in Uganda*.

A healthy newborn will change the future of Uganda. We know that mothers, newborns and children are inseparably linked in life and in their health care needs, but in the past, maternal and child health interventions have often treated the mother and child separately, resulting in gaps in care for the newborn.<sup>1</sup>

Although newborn mortality has not been a priority in the past, the recent Health Sector Strategic Plan II 2005-2010 has prioritised newborn health for the first time.<sup>3</sup> The Ministry of Health and a number of development partners, including Save the Children, UNICEF and WHO, identified the need to develop a more complete understanding of the state of the newborn health in Uganda. In line with this, a situational analysis was commissioned to determine the status of newborn health, existing policies, programmes and services. This analysis sought to identify unmet needs at the primary and referral level health facilities, as well as at the community and household levels.

The information gathered in this situation analysis will be used to inform the development of policies and programmes to respond to identified gaps within the continuum of care, provide the essential link required to improve maternal, newborn and child health, and accelerate progress towards the achievement of the Millennium Development Goals (MDGs).

## Trends in demographic and socioeconomic indicators

Uganda's projected mid-year population for 2007 was 28.2 million, with approximately 1.4 million births each year.<sup>5</sup> Table I.1 describes the levels and trends of basic demographic and socioeconomic indicators. Over 87 percent of the population still lives in rural areas,<sup>2</sup> with a similar proportion living on less than one US dollar per day. Uganda has an annual gross domestic product (GDP) per capita of US \$394.<sup>6</sup>

Uganda continues to experience high population growth and a high fertility rate, which have remained relatively unchanged between 1990 and 2005. The age at first marriage and first birth is rising slowly, but still remains under 20 years.<sup>2</sup> Primary school gross enrolment has more than doubled from 3.1 million in 1996 to 7.2 million in 2006 with a narrowing gender enrolment gap.<sup>6</sup> However, the female dropout rate is higher than that of the males, and literacy levels among women remain lower than among men.<sup>2</sup>

**Table I.1: Demographic and Socio-Economic Trends in Uganda**

Indicators	1991	1995	2000	2005
Total population (millions)	16.7	19.3	22.2	27.8
Population growth rate (%)	2.5	3.3	3.2	3.3
Total fertility rate (births per woman)	7.1	6.9	6.9	6.7
Average age at first marriage (women)	17.5	17.5	17.8	18.3
Average age at first birth	18.5	18.6	18.7	19.1
HIV prevalence rate (%)	30	14	6.1	6.4
Population without access to safe drinking water (%)	74	58	40	33
Poverty level (%)	56	44	35	31
Literacy rate (%)	54	62	74	84
GDP per capita (in US \$)	251	330	350	394

Source: UBOS 1991<sup>7</sup>; UDHS 1995<sup>8</sup>, 2000<sup>9</sup>, 2006<sup>10</sup>; UNDP 2007<sup>10</sup>

## Overview of the health system in Uganda

Uganda's healthcare system was decentralised to district and sub-district levels in the early 1990's, with the aim of improving efficiency and effectiveness in healthcare service delivery. The central government retains the role of policymaking, standard setting and quality assurance. The government runs health facilities and training institutions alongside the not-for-profit and private sectors.

Uganda has 41 medical training schools, including 30 run by government and 11 run by NGOs. There are four statutory professional councils that ensure good professional practice and quality of care, including the Medical and Dental Practitioners Council, the Nurses and Midwives Council, the Allied Health Professional Council and the Pharmaceutical Council.<sup>11</sup>

Uganda has 104 hospitals (57 government; 44 NGO; 3 private). Government hospitals fall into three categories: national referral, regional referral and district/rural hospitals. The two national referral hospitals, Mulago and Butabika, are both teaching hospitals in the Kampala district. The regional referral hospitals - Arua, Gulu, Hoima, Jinja, Kabale, Kabarole, Masaka, Mbale, Mbarara and Soroti - have specialists in limited fields. The district and rural hospitals are staffed by general doctors and non-specialised staff. The non-government hospitals vary in services provided but many have specialist care.<sup>11</sup>

Health Centres (HC) are classified as grades II, III or IV. The grading defines the level of service provided and depends on the administrative zone served by the facility: parish, sub-county or health sub-district. Table 1.2 has a description of services provided at each level of health centre.

**Table 1.2: Structure and Scope of Health Centres**

Health Centre Grade	Location served	Number	Services provided	Minimum staff complement
Health Centre Grade IV (HC IV)	Health sub-district	Government: 148 NGO: 12 Private: 1  Total: 161	<ul style="list-style-type: none"> <li>• All the services of HC III</li> <li>• Surgery</li> <li>• Supervision of lower level units</li> <li>• Data collection and analysis</li> <li>• Planning for the health sub-district</li> </ul>	<ul style="list-style-type: none"> <li>• 1 medical officer</li> <li>• 2 clinical officers</li> <li>• 1 registered midwife</li> <li>• 1 enrolled nurse</li> <li>• 1 enrolled midwife</li> <li>• 1 comprehensive nurse</li> <li>• 2 nursing assistants</li> <li>• 1 laboratory technician</li> <li>• 1 laboratory assistant</li> <li>• 1 health inspector</li> <li>• 1 dispenser</li> <li>• 1 public health dental assistant</li> <li>• 1 anaesthesia officer</li> <li>• 1 assistant health educator</li> <li>• 1 records assistant</li> <li>• 1 accounts assistant</li> <li>• 2 support staff</li> </ul>
Health Centre Grade III (HC III)	Sub-county	Government: 762 NGO: 186 Private: 7  Total: 955	<ul style="list-style-type: none"> <li>• All the services of HC II</li> <li>• In-patient care</li> <li>• Environmental health</li> </ul>	<ul style="list-style-type: none"> <li>• 1 clinical officer</li> <li>• 1 enrolled nurse</li> <li>• 2 enrolled midwives</li> <li>• 1 nursing assistant</li> <li>• 1 health assistant</li> <li>• 1 laboratory assistant</li> <li>• 1 records officer</li> </ul>
Health Centre Grade II (HC II)	Parish	Government: 1332 NGO: 415 Private: 261  Total: 2008	<ul style="list-style-type: none"> <li>• Outpatient care</li> <li>• Antenatal care</li> <li>• Immunisation</li> <li>• Outreach services</li> </ul>	<ul style="list-style-type: none"> <li>• 1 enrolled nurse</li> <li>• 1 enrolled midwife</li> <li>• 2 nursing assistants</li> </ul> <p>(The enrolled nurse and midwife will be replaced with one comprehensive nurse as the cadre becomes available)</p>

The health system in Uganda also extends to the community level through Village Health Teams (VHT). Each village is supposed to have a VHT comprised of 9-10 people to be selected by the village. At least one third of the team should be women.<sup>3</sup>

## Objectives of the Situation Analysis

The specific objectives of the situation analysis on newborn health in Uganda are as follows:

- Determine the status of newborn health in terms of mortality and morbidity, including risk factors for ill health.
- Review current practices regarding newborn care at the facility and community levels.
- Review existing services for the newborn, including policies and programmes.
- Review and determine existing skill levels, as well as the capacity of health providers and community-based workers to provide care for the newborn.
- Determine knowledge and research gaps relating to newborn health.
- Provide recommendations for improving newborn health and survival in Uganda.

## Methodology

### Study Design

Information was gathered through a literature review and field study to identify newborn status, response and identified unmet needs at the national, district, sub-county, health facility, community and household levels. The study was carried out at a national level and in eight districts representing the four conventional regions of the country (Northern, Western, Central and Eastern). In addition, data for Kampala were collected from two divisions that equated to districts, bringing the total to 10 districts visited (Table 1.3).

**Table 1.3: Study Districts**

Region	District
Eastern	Iganga and Kumi
Central	Kayunga and Rakai
Western	Kabarole and Bushenyi
Northern	Arua and Lira
Kampala	Nakawa Division and Kawempe Division

Data were collected at national, district and sub-district levels from heads of government departments, political leaders and administrators, programme managers, development partners, NGOs and service providers in public and private health facilities. At the community level, community opinion leaders and community resource persons were interviewed. Mothers, fathers and other care providers participated in focus group discussions. Women with infants aged less than 6 months provided the responses to interviews at household level.

### Sampling and Sampling procedures

A multi-stage sampling strategy was used. Two districts were randomly selected from each of the four regions. In each selected district, the district hospital was visited as well as one randomly selected health centre at each level. A total of 39 health facilities were visited, including 10 hospitals, 10 HC IV, 11 HC III and 8 HC II.

A sub-county was randomly selected in each district. Half of the parishes in the selected sub-county were then randomly selected, followed by the random selection of half of the villages in each of the selected parishes. In selected villages, lists of households with children less than 6 months were generated with the help of a local leader guide. By using random numbers, households were selected for an interview. A total of 1,136 household respondents answered the questionnaire. Researchers visited at least 100 households per district.

### Data Collection Methods

The study applied triangulation of quantitative and qualitative data collection methods to obtain a balanced picture of the newborn situation from different sources. Data were collected between the months of February and April 2007.

### Review of Documents

Documents were reviewed for available information on newborn care and health. These were collected at the national level from Government Departments, including the Ministry of Health, the Ministry of Gender, Labour and Social Development, the Uganda Bureau of Statistics (UBOS), the Population Secretariat, and development partners such as UNICEF, WHO, Save the Children, and United Nations Development Programme (UNDP).

Additional materials were obtained from research institutes (Institute of Public Health, Regional Centre for Quality of Health Care, Department of Paediatrics and Child Health and Child Health and Development Centre). Researchers also reviewed documents from Mulago Hospital, Nsambya Hospital and district hospitals in the study areas.

#### Key Informant Interviews

Key informant interviews were used to collect data on policies and ongoing programmes relevant to newborn health. Information was gathered on funding available for newborn health, insights about on-going programmes and newborn care, experiences and roles of various actors, and the management of programmes and practices related to newborn care and health as indicated in Table 1.4 (For a full list of respondents, see Appendix 1).

**Table 1.4: Category and Number of Key Informants**

<b>Category of respondent</b>	<b>Number</b>
National key informants	20
District technical staff	20
District administrators	12
Political leaders	18
NGO program managers	5
Health staff in maternity and newborn units	48
Community leaders	20
Community resources persons and traditional birth attendants	9
<b>Total key informant interviews</b>	<b>152</b>

#### Focus Group Discussions

Focus group discussions were conducted to seek opinions, attitudes and knowledge on care practices in relation to newborn health at the community and household levels. Participants included mothers, fathers and other community-based caregivers such as traditional birth attendants (TBAs). A total number of 21 focus group discussions were conducted with at least 4 in each region.

#### Household Questionnaire

A semi-structured questionnaire was used to gather information on newborn care practices at the household level. Investigated practices included illness recognition, home treatment, care seeking and compliance with treatment. Efforts were taken to explore how care practices were associated with household socio-economic and demographic characteristics. A total number of 1,136 households were visited, including 242 in the urban area and 894 households in rural areas.

#### Records Review

Health facility records at the national, district and lower levels were reviewed to determine the patterns and trends of newborn morbidity and mortality, with particular attention to infections, birth asphyxia, and preterm birth. Records were also reviewed with regard to prevention of mother-to-child transmission, HIV services, antenatal care attendance and deliveries in health units. When available, TBA records were also reviewed.

#### Observations

Observation visits were carried out at maternity and neonatal wards to identify and assess the available facilities, including supplies, drugs and equipment used for newborn care and those related to maternal health. Using a checklist, all health facilities were assessed for the standard of care they were able to deliver compared to expected standards. A total of 39 observation visits were conducted at various health facilities.

#### **Data Management**

##### Data Processing

Data were standardised using quality control measures, including checking for consistency and completeness before the data entry. Each questionnaire was given a unique identification number. These numbers were entered and used to avoid inconsistencies during data entry. An experienced computer programmer supervised data entry.

### Data Analysis

Quantitative data were entered into computer software (Epi-data version 3.0) and analysed using the Statistical Package for Social Scientists (SPSS) version 11. Qualitative data from focus group discussions and key informant interviews were typed, edited and entered into a computer and summarised using CDC EZ-Text version 3.0c software. Texts were coded and clustered along the developed themes and sub-themes for subsequent analysis.

### **Quality Assurance**

A multi-disciplinary research team of medical, public health and social scientists provided in-depth analysis of newborn health issues. As part of the research team's participatory process, it presented the research proposal and instruments, document review and draft report to a national, multi-sectoral technical committee of key stakeholders and implementers for their input and for consensus building. Other quality assurance measures included working with experienced researchers, training of the research team and pre-testing research instruments in one district that was not included in the survey. Field supervision efforts were undertaken to ensure that high quality data were collected. Field editing of data was done at the end of every day. Meetings were held after each field day to review the day's activities and plan for the following day.

### **Ethical Considerations**

This study was carried out under the Ministry of Health, which took responsibility to call on key stakeholders for their participation. The research team informed participants at all levels about the survey and requested for their voluntary participation. Respondents were reassured of confidentiality of matters under discussion and informed consent was sought in all interviews.

### **Study Limitations**

Information was gathered from only 10 out of 80 districts in the country due to limited resources. Although efforts were made to ensure regional representation, the Karamoja region could not be accessed at the time due to security reasons. The process of gathering data from women with a live child under six months of age could produce a survival bias, as women who died, and women who gave birth to a child who died were not eligible to participate. Health facility records were poor or incomplete in most cases, further limiting availability of essential data.



## CHAPTER 2

# CURRENT STATUS OF NEWBORN SURVIVAL IN UGANDA

This chapter provides a summary of available information on newborn morbidity and mortality in Uganda. It also highlights the causes and risk factors for newborn deaths, and addresses related issues such as maternal mortality and stillbirths. Data were taken from national population-based household surveys, existing peer-reviewed and grey literature, and facility assessments.

## Terminology

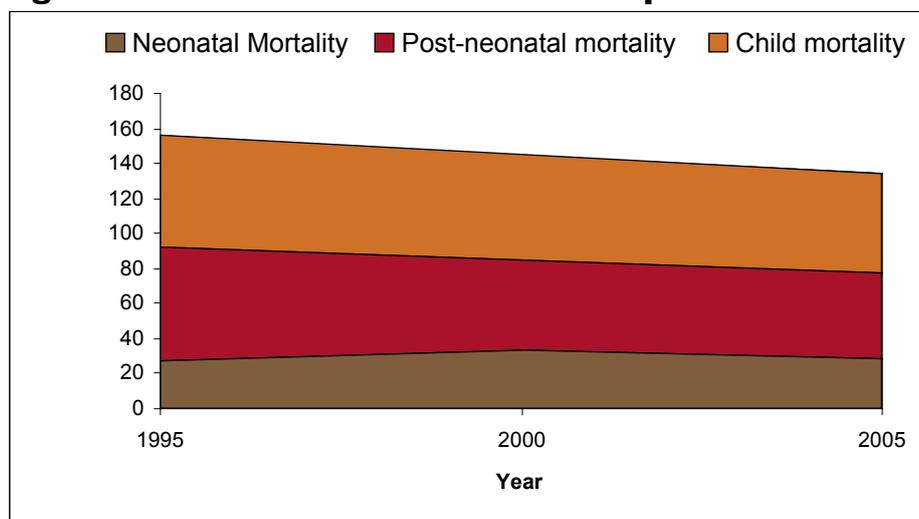
- o Neonatal Mortality Rate (NMR): The number of deaths during the first 28 days of life per 1,000 live births. *Early neonatal mortality* refers to a death in the first week of life. *Late neonatal mortality* refers to deaths between 7 and 28 days of life.
- o Infant Mortality Rate (IMR): The number of deaths between birth and five years of age per 1,000 live births.
- o Under-five mortality (U5MR): The number deaths between birth and five years of age per 1,000 live births.
- o Maternal mortality: The death of a woman in pregnancy or within 42 days of the termination of pregnancy is a maternal death. The Maternal Mortality Ratio (MMR) is expressed as maternal deaths per 100,000 live births.
- o Stillbirths: Pregnancy losses occurring after seven completed months of gestation are referred to as stillbirths and are expressed per 1,000 total births.

## How many newborns die?

An estimated 45,000 newborns die each year in Uganda, making Uganda the country with the fifth highest number of newborn deaths in sub-Saharan Africa.<sup>1</sup> Recent Demographic and Health Survey data for Uganda reports a national neonatal mortality rate (NMR) of 29 deaths per 1,000 live births for the period 2000 to 2005,<sup>2</sup> compared to 33 and 27 for 1995-2000<sup>9</sup> and 1990-1995<sup>8</sup>, respectively.

Newborn mortality contributes to more than a third of infant mortality (deaths during the first year of life), and at least one-fifth of under-five mortality.<sup>2</sup> Both infant and under-five mortality seem to be decreasing, while newborn mortality remains constant. (Figure 2.1) As infant and child deaths after the first month of life decrease, deaths during the neonatal period comprise a larger proportion of infant and under-five deaths.

**Figure 2.1: Newborn Deaths as a Proportion of Under-five Mortality**



Source: UDHS, 2006<sup>2</sup>

## The Problem of Uncounted Births and Deaths

Poor health facility records in most districts made it difficult to access data on neonatal deaths. Most records had limited information on newborns, especially in regard to the causes of death for newborns who died in a facility. There was often no information available for those who died at home. Birth weights were not available for many newborns, especially in the community. The majority of mothers who reported newborn deaths had not registered them.

Most existing population-based maternal, newborn and child mortality data in Uganda comes from retrospective demographic surveys. It is well known that retrospective survey data tends to under-report early neonatal deaths.<sup>12</sup> More frequent assessment and high quality data, coupled with prospective analysis is needed to develop an accurate understanding of neonatal mortality.

## When do Newborns Die?

Most newborn deaths occur during the first week of life. As many as half of all newborn deaths occurred during the first 24 hours of life and three-quarters during the first week.<sup>13</sup> Neonatal deaths are not currently registered in Uganda. There is no national perinatal death audit, which results in a lack of detailed information regarding the time of newborn deaths. Although availability of more detailed data on the time of neonatal death remains a challenge, it is clear that Uganda follows the global pattern of highest risk during delivery and the first week of life.

## Stillbirths in Uganda

The death of a baby, whether during the last trimester of pregnancy or after birth, is a source of pain to families. Yet stillbirths are often left out of the discussion of maternal, newborn and child health. A baby who dies even in the process of birth does not count in the global estimates of child deaths. Counting all births—dead or alive—increases the probability of correctly recording all the important outcomes, including live births, stillbirths, and early neonatal deaths. Babies who die at birth or very soon after birth are less likely to be registered than older babies who die.<sup>14</sup> The lack of knowledge surrounding the burden of stillbirths impedes decision-making for obstetric and neonatal health programmes. It is therefore imperative to discuss stillbirths within the context of newborn health.

An equal number of babies are estimated to be stillborn as those who die in the first month of life: 45,000. The annual stillbirth rate is expressed as the number of babies born dead after 28 weeks of gestation per 1,000 total births. This was reported to be 31 deaths per 1,000 total births in Uganda.<sup>14</sup>

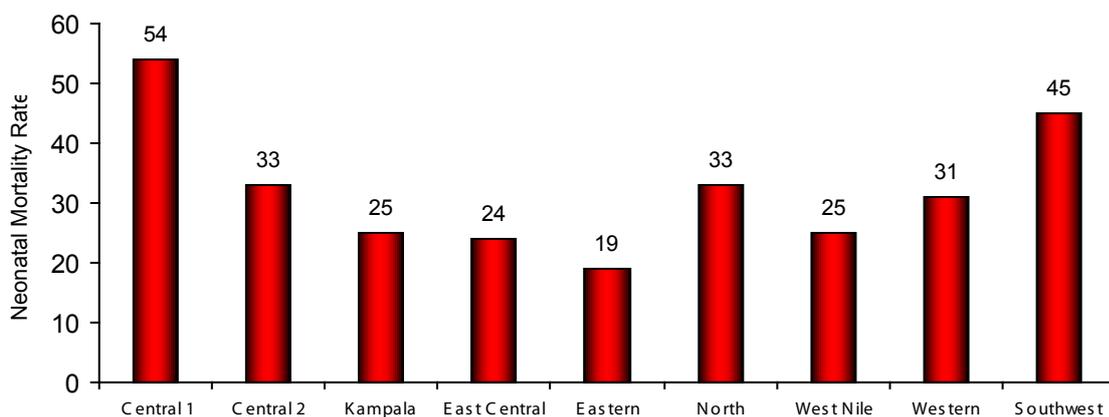
Among mothers in the field study who reported a stillbirth, the majority reported fresh stillbirths. This indicates that the babies probably died during labour and could have been saved. Over a third (13/37) were delivered at home or at TBA facilities. Lack of appropriate antenatal screening for risk factors and unskilled care during childbirth can contribute to stillbirths. Stillbirths have been suggested as an indicator of poor service utilisation, especially regarding emergency obstetric care.<sup>1</sup> More accurate data from population-based studies are needed to determine causes and risk factors for stillbirths.

## Where do Newborns Die?

Babies are more likely to die at home, especially born in rural areas far from facilities. The recent UDHS data reveal that nearly 60 percent of newborn deaths occur among babies born at home and the neonatal mortality rate is more than 20 percent higher for rural families.<sup>2</sup>

Neonatal mortality also varies depending on the region (Figure 2.2). Some of these regional mortality rates seem to be due to reporting errors, which emphasises the need for more and better data. For example, the NMR is significantly lower in the northern region (North and West Nile) where the under-five mortality is the highest in the country and there has been civil unrest for two decades, compared to the more stable Central and Southwest regions. Regardless, the disparity in neonatal survival between regions requires further research to identify region-specific risk factors, particularly where access to health facilities is limited.

**Figure 2.2: Neonatal Mortality Rate by Region, 1995-2005**



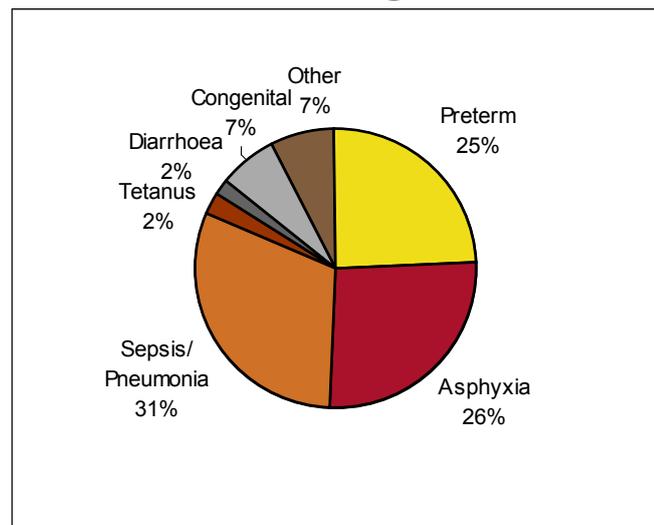
Source: UDHS 2006<sup>2</sup>

### Why do Newborns Die?

The main causes of neonatal mortality in Uganda are shown in Figure 2.3. In the absence of reliable population based data, causes of neonatal deaths have been estimated based on modelled facility-based data.<sup>15</sup> The estimates reveal a burden of death mainly due to preventable causes, a fact which has not changed much over the past decades.<sup>16-18</sup>

Infections (mainly sepsis and pneumonia), birth asphyxia and complications of preterm birth account for 82 percent of all newborn deaths in Uganda.

**Figure 2.3: Estimated Causes of Neonatal Deaths in Uganda**



Source: Lawn, et al 2006,<sup>15</sup> updated for Opportunities for African's Newborns<sup>1</sup>

### Cause of Death Information at Facility Level

Causes of death were often unspecified in facility records. This problem was compounded by the fact that newborns can be referred to by their mothers' names in records and were not recognised or recorded as individuals.

However, facility information from doctors and midwives revealed that asphyxia (30 percent), infections (26 percent), congenital defects (10 percent) and low birth weight (6 percent), were the leading causes of newborn deaths. In household interviews, mothers mentioned long labour (35 percent), fever/infections (32 percent) and abnormalities of birth (13 percent) as leading causes, which they reported learning about from health workers.

#### Birth Asphyxia

Although most babies breathe spontaneously at birth, up to 10 percent require some assistance to initiate breathing. Less than one percent need extensive resuscitation.<sup>19</sup> Available estimates indicate that just over one quarter (26 percent) of neonatal deaths in Uganda are due to birth asphyxia (Figure 2.1).<sup>1</sup> These deaths occur in the early neonatal period and often result from obstructed labour or haemorrhage, and are closely linked to the delay of mothers accessing proper care. A woman with obstructed labour has a 7 to 85 times higher risk of her baby dying compared to a normal birth.<sup>1</sup> Birth asphyxia takes an additional toll, as babies may be stillborn. If they survive, they may suffer permanent disability.

#### Infections

Similar to elsewhere in Africa, infections such as sepsis, pneumonia, meningitis, tetanus and diarrhoea are the single most frequent killer of newborns.<sup>15</sup> Infections can be prevented through two doses of the tetanus toxoid vaccine during antenatal care, skilled attendance with hygienic practices during childbirth, clean cord care after birth, and early and exclusive breastfeeding.<sup>1</sup> Early identification and treatment of infections through routine postnatal care is extremely important.

#### Complications of Preterm Birth

Preterm birth is both a direct cause of death and also a risk factor for other specific causes of death, notably infections. In Uganda, 25 percent of all newborn deaths are estimated to be attributed to preterm birth, similar to the average in sub-Saharan Africa.<sup>15</sup> Accessing accurate data on the prevalence of prematurity itself is difficult due to unknown gestational age. In addition, more than half of all women give birth at home, and mothers do not take their babies to be weighed soon after delivery. Even babies born in health facilities may not be weighed due to lack of equipment or broken scales. Sometimes health workers also do not have the skills for weighing newborns.<sup>20</sup>

### **Prevalence of Preterm and Low Birth Weight Births**

A review of district hospital records for 2006 found that birth weights were rarely recorded. Where they were available, low birth weight prevalence varied between 10 to 20 percent of all births. Sixty one percent of mothers in the study reported their babies to have been weighed soon after birth; 16 percent of these newborns were low birth weight. Mothers of babies who were not weighed at birth were asked to estimate the size of their newborns at birth. Twenty four percent reported their babies to be small or very small.

Small babies have an increased risk of death. According to the UDHS 2006, the risk of neonatal mortality among children reported as small or very small was more than twice as high (45 per 1,000 live births) than that of those who were reported to be of average or larger size at birth (21 per 1,000 live births).<sup>2</sup>

### **Risk Factors for Newborn Illness and Death**

There are a number of major risk factors contributing to high neonatal mortality in Uganda. Some of these exert their toll during pregnancy, while others take affect during childbirth and the first few days of life.

#### Sex of the Newborn

Baby girls have a lower mortality rate than boys in societies where equal care is offered to both sexes.<sup>21</sup> Similarly in Uganda, newborn mortality levels seem to be 1.8 times higher among male than female children.<sup>2</sup> Differences in mortality rates for male and female children are highest during the neonatal period.

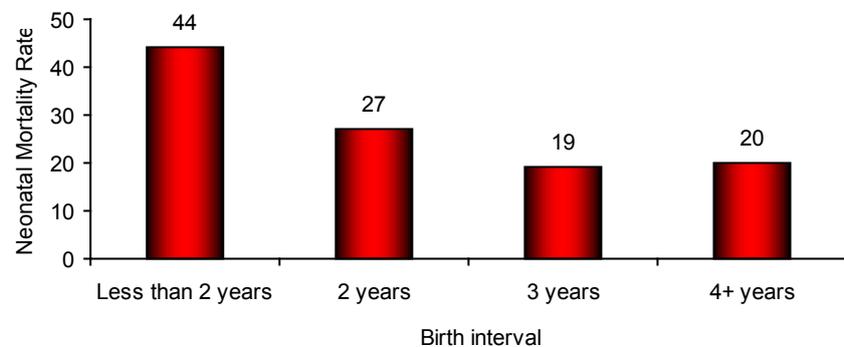
#### Birth Order

According to the UDHS 2006, birth order affects the child's chances of survival mostly during infancy. The NMR is highest among first births (44 deaths per 1,000 live births) compared to other births with mortality rates around 30 per 1,000 live births.<sup>2</sup>

#### Birth Intervals

Globally, Sub-Saharan Africa has the highest total fertility rate; Uganda has the fifth highest total fertility rate in Africa at an average of 6.6 births per woman.<sup>2</sup> This results in shorter birth intervals, and greater risk of newborn death. The UDHS 2006 reported the highest NMR (40 per 1,000 live births) among babies whose previous birth interval was less than two years.<sup>2</sup> (Figure 2.4)

**Figure 2.4: Neonatal Mortality by Previous Birth Interval**



Source: UDHS, 2006<sup>2</sup>

#### Hypothermia

Low body temperature endangers newborn survival and preserving warmth is important even in tropical climates. Many common practices, such as bathing immediately and frequently after birth, can be detrimental to newborn health. Hypothermia is eminently preventable, but it is not routinely checked, even in health facilities. Babies with low birth weight are particularly susceptible and need extra care to ensure they are kept warm and dry.<sup>22</sup>

A study of 300 newborns in a private, not-for-profit tertiary hospital found a persistent pattern of high prevalence of hypothermic newborns; 80 percent of newborns carefully monitored had hypothermia within the first 90 minutes of life. The frequency of hypothermia was much higher in babies who had no body contact, compared to those who had body contact with their mothers and those babies who were bathed in the first hour after birth.<sup>23</sup> An analysis of records at the Special Care Baby Unit at Mulago Hospital in Kampala indicated that in 2006, three in every 10 newborn deaths (29 percent) were associated with hypothermia.

#### Maternal Health Status

Newborns and their mothers are inseparably linked in life. The death of a mother increases the risk of newborn death.<sup>24</sup> Low status of women in society can lead to reduced access to social services and limited control

**CHAPTER 2: CURRENT STATUS OF NEWBORN SURVIVAL IN UGANDA**

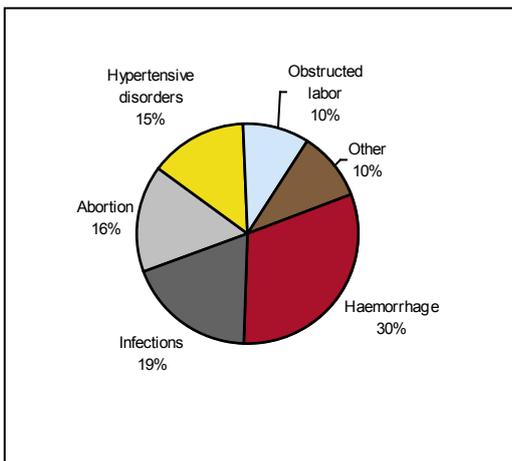
of resources. Harmful practices such as female genital mutilation further endanger childbirth and pregnancy outcome.<sup>25</sup>

Maternal mortality refers to the death of a woman in pregnancy or within 42 days of the termination of pregnancy. The methodology to estimate the maternal mortality ratio (MMR), expressed as maternal deaths per 100,000 live births, has changed over time. Therefore, a trend in maternal deaths should not be calculated.<sup>26</sup> However, recent estimates reveal an MMR between 435<sup>2</sup> and 550<sup>26</sup> deaths per 100,000 live births, resulting in around 8,000 maternal deaths in Uganda each year.

Although there is a lack of national population-based estimates for direct causes of maternal death, facility-based data show that haemorrhage, infections, abortion and hypertensive disorders are leading causes of death (Figure 2.5a). These data are similar to recent regional estimates for sub-Saharan Africa.<sup>26</sup> (Figure 2.5b) The major causes of maternal death are closely linked to the major causes of deaths among newborns, particularly asphyxia and preterm birth.

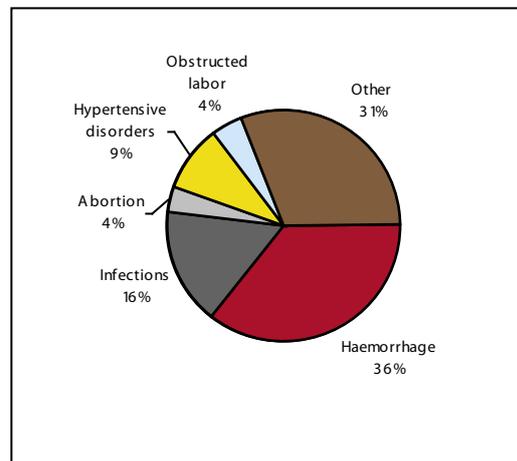
Poor utilisation of health services, including failure to attend Antenatal Care (ANC) and delays in seeking care at health facilities during labour were listed by health care providers as major factors contributing to both maternal and newborn deaths. This was thought to be due to the long distances that mothers have to travel to health facilities and poor referral and transport systems. In addition, the quality of health services offered in facilities was mentioned as a barrier to quality care, specifically in regard to inadequate drugs and equipment, delays by health staff to attend to mothers, and lack of skilled staff, especially at lower health facilities.

**Figure 2.5a: Causes of Maternal Deaths in Uganda according to Facility Data**



Source: Ministry of Health, 2003<sup>27</sup>

**Figure 2.5b: Causes of Maternal Deaths, Estimates from Sub-Saharan Africa**



Source: Hill et al, 2007<sup>26</sup>

Poor health facility records limited the information available to link maternal and newborn deaths. However, the burden of newborn deaths, stillbirths and maternal deaths was evident when selected hospital records were examined for year 2006. There were significant variations in rates across sites, indicating problems in data collection. Surprisingly, some hospitals did not record any neonatal deaths. Most of the stillbirths recorded were fresh stillbirths, but in some facilities there was little or no information on stillbirths or newborn deaths.

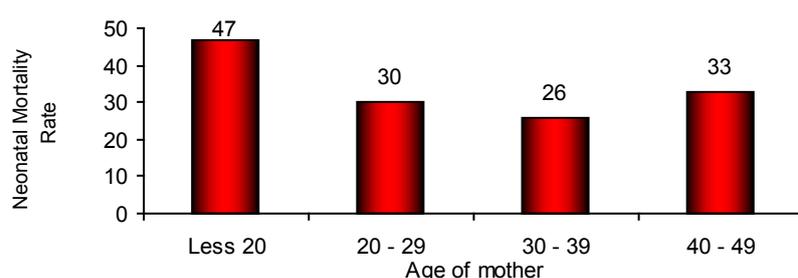
### Newborn deaths, stillbirths and maternal deaths for 2006 according to hospital records

District	Number of Births	Facility Neonatal Mortality Rate	Facility Stillbirth Rate	Facility Maternal Mortality Ratio
Iganga	3340	25	82	599
Rakai	4109	4	37	560
Kabarole	7004	-	36	500
Kayunga	4077	34	23	343
Bushenyi	9072	53	24	353
Lira	8421	2	22	226
Arua	10125	9	19	425
Kumi	10913	-	6	92
Old Mulago	6852	-	6	1328

#### Maternal Age

The average age of first marriage and first birth in Uganda is still below 20 years. Adolescent girls have a higher risk of giving birth to preterm babies and babies who are small for gestational age. According to UDHS 2006, the NMR among adolescent mothers was 47 per 1,000 live births.<sup>2</sup> (Figure 2.6) Family planning and birth spacing interventions have great potential to reduce the high risk of newborn deaths associated with teenage births.

**Figure 2.6: Neonatal Mortality by Age of Mothers, 1995-2005**

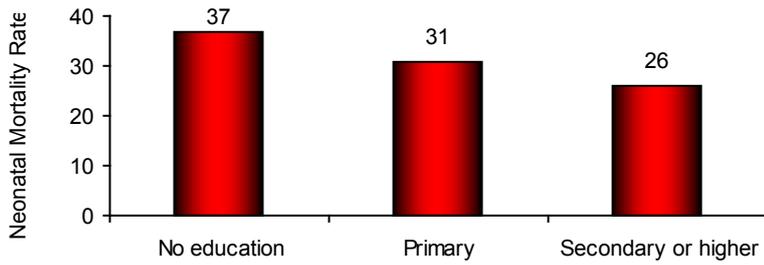


Source: UDHS 2006<sup>2</sup>

#### Maternal Education

Maternal education affects many aspects of newborn life, including individual social, economic and health behaviour. Studies have shown that a mother's education level is strongly associated with contraceptive use, fertility, general health status, and the health and survival of their children.<sup>28</sup> Education provides girls with sexual and reproductive health and rights information, in addition to peer support programmes that develop life skills with long-term benefits for them and their newborns. The UDHS 2006 showed that a low education level is associated with much higher neonatal mortality compared to mothers with secondary education.<sup>2</sup> (Figure 2.7)

**Figure 2.7: Differences in Neonatal Mortality Rate by Level of Maternal Education**



Source: UDHS 2006<sup>2</sup>

**Poverty and Inequity**

Mothers and newborns in poor families have an increased risk of illness and face more challenges in accessing timely quality care compared to wealthier families. Rural families and the urban poor are particularly vulnerable. Factors that contribute to neonatal mortality include civil strife, especially in the northern and eastern parts of the country, which contributes to instability, poverty and economic collapse. Nutrition and food security are also important factors related to poverty. The majority of districts surveyed reported that most mothers, especially the younger ones, are malnourished due to poverty and inadequate food at the household level. This finding coincides with that of the UDHS.<sup>2</sup>

**Conclusion**

Like many countries in sub-Saharan Africa, Uganda has only just begun to understand the burden of newborn mortality. Each year, 45,000 Ugandan newborns die, half on the day they are born and up to three quarters in the first week of life. At the same time, newborn mortality remains high with many deaths still uncounted. An incredible two-thirds of mothers who reported newborn deaths had not registered them. Significant information and research gaps remain, which point to the urgent need for regularly updated population-based data on the number and causes of newborn deaths and better collection of information on stillbirths.

The main causes of newborn deaths are birth asphyxia, infections and complications of preterm birth, all which are eminently preventable and treatable. Newborns are vulnerable and dependent upon their families for survival, but poor families, especially those in rural and remote areas, do not have the resources necessary to care for their newborns. Overall maternal health and well-being plays an important role in newborn survival, pointing to the need to strengthen the continuum of care for maternal, newborn and child health.



## CHAPTER 3

# MATERNAL AND NEWBORN HEALTH POLICIES, STRATEGIES AND PROGRAMMES

This chapter presents an analysis of key policies, strategies and programmes, their focus, as well as opportunities, gaps and suggestions for improvement of newborn health. The analysis is based on a review of documents, in addition to interviews with policymakers and programme implementers at the national and district levels.

## High level health sector policies and strategies

The national legal and policy environment has a direct impact upon how services can be provided to enhance maternal, newborn and child health. In Uganda, the policy environment in general is adequate to support newborn health. The country's policy on maternal and neonatal care received a rating of 74 out of 100, rating much higher than many countries in Sub-Saharan Africa in the 2002 *Survey of Maternal and Neonatal Programme Effort Index*.<sup>29</sup> However, this has not translated into a strong health system that supports implementation of essential packages and interventions to reduce maternal and newborn deaths.

In an effort to highlight existing opportunities for improving newborn health and challenges to implementation, this analysis reviews crosscutting policies, as well as those that are more specifically intended to improve maternal, newborn and child health throughout the lifecycle. These policies include those related to care before pregnancy, during pregnancy, during childbirth and the postnatal period. The policies presented here provide broad frameworks to achieve development and improve the quality of life for all Ugandans. These broad policies also provide an enabling environment for more specific strategies to improve newborn health.

### The Poverty Eradication Action Plan and Millennium Development Goals

The Poverty Eradication Action Plan (PEAP)<sup>30</sup> and the MDGs<sup>10</sup> encourage international accountability in health and development. Both have related targets of reducing child and maternal mortality. PEAP, launched in 1997, provides targets for the year 2009. MDGs 4, 5 and 6 aim to reduce the infant mortality rate by two thirds, reduce the maternal mortality rate by three quarters, and reverse the trend of HIV/AIDS, malaria and other diseases by 2015. (Table 3.1)

Current tracking of MDG progress indicates that U5MR and MMR will not be achieved by 2015 without significant effort. A decline in under-5 mortality of more than 10 percent per year is required to reach MDG 4.<sup>31</sup> Despite Uganda's impressive economic performance, the country still faces challenges toward meeting targets for key economic and social indicators necessary under PEAP. The average economic growth rate is below the 7 percent required to reduce the absolute poverty below 10 percent of the population by 2017.<sup>10</sup>

**Table 3.1: Uganda's Targets Relating to Newborn Health**

<b>Millennium Development Goals</b>	<b>Baseline (1990)</b>	<b>Target (2015)</b>
MDG 4: Reduce child mortality by two-thirds	160	53
MDG 5: Reduce maternal mortality by three-quarters	505	126
<b>Poverty Eradication Action Plan</b>	<b>Baseline (1997)</b>	<b>Target (2009)</b>
Infant mortality rate (per 1,000 live births)	88	68
Under-5 mortality rate (per 1,000 live births)	152	103
Maternal mortality ratio (per 100,000 live births)	505	354
Total fertility rate	6.9	5.4
Contraceptive prevalence rate	23%	40%
HIV prevalence	6.20%	5%

Source: Ministry of Finance, 2000<sup>30</sup>; UNDP 2007<sup>10</sup>; UDHS 2006<sup>2</sup>

### The National Health Policy and Health Sector Strategic Plan II

The National Health Policy (NHP) is implemented through the Health Sector Strategic Plan II (HSPP).<sup>3</sup> While HSSP I did not have clear targets for newborn health, HSSP II identified newborn health and survival as a special priority in the National Minimum Health Care Package. Specific targets set for newborn care included reducing the proportion of babies with low birth weight and the proportion of neonates with septicaemia/severe disease, both by 30 percent.<sup>3</sup>

The newborn health interventions outlined by the HSSP II reflected the continuum of care, including integrated

service provision of essential care during pregnancy, infection control during and after delivery, improving newborn resuscitation, provision of essential care during the postnatal period and education on newborn danger signs.<sup>3</sup> It also highlighted appropriate care-seeking and home practices, and the importance of strengthening follow-up during the postnatal period for mothers and infants, primarily in regard to immunisation and Prevention of Mother-to-Child Transmission (PMTCT) services.

Limited resources within the health sector are the primary constraint to the implementation of the NHP. The estimated per capita health expenditure to deliver the Minimum Health Care Package is US\$28, but currently only US\$ 12 is available from various sources.<sup>3</sup> During stakeholder interviews, health policymakers expressed concerns over inadequate budget and finances to support these important programmes.

### Road Map for Accelerating Reduction of Maternal and Neonatal Mortality

The Road Map has been adapted by at least 35 African countries since 2003, many with high level commitment and multi-sectoral involvement.<sup>1</sup> The Uganda Road Map focuses on increasing and strengthening service provision during pregnancy, childbirth and the postnatal period and at all levels of service delivery. It specifically promotes the provision of skilled care, as well as the empowerment of families and communities to demand quality care.<sup>32</sup>

The Uganda Road Map is seen as a great commitment from government to improve newborn health. Key policy level informants were optimistic about the potential impact of this effort and envisaged that the Road Map would revamp newborn care. The major challenge has been for government and all partners to increase resources for maternal and newborn health and to monitor the commitment and progress towards full implementation of the Road Map.

### Health service decentralisation in Uganda

The delivery of health services has been decentralised to the district and sub-district level in order to bring services closer to people and improve the efficiency and effectiveness of service delivery.<sup>3</sup> The decentralisation policy provides a unique opportunity for making decisions and undertaking investments that can impact greatly on neonatal health. Districts are empowered through decentralisation to manage health services, define health priorities, mobilise, budget and allocate resources based on disease burden, which is an opportunity for inclusion of newborn health issues. However, the benefits which could have accrued from decentralisation are constrained by a lack of resources to attract and retain health workers, especially in hard-to-serve areas. Decentralisation is limited overall by gross under-funding of the health sector. While trends from the health sector review indicate a general increase in district funding, resources available to deliver health services are still inadequate. The abolition of user fees has facilitated improved access to services but has increased utilisation without similarly increasing staffing and resource levels.<sup>33</sup>

### National Population Policy

The National Population Policy for Sustainable Development intends to influence demographic trends in order to improve the quality and standard of life of all Ugandans. It outlines strategies that include reproductive services and birth spacing, which provide opportunities to improve newborn health. However, political commitment and support for achieving set goals have been weak.<sup>34</sup>

### Community and Family Empowerment Strategy

This strategy, implemented through a Village Health Teams (VHT), focuses on increasing the capacity of communities to advocate, demand and take responsibility for their own health.<sup>3</sup> The HSSP II set a number of targets relating to the VHT, including ensuring that all villages had trained VHTs by 2010.<sup>3</sup>

According to senior officers in the Ministry of Health, the progress of implementation of the VHT strategy is slow and VHTs are functional in only a few districts due to a lack of resources. More effort is required to identify and train VHTs in all districts to deliver health benefits for maternal and neonatal health. One of the problems is a lack of information from communities in order to guide decision-making. Community-based health reporting is weak and does not often include data on newborn and pregnant women.

### National Policy on Private-Public Partnership

The draft National Policy on Private-Public Partnership in Health is the government's recognition of the important role of the private health providers in increasing access to essential health care. The policy provides an opportunity

to mobilise private practitioners in rural areas. Challenges include the limited supervision of health providers in the private sector. Key informants at the district level strongly felt that central and district monitoring and supervision should include the private sector.

### **Inter-sectoral policies, strategies and legislation relating to maternal and newborn health**

#### The Constitution of the Republic of Uganda

The Constitution provides a foundation to develop and improve the quality of life for all Ugandans. Investment in maternal and neonatal health within the constitutional framework underscores the government's commitment to achieve health and development for all.

#### Education

The Ugandan Policy on Education is a step toward improving education for girls and women through Universal Primary Education (UPE) and Universal Secondary education (USE) policies.<sup>35</sup> In support of MDG 2 and MDG 3, which relate to education and gender equity respectively, these policies intend to remove key obstacles toward access and offer education with equal opportunities to girls and women.<sup>10</sup> It is hoped that these policies will empower girls and deliver long-term health benefits, which will then be passed on to their families.

The country still faces several challenges with the implementation of UPE and USE. These include high drop out rates for girls despite high enrolment, poor quality of education with wide regional socio-economic disparities, especially among hard-to-reach areas, and a limited number of schools to meet the demand for USE.<sup>35</sup> Within the school system, protection and rights enforcement for girls remains inadequate, and mechanisms for re-absorbing girls who have dropped out of school are weak.<sup>35</sup>

#### Rights and status of girls, women and mothers

Policies and legislation on harmful practices against women and girls promote rights, privileges and equal opportunities for girls and women, which affect women's access to land, property, education and good health. These include the Children's Statute, which provides protection and rights to all children; the National Gender Policy, which integrates gender issues into development efforts at all levels of planning, resource allocation and implementation of development programmes; the Domestic Relations Bill currently under consideration by Parliament, which will afford women and girls greater equality on matters related to ownership of property, decision making, marriage and divorce, and make marital rape illegal. However, little progress has been made toward effective implementation of many of these policies.

After childbirth, families need time off from work to care for their newborns. The Employment Act grants 60 days of maternity leave and 4 days of paternity leave. The policy is poorly disseminated, frequently abused by private sector employers and difficult to enforce in the informal sector. If implemented properly, it would provide women with time to care for their newborns while maintaining job security.

#### Birth and death registration and mortality audit

The Birth and Registration Act (1973) and Article 18 of the 1995 Constitution seek to protect the rights of every child by registering birth and death. The registration programme is currently being revamped and is so far operational in 34 districts. Although there are national guidelines for maternal mortality audit, they have not yet incorporated a review of stillbirths or neonatal deaths.<sup>36</sup> A number of stakeholders have expressed interest in adapting mortality audit from South Africa,<sup>37</sup> but the process is not yet underway.

#### Food security and nutrition

The Plan for Modernisation of Agriculture and the National Agricultural Advisory Services seek to improve food production and provide food security at the household level. The Uganda National Food and Nutrition Policy<sup>38</sup>, together with the National Anaemia Policy<sup>39</sup> provide a framework to fulfil the fundamental right to freedom from hunger, malnutrition and the prevention of anaemia through supplementation, de-worming and dietary counselling. They also promote and advocate for diet diversification, including the cultivation and consumption of iron-rich foods.

These policies also have yet to be fully implemented. For example, de-worming of adolescent girls has just started

and is limited to children up to 14 years of age. There is no national nutritional programme targeting children in schools. There is limited coordination between and within sectors at various levels to improve household food security and nutrition.

## **Specific policies and programmes along the continuum of care for maternal, newborn and child health**

### ***Adolescent and pre-pregnancy care***

*Family planning:* Many girls experience unwanted pregnancies; some of them go on to have unsafe abortions. Many women have pregnancies closer together than their stated preference and yet contraceptive use is lower than the demand. The implementation of existing family planning policies and strategies is guided by the HSSP II. The National Policy Guidelines and Services Standards for Sexual and Reproductive Health and Rights is a five-year (2005-2010) strategy to improve reproductive health.<sup>40</sup> The Family Planning Advocacy Strategy, the National Reproductive Health Policy, and the Adolescent Health Policy also promote effective interventions, such as birth spacing and delaying the age of first childbirth.<sup>40-42</sup>

Strengthening family planning services is one of the priority areas addressed in the HSSP II. The availability of an injectable contraceptive (DepoProvera) in the monitoring of essential drug availability in facilities ensures that family planning service provision remains a priority to be funded and supported by the Ministry of Health. However, stock-outs of contraceptives remain a problem and the current services are not attracting young women.

*Prevention and management of sexually transmitted infections:* The National Reproductive Health Policy, the 2004 National Adolescent Health Policy and HSSP II address a range of sexual and reproductive health issues, including the prevention and management of sexually transmitted infections (STIs) and HIV/AIDS.<sup>40-43</sup> The draft National HIV/AIDS Strategic Plan also addresses the prevention of HIV and STIs among young people.<sup>44</sup> Guidelines and communication strategies support the implementation of these policies.

STI and HIV prevention programmes have been strengthened through skills training for service providers, ensuring the availability of necessary supplies, commodities and drugs.<sup>43</sup> Access to HIV/AIDS information and services has been scaled up, including voluntary counselling and testing (VCT) and PMTCT services. The number of HC IV facilities offering comprehensive HIV/AIDS care with antiretroviral (ARV) drugs has increased.<sup>43</sup> Despite this effort, HIV/AIDS programmes have not achieved the target for reducing the HIV prevalence among women attending antenatal clinics from 6.2 percent to 5 percent.

### ***Antenatal care***

ANC is a health service package that links the woman and her family to the health system during pregnancy. It also offers the opportunity to provide counselling and advice on nutrition and birth preparedness, the prevention and treatment of medical conditions, the initiation of PMTCT services if required, and increases the chances of a facility birth with skilled care. ANC offers tremendous opportunities to reach a large number of women and communities with effective preventive and curative interventions. This service is accommodated within various policies, guidelines and strategic frameworks, including the Reproductive Health Policy, the National Adolescent Health Policy, the Uganda Malaria Control Strategic Plan, the HSSP II and the Road Map for Accelerating Reduction of Maternal and Neonatal Mortality. Provisions to improve ANC include strengthening and upgrading health centres, and development and dissemination of various guidelines and training manuals to partners and implementing units. Health worker training and deployment, especially for midwives, has been conducted in many districts and at the community level. WHO now recommends a minimum of four ANC visits, preferably starting before the twelfth week of pregnancy, which incorporate appropriate evidence-based interventions.<sup>45</sup>

*Prevention of Mother to Child Transmission of HIV (PMTCT):* PMTCT services during pregnancy include promotion of primary prevention of HIV and VCT. PMTCT relies on linkages across the continuum of care to provide mothers and newborns with appropriate ARV regimens and support for safer infant feeding options and practices. Until recently, PMTCT was initially offered only by hospitals and HC IV, but is now available at HC III.<sup>44</sup> PMTCT programmes have also struggled to reach women who are not able to attend the recommended four ANC visits and who ultimately give birth outside health facilities. Furthermore, the lack of a policy for routine postnatal care for newborns in the first few weeks of life limits integration with PMTCT services for follow-up for mothers and newborns with further testing, care and support. Similar to malaria and immunisation programmes, PMTCT is

often implemented vertically instead of integrated within the health system.

*Malaria prevention and treatment in pregnancy:* Malaria programmes during pregnancy include promotion of insecticide treated nets (ITN), indoor residual spraying and intermittent preventive treatment (IPTp). IPTp assumes that all pregnant women are at high risk of getting malaria and recommends the use of at least two doses of SP/Fansidar during the second and third trimester of pregnancy.<sup>46</sup> In addition to reducing maternal morbidity and mortality, control and prevention of malaria during pregnancy directly impacts preterm birth and low birth weight. However, current programmes for malaria prevention during pregnancy are often implemented in a parallel and vertical manner. This constrains the available human resources and limits the potential to effectively use these resources to improve the overall quality of care and potential sustainability of this programme.

*Tetanus immunisation:* The tetanus immunisation programme aims to provide 2 doses of Tetanus Toxoid (TT) vaccination to pregnant women and at least 5 lifetime doses to girls and women aged 15-45. This is in line with the United Nations Expanded Programme on Immunisation (EPI) which promotes full immunisation of all children below one year and women of reproductive age against targeted vaccine preventable diseases such as tetanus. Uganda has not yet achieved maternal and neonatal tetanus elimination status.<sup>47</sup> While TT is often provided through ANC visits where ANC coverage is low, there are outreach efforts such as Reach Every District (RED), supplemental immunisation activities in high-risk districts and the Sustainable Outreach Services (SOS) programme in under-served areas.

### **Care during childbirth**

The type of assistance given to a woman during childbirth and where it is provided are vital components of both maternal and newborn healthcare. The National Reproductive Health Standards and Policy Guidelines and the Reproductive Health Strategy offer a framework to support the care of mother and child at birth, and emphasise access to skilled attendance for safe delivery. Because complications during childbirth are unpredictable, all women and babies require access to a childbirth care provider who is trained to deal with emergencies. Skilled attendance at birth offers an opportunity for timely recognition and management of such complications, and provides essential newborn care to ensure better survival and health outcomes for newborns.<sup>1</sup> However, there is generally poor dissemination and implementation of standard national guidelines, particularly for essential newborn care.

In addition, staffing gaps in many health units limit availability and access to skilled attendance. The provision of skilled attendance at childbirth has been restricted to doctors, midwives, and recently comprehensive nurses.

Uganda's policy on the role of the Traditional Birth Attendant (TBA) assumes that as access to skilled attendance increases and improves in quality, the TBA role will change to focus mainly on health promotion and preventive services, similar to and integrated with the VHTs. Uganda is in transition as it improves access to skilled attendance at birth, which will subsequently reduce deliveries conducted by TBAs or without any attendant present.<sup>48</sup> Some health workers felt that TBAs should be retained in the health system and redefine their role within community mobilisation and support. One example of this is the training of TBAs to work with midwives as pregnancy monitors.<sup>49</sup>

*Emergency Obstetric Care (EmOC):* Complications during childbirth could mean death or severe disabilities for both mother and baby without quality EmOC. There are critical services or signal functions that have been identified as essential for the treatment of obstetric complications. They provide a basis for assessing, training, equipping, and monitoring EmOC services. Efforts have been made to enable HC IV to offer comprehensive EmOC and newborn care. However, progress has been slow and the capacity for newborn interventions in particular is still weak at all levels.<sup>27</sup> The *Annual Health Sector Performance Report* for 2007 reported that interest and capacity of the local government leadership was found to be a key factor in improving EmOC services.<sup>50</sup>

HC II are the first points of interface between the formal health sector and households. Yet the current structure of the health system does not

*“You cannot expect all care for the newborn and mothers at higher levels only. I would recommend that some basic care should be provided...at all levels and this means mandating HC II also to have the essential drugs.”*

Midwife, Iganga (eastern region)

equip and mandate them to conduct deliveries and provide basic care for mothers and newborns. Where access to higher level facilities is poor, interim maternity services are often provided regardless.

### **Postnatal care**

The most critical time for delivery of these interventions is the first week of life when 75 percent of newborn deaths occur. However, the current national policy advises mothers to return for the first postnatal check at six weeks, long after most deaths have occurred. Even at six weeks, very few mothers are able to access skilled care. According to the UDHS 2006, only 7 percent of mothers access postnatal services after the first day.<sup>2</sup> Postnatal care is a part of the Minimum Health Package and relates to National Reproductive Health Standards and Policy Guidelines; the Reproductive Health Strategy; Essential Maternal and Neonatal Care Clinical Guidelines for health workers; national guidelines on Infant and Young Child Feeding and guidelines for the Integrated Management of Childhood Illnesses (IMCI). However, routine postnatal care, particularly highlighting care during the first few days of life, is a major gap in these policies' and guidelines' implementation.

*Extra care for vulnerable babies:* Babies who are sick or particularly vulnerable due to HIV exposure or a maternal death often require more than just routine postnatal care. IMCI provides a foundation to provide this care, but the guidelines do not cater for the management of the sick newborn at the first level of care, which is closest to the newborn's home and community. Furthermore, it depends on the sick child being brought to a referral level health facility, although it is known that this is not always the first or even the most affordable option for most mothers.

*Immunisation:* The traditional postnatal check at six weeks comes too late to provide routine newborn care and identify and save those who are vulnerable. The primary focus of this initial prenatal check is immunisation. The immunisation programmes and protocols during this period are strong and well-known. In addition to tetanus prevention, the UN EPI also prioritises tuberculosis and polio vaccines just after birth. The strength of these programmes, coupled with high uptake and demand for immunisation services, provides a platform to integrate other health interventions for both mother and baby.

### **Human resource policies**

Uganda's current training and service delivery policies restrict newborn healthcare skills training and service provision to doctors, midwives and comprehensive nurses. These higher level providers are scarce and not found at lower health facilities and rural areas, thereby limiting the availability of skilled care for mothers and newborns. Compounding the problem, some training curricula have not been reviewed for extended periods of time. Others are difficult to implement, resulting in human resource overlaps, gaps or irrelevancies.<sup>51</sup>

*"In terms of training policy, specialisation should be dropped and staff should be trained in all skills. This is not Mulago where you need specialization. Even if you are a nursing aid and they bring a sick child people expect you to do something."*

Midwife, Kabarole District (western region)

### **Conclusion**

Uganda has a wealth of policies, strategies and interventions for safe motherhood and childhood survival. However, integration is slow and little attention has been paid to care for the newborn. This is especially true regarding emergency care during childbirth and routine and extra care during the first week of life. The policy gap during the first week has had particularly negative consequences for the potential success of breastfeeding, family planning and PMTCT programmes.

It is evident that the biggest gap is in fact not within policies, but in the implementation of health care programmes and service packages within the continuum of care. Appropriate resources have not been available to support effective programmes. Policies and guidelines have not been sufficiently disseminated at lower levels. The available capacity in health facilities nearest to families and communities is extremely limited, both in terms of mandate and staff skills. Failure to integrate basic newborn care into typically vertical malaria, immunisation and HIV/AIDS programmes is a missed opportunity to effectively use existing resources to strengthen the overall newborn care.





## CHAPTER 4

# NEWBORN CARE PRACTICES AT HOUSEHOLD AND COMMUNITY

This chapter introduces newborn care practices at the household and community levels during pre-pregnancy, pregnancy, childbirth and postnatal periods. This chapter describes practices such as feeding of the newborn, prevention of malaria during pregnancy and practices related to response to danger signs. The main sources of data were household interviews, key informant interviews with community leaders, political and technical staff and community focus group discussions.

## CHAPTER 4

### Adolescent and Pre-Pregnancy Care

The ideal practices to ensure a healthy pregnancy and newborn include delaying marriage and first pregnancy, good nutrition, prevention and treatment of diseases, especially HIV and STIs.

*Preventing early pregnancies and child spacing:* Early pregnancy among adolescents can be reduced by delaying the age at which the adolescent engages in his or her first sexual intercourse, the age at marriage and use of contraceptives. According to the UDHS 2006, marriage among young girls is common. Among women aged 20-49, 16 percent were married by age 15 and 53 percent by age 18.<sup>2</sup> Women in rural areas and IDP camps were more likely to have been married two years earlier than their counterparts in urban settings.<sup>2</sup> It has also been found that in the rural Busia district, many girls start sexual activity very early (12 years on average), and are sometimes removed from school and married at that time.<sup>52</sup> One study found that healthcare workers were particularly unsympathetic to adolescents, contributing to delayed healthcare-seeking when adolescents were ill.<sup>53</sup>

Knowledge of contraceptive methods is good in Uganda, with the exception of the north and Karamoja regions. Despite this, current use of contraceptives is very low at 24 percent.<sup>2</sup> The most common reason cited for non-use of contraceptives is fear of side effects. In general, poor utilisation of family planning services was due to the desire to have many children, fear of side effects of various methods, and the feeling that conception was God-given and should not be stopped. Some women interviewed in the field research reported fear of being examined in health units. Many mentioned a failure to reach consensus with their partners on their use of a contraceptive method. Community focus group discussions revealed many negative attitudes against use of formal family planning services.

*“Family planning is becoming a big threat as the majority of women become so fat and lazy and want to drink a lot hence we leave it alone.”*

Man, Kabarole (western region)

*“Although there is poverty nowadays, children are given to us by God, so you can produce as many children as you want, so there is no need for the use of family planning.”*

Woman, Lira (northern region)

*Prevention of HIV/AIDS:* Pre-conception practices for the prevention of HIV/AIDS include HIV/AIDS counselling and testing, and safer sex practices such as delaying the age of sexual initiation, abstinence, monogamy, and condom use. According to the UDHS 2006, although there had been a decline in the median age of girls' first sexual intercourse, many young girls were still exposed to the risk of HIV infection through sex at a young age. Twenty four percent of women reported being sexually active by age 15 and 69 percent by age 18.<sup>2</sup> Condom use varied; respondents in urban areas were three times more likely than those in rural areas to have used a condom the last time they had sex.<sup>2</sup>

Despite early exposure to HIV, very few women and men have ever tested for HIV: only 15 percent of women and 13 percent of men aged 15-49 years reported having been tested.<sup>2</sup> The main reasons cited for never having had an HIV test included low perceived risk, with therefore no need to test (31 percent); a lack of knowledge of where to get test (22 percent); cost (18 percent), and not wanting to know one's status (16 percent). As indicated from focus group discussions, communities do not consider testing before marriage or conception to be important, as shown by the quote below.

*“In our village it is only one couple that has done it [testing]. After I have got a woman I don't think of anything I just think of getting a child. Once I choose her that is all.”*

Man, Kayunga (central region)

*Food and nutrition:* During focus group discussions, community members and leaders were aware of the food groups in a balanced diet yet participants reported that women usually eat an unbalanced diet together with their families.

## Antenatal Care

Household and community practices during pregnancy involve demand for antenatal care services and planning for a healthy birth, including emergency preparedness, prevention of malaria, HIV testing and nutrition. The support and involvement of a spouse and the community is also important during this time. Young pregnant women are particularly vulnerable: one study found that pregnant adolescents sometimes experienced stigma and as a result, some turned to unsafe abortions.<sup>53</sup>

*Antenatal care attendance:* The majority of mothers were aware of the value of antenatal care, noting the benefits of antenatal cards, obtaining information on the progress of the pregnancy, advice on how to prepare for delivery, hygiene and feeding practices, HIV testing, and obtaining treatment for illnesses. Some mothers reported getting free mosquito nets during ANC.

The majority of the mothers (97 percent) in the household interviews reported going for ANC at least once when pregnant, but mostly during late stages of pregnancy. Many of them said they did not want to miss out on their daily chores and responsibilities at home. Others reported that sometimes they got discouraged from attending ANC because of the long distances to the health units. They stated that it took a long time at the health facilities, and they sometimes returned home without getting the expected quality of services.

*Malaria prevention and treatment:* The current recommendations from the Ministry of Health to reduce the burden of malaria during pregnancy are for ITN, IPTp and prompt treatment. According to the UDHS 2006, just 10 percent of pregnant women slept under ITNs, while only 17 percent received the recommended two doses of IPTp.<sup>2</sup> Mothers in this study had good knowledge on the dangers of malaria and fever during pregnancy, in regard to both their health and the health of their unborn child. They also had good knowledge of preventive methods. Most information was from health providers in health units but some information also came from the community health workers. In household interviews, 50 percent of mothers reported owning any mosquito net, but just 21 percent reported ITN use during the last pregnancy. This is close to the UDHS 2006 figure of 23 percent.<sup>2</sup> Inability to afford ITN was cited as a main reason for non-use, along with discomfort, and husbands refusing their use.

Nearly two-thirds of mothers from household interviews reported having suffered from fever during a recent pregnancy. Sixty-one percent of those with fever sought treatment for it. The common practice for malaria treatment during pregnancy was to seek care from health facilities or buy drugs from the dispensary. However, adherence to treatment was poor; nearly two-thirds of mothers in household interviews took one or two tablets and when their condition improved, they felt there was no need to take any more. Herbs were widely used to treat malaria during pregnancy, especially among poor rural families due to an inability to afford drugs.

*Nutrition practices:* The recommended nutrition practices included eating a balanced diet, micronutrient supplementation and abstaining from alcohol and cigarette smoking. Both women and men were aware of the importance of a good diet for mothers during pregnancy. Nearly 60 percent of the mothers interviewed reported having been given information on nutrition during ANC, mostly on eating a balanced diet.

However, they reported that there were no special foods taken to prepare mothers for conception and childbirth. Community leaders interviewed reported that poor feeding was mostly attributed to poverty at household level but also to the spouse not providing adequate food for their wives. Some foods were discouraged during

*“If I get pregnant, I go to the health unit for ANC and get a card, because if you don’t get a card you can’t deliver from health unit. If you have an ANC card and go to the health unit you are attended to very fast. You also deliver a healthy baby and have a good life.”*

Woman, Rakai (central region)

*“At the health facility we are counselled about HIV testing and told to sleep under mosquito nets, how to feed when pregnant, how to care for the newborn babies. We are advised on how to save money for transport in case of delivery time, to buy the gloves, babies clothes...as a way of preparation...by nurses and doctors.”*

Woman, Kumi (eastern region)

*“In our area, we have failed to buy mosquito nets, so mothers get malaria because people are poor.”*

Woman, Rakai (central region)

pregnancy, such as pepper and alcohol, which were thought to give the newborn red eyes.

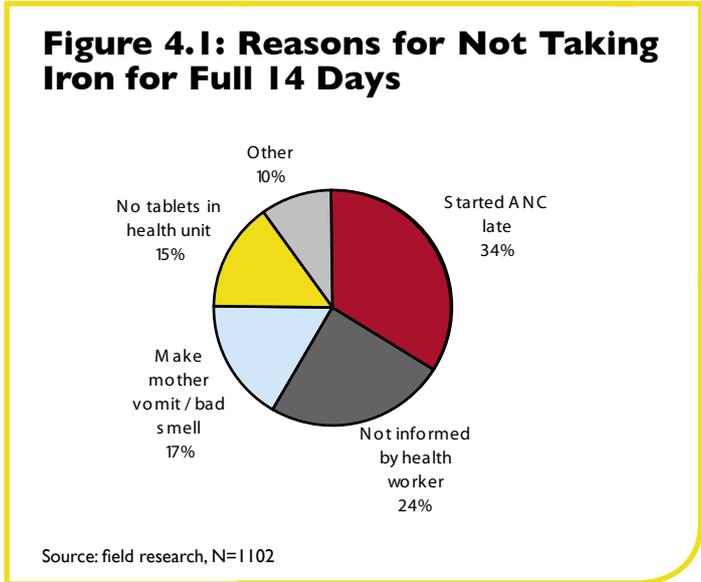
Mothers regularly reported that they were given micronutrient tablets during ANC, although compliance was generally poor and mothers failed to take all the iron tablets because of the bad smell. Irregular attendance or a late start for ANC was reported to be another reason for not taking iron for the recommended 14 day period. (Figure 4.1)

“In our setting, feeding is general and no particular efforts are taken to prepare for pregnancy.”

Woman, Rakai (central region)

*Response to illness and danger signs during pregnancy:* Over half of the women who received antenatal care reported being advised of danger signs, and to seek care from a skilled attendant at a health facility if any danger signs occurred. Fifty-seven percent of the mothers in this study reported hearing about danger signs of pregnancy during ANC, compared to 36 percent of the women who reported in the UDHS 2006.<sup>2</sup> Bleeding, severe abdominal pain, the baby not turning, a severe or persistent headache, fever and swollen feet were commonly reported by mothers as the most severe dangers.

Mothers reported that their response to danger signs was related to their judgment of the severity, but it was not common for women to categorise danger signs as severe enough to visit a health facility. The exception was fever and severe headaches, when mothers would seek malaria treatment at a dispensary or health facility. The most common practice reported was to start with herbs. If these did not help, they sought care first from a TBA. Some mothers from the Central Region reported reducing or ceasing sexual activity in case of bleeding. If the baby stopped moving, some mothers said they would consult a TBA or visit a health facility, but others would not do anything.



*Cultural practices during the antenatal period:* Participants in focus groups and key informant interviews mentioned several cultural barriers that hinder the accessibility of ANC services, which lead pregnant women to seek other, more traditional options. The most common practice noted was not revealing pregnancy until it was visible, in order to guard against possible explanations should the mother lose the pregnancy. This often delayed the first ANC visit until after the opportunity had passed to diagnose problems early, provide treatment, and prevent further complications.

Another common practice found across all districts was the use of herbs or similar local medicines. Herbs were readily available from older women within the family or community, and in most cases, at no or very low cost. Mothers took herbs as early as two months during pregnancy, often before seeking antenatal care at a health facility. In some cases, specific herbs (*mumbwa*) were used for pregnancy complications such as abdominal pain, vomiting, or backache, and could be rubbed on swollen feet and legs. Mothers reported that while TBAs normally promoted the use of herbs, health workers were against their use. Health workers noted that use of herbs often led to delays or inadequate ANC attendance. Some of the trained TBAs who were interviewed acknowledged that some of the herbs might be harmful and should be used sparingly.

*Birth preparedness:* To plan for a birth involves choosing the desired place of birth, the preferred birth attendant, the location of the closest appropriate care facility, funds for birth-related and emergency expenses, a birth companion, support in looking after the home while away, transport to a health facility for birth or in case of an obstetric emergency, and a kit containing items needed for childbirth (e.g. *mama kit*).

Mothers had some knowledge on how to prepare themselves for childbirth, mostly based on advice given by health workers. They reported being told to put money aside for emergencies such as travelling to health facilities and preparing essential materials for labour, such as gloves, baby clothes and a plastic sheet. In situations where

mothers were required to deliver by Caesarean section, they were often advised to go to the hospital before the due date.

If they could afford to, mothers prepared for childbirth by buying some of the recommended materials as well as putting aside money and food to use during and soon after delivery. Generally, mothers seemed to appreciate and value the benefits of preparedness. Many mothers prepared early, although some feared starting too early as it could bring a bad omen.

Poverty was frequently mentioned as a reason for mothers' failure to prepare and failure to give birth in a health facility. Community leaders observed that despite advice from health workers, many mothers were poorly prepared for delivery, particularly young girls. These girls were more likely to go to the TBA where they would not be scolded if they had no clean delivery kit.

*Family and spousal involvement and support during pregnancy:* Family and spousal support during pregnancy should include psychological and financial support, allowance for reproductive health decision-making and a reduction of household workload.

During focus group discussions, community leaders, members of the community and mothers emphasised the need for men to support their partners during pregnancy. However, women reported that overall, men did not provide enough support. Men were not actively involved in healthcare during pregnancy, arguing that women were capable enough to carry out the pregnancy on their own. Others reported that it was taboo to escort their wives to ANC, a finding with which some mothers concurred. In some areas (particularly in eastern and northern regions), it was also thought that showing too much interest in an unborn baby may jeopardise its chance of survival. In other instances, for example, men in Bushenyi district were very willing to offer support by taking their spouse to the health facility or looking after the children while the mother was in delivery at the facility. Communities reported a high level of awareness about domestic violence, and that beating pregnant women was strongly condemned.

Members of the extended family, older women and neighbours would often offer support to pregnant mothers by giving advice on proper feeding and self-care while pregnant, as well as helping with chores such as cooking and fetching water. Although women were advised to reduce their workload, they often continued to work hard throughout their pregnancy. Further discussions of the subject indicated that even if mothers valued this advice, it was not always an option, as they had nobody to help them with household chores.

### Childbirth Care

Women are encouraged to deliver under the care of a skilled provider in a health facility. However, that ideal is often impossible: fifty-nine percent of women in Uganda give birth outside a health facility without skilled care.<sup>2</sup>

Trained and untrained TBAs, family members like mothers-in-law and grandmothers, and in some cases, spouses assisted mothers with home deliveries. Still, sometimes women gave birth with no one present. Home deliveries commonly occurred at the mother's home or at a TBA home, and took place inside the house on the floor, on a mat or a polythene sheet. Some deliveries among the very poor in the central region were reported to be on banana leaves. Hygiene practices at home were poor in most cases, and depended largely on the surface where

*"You have to prepare money for hospital use and for transport. You have to prepare food to eat after delivery or have money to buy food because you can't work the first days."*

Woman, Rakai (central region)

*"We as mothers prepare baby's clothes, thread, razor blades, lamps, mats, soap, gloves, sugar, money saved for transport to the health unit. Health workers tell us about the preparation for childbirth, information about immunisation of the child, breastfeeding of the child, and cord care."*

Woman, Kumi (eastern region)

*"It is believed that unless we see the baby already born, we can't buy things in advance; it can lead to the baby's death. It is also believed that when the husband escorts [walks with] the wife, it can lead to misfortune."*

Man, Arua (northern region)

*"We are told to do exercises and not to do a lot of heavy work. In this way I mean, we should do work that we can manage and not work that will bring us problems."*

Woman, Kabarole (western region).

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delivery took place. Lack of soap or an adequate water supply, especially in poor households, was common. When delivering at a TBA facility, many women were expected to provide gloves and polythene sheets, but often did not have money to buy them.

*Complications during and immediately following childbirth:* When mothers developed complications, they often drank herbs or had them rubbed on their body. Most TBAs reported that they had women chew certain herbs if contractions were weak, or if labour progressed slowly. While mothers appreciated the use of herbs during labour, health workers attributed the delay in TBAs referring mothers a health facility to the use of herbs. In the case of excessive bleeding, women said they would seek care at a health facility. Most of the TBAs interviewed claimed to be competent enough to deliver more complicated cases like breech presentations, as long as they used the right herbs.

Trained TBAs had good knowledge of the conditions that required mothers to be referred to health facilities. Health workers, however, revealed that in many cases, TBAs did not refer women who developed complications. This led to more severe complications or death. Even mothers who had a normal delivery with a TBA were often kept for two or more days; mothers reported receiving more personalised care in TBA facilities during labour and delivery.

When the newborn did not cry immediately at birth, mothers and TBA said it indicated a tired baby. Most TBA reported that they held the baby upside down, tapped the baby's back to wake him up and get rid of any fluids the baby could have swallowed. Some reported using herbs (*matovu*) to clear the airway; others reported sucking out mucus from the nostrils or blowing air into the baby's nostrils. Trained TBAs said they flicked the babies' feet and poured cold water on the body. They also reported banging metallic instruments (such as saucepans) in an attempt to wake the newborn.

*Cutting and tying the cord:* In household deliveries, the cord was most often cut using a razor blade, which had sometimes already been used. Women reported that anything sharp could be used to cut the cord, including a kitchen knife. Most TBAs had good knowledge about cutting the cord, reporting that they used a clean razor to cut the cord and a clean thread to tie it. In the northern region, local remedies were immediately applied to facilitate the drying of the cord and to "prevent the cord from going bad."

*Delivering and handling of the placenta:* When delivering the placenta, the common practice was to ask mothers to push. If this failed, the attendant would often attempt to pull the placenta out. Another practice involved fastening a retained placenta to the mother's leg to avoid it moving toward her chest. Many TBAs were known for their skills to remove a retained placenta. Herbs were often given to speed up delivery of the placenta. Some of the practices described for removing the placenta were dangerous and could have resulted in serious infections and/or bleeding.

In the central and eastern regions, the placenta is buried or disposed of in a pit latrine because it is believed that if bad people come across it, they may cause harm to the baby or the woman may not be able to give birth again. In some parts of the central region, the placenta is buried on a special banana plant to show respect that it was part of the baby.

*"When a mother delivers from home and the placenta remains in the stomach, she is given local herbs and sent to hospital if herbs fail to work."*

Woman, Lira (northern region)

*"We pull the placenta out if it does not come out for women delivering from home."*

Woman, Lira (northern region)

### Postnatal Care

The postnatal period started after delivery of the placenta and lasts until 6 weeks after birth. It includes care for both the mother and baby. Expected practices included maintaining hygienic practices to prevent infections, handling the delivered placenta, resuscitating the newborn who fails to cry at birth, initiation of exclusive breastfeeding, keeping the baby warm, cord care and, recognition of and response to danger signs for the newborn and mother.

*Postnatal practices for the mother:* Mothers were often asked to bathe as soon as they regained strength. Women who developed perineal tears during childbirth were told to sit in salty baths on a daily basis until perineum

tears were healed. To help women recover from delivery, a hot cup of porridge or soup was often given, as some believed this stimulated breast milk. Most mothers were given more and better food in the immediate period after birth, but some negative practices were reported in focus group discussions. In some districts in the western region, for example, it was reported that there were food taboos for breastfeeding mothers. For example, a nursing mother was not supposed to eat any solid food until the baby's umbilical cord had fallen off.

*Early and exclusive breastfeeding:* Similar to UDHS 2006 results, almost all mothers (98 percent) reported breastfeeding their babies, most on demand.<sup>2</sup> In household interviews, half of the mothers (51 percent) said they put baby on the breast within the first hour after delivery. Many mothers were aware of the advantages of giving babies the first breast milk, or colostrum. Some communities in the north and western regions, however, did not consider this milk to be clean.

Even among mothers who put their baby on the breast immediately after delivery, pre-lacteal feeds were also commonly given. The 2006 UDHS revealed that over half (54 percent) of mothers gave pre-lacteal feeds, such as water. Water was reportedly given to newborns to open their bowels. Lack of milk was the most common reason for not exclusively breastfeeding, and preterm babies in particular were noted as having no appetite. In the absence of breast milk, community members reported practices of giving black tea, cow's milk, and warm water with mushroom soup and sugar.

*Keeping the baby warm:* According to focus group discussions, mothers valued the practice of wrapping the baby and keeping the baby close to their body, but not with skin-to-skin contact. The household survey showed that almost all babies (97 percent) were wrapped soon after delivery. Often, a specially prepared dry piece of cloth (*kikoyi*) is used. However, poor households were more likely to have difficulty in finding the right clothes to wrap their newborn babies.

In cases where baby is thought to be cold, deliberate efforts were made to keep the baby warm. These included using a hot charcoal stove in the house, or a burning fire in the corner of the room to provide heat. Although close contact between the mother and baby was commonly reported, skin-to-skin contact was seldom mentioned. Premature babies had the least amount of contact in the interest of keeping the baby warm; it was mentioned that small babies were sometimes continually held between two containers of hot water.

Bathing the newborn baby soon after delivery was a common practice among all communities, and was considered a healthy and hygienic practice. The majority of mothers were not aware of the dangers of bathing the newborn soon after birth. Many TBAs reported bathing babies immediately.

*Cord care and other infection control practices:* Cord problems reported in household interviews included bleeding or reddening of surrounding skin, and pus or discharge. Women reported a variety of potentially dangerous objects and substances that were applied to the cord, including ash, cow dung and lizard dung among the Karamoja and Acholi, and local herbs (*kyogero*). Food such as ghee, shea butter seeds, simsim and groundnuts were also applied. However, in some areas, effort was taken to ensure the cord was kept clean and dry. In the northern and eastern regions, care was taken not to pour water on the cord when washing the baby, and in the Gulu district, no one was supposed to touch the cord until it fell off. The cord was also related to seclusion practices: some mothers were confined to the house with their newborn until the cord fell off, a practice that could be detrimental for sick baby that needed care outside the home.

*“Culturally when a newborn is a boy it takes four days to be taken outside the house. This is done to enable the umbilical cord to break as it is not accepted to take a child out before it breaks off.”*

Woman, Kabarole (western region)

Mothers were aware of the advantages of cleaning the eyes of the newborn. They reported using warm water, plus a mixture of salt solution to prevent eyes from becoming yellow. Sometimes, materials used to clean the eyes were reported to be unhygienic, such as a piece of cloth or cotton wool, while others used local herbs (*kyogero*) or the baby's urine.

*Response to Illness and Danger Signs*

**Newborn illness:** Study findings indicated that mothers learn about newborn danger signs from the family, elderly women and neighbours, health workers, and TBAs. It was noted that the local radio and media also played a role in disseminating maternal and newborn health information. Poor feeding, excessive crying, vomiting, and a cold body were among the danger signs identified by mothers as the most important enough to seek care. (Table 4.1)

Practices related to caring for sick newborns in the home varied between different communities. Many mothers mentioned seeking advice from elders and trying herbal medicines first, but others chose to go to the health facility,

especially in the case of a preterm baby. Mothers were the primary decision-makers in choosing to seek care. Other decision-makers included husbands, health workers and grandmothers. There were no indications that care-seeking was different in regard to male or female babies.

A mother was more likely to seek care from a traditional healer when a baby had convulsions because convulsions were often attributed to spiritual causes. Other traditional diseases noted by key informants included “false teeth” (*ebiino*) and “fish disease” in the northern and western regions. These allegedly required extracting the false teeth using knives, which could be dangerous, and lead to excessive bleeding, respiratory and gastro-intestinal infections. One way of treating a high temperature or fever was through steaming the baby with boiled leaves.

**Maternal Illness:** The main maternal danger signs that most mothers recognised included fever (51 percent), excessive bleeding (31 percent), and severe lower abdominal pain (30 percent), which corresponded to information given in health facilities. However, one in ten mothers did not know any signs of possible danger to their health. Many conditions were treated with local herbs or drugs from the dispensary. Care-seeking at a health facility was most common for excessive bleeding, although many TBAs noted that they should have drugs to stop bleeding because transport was not always available.

Support for sick mothers was mainly provided by husbands and family members. In some cases, members of the community offered food. In Kampala, mothers reported that there used to be a popular programme where midwives would visit them during the first days after delivery for a routine check and counselling.

**Table 4.1: Newborn Signs and Symptoms that Prompt Care-Seeking according to mothers**

Signs/symptoms	Frequency	Percent
Poor sucking/feeding	440	39
Persistent /abnormal crying	384	29
Vomiting/regurgitation	268	24
Cold/shivering	221	20
Frequent watery stools or stool	183	16
Difficulty breathing	181	16
Convulsions	80	7
Failure to pass stools	68	6

Source: field research

**Information Gaps Surrounding Household and Community Practices**

In the pre-pregnancy period, little was known about how communities prepare women for healthy childbirth, especially among highest-risk, first pregnancies. Barriers to accessing care early in pregnancy and continuing with skilled care throughout childbirth and the postnatal period need to be further explored. There was a lack of information on care-seeking practices for treatment of major newborn illnesses, especially for potentially harmful traditional treatments, aside from danger sign recognition.

Practices related to infection control and care of preterm babies were poorly understood. While keeping the baby warm was a highly regarded practice, there was little understanding of the acceptability of introducing skin-to-skin care. The role played by husbands and other family members was especially important and more research is needed to understand how to effectively mobilise spousal involvement in all aspects of reproductive health, but particularly around the time of childbirth and during the first week of life.

### **Conclusion**

A number of positive attitudes and healthy care practices existed at the household and community levels. These included recognition of the need to provide special care and protection to the woman during pregnancy and to the newborn baby. However, there were several practices that could have had negative consequences for newborn health. Knowledge of most healthy behaviours was high, yet practice of these behaviours was low. Myths and poor perceptions about some of these healthy practices existed, and will need to be addressed in order to improve newborn health at the household and community levels.

Care at the household and community must be linked to facility care in order to save lives. However, it is evident from this assessment that while most communities appreciated the value of care at the facility level, they were often discouraged from effectively utilising these services due to poor quality of care, distance to the facilities and the cost of facility level care, especially in emergencies. Traditional practices also required them to remain in the home or seek alternative care. To ensure continuity of care for newborns, barriers to accessing care should be explored and removed. The quality of facility services must also be improved.





## CHAPTER 5

# AVAILABILITY, ACCESS, UTILISATION AND QUALITY OF SERVICES FOR NEWBORN HEALTH

Newborn health and survival is maintained through the availability, access and utilisation of health services at different levels throughout the lifecycle. This section describes service coverage through adolescence and pre-pregnancy care, antenatal care, childbirth care, and postnatal care. The study used an adapted Gaps Analysis Tool for Maternal and Newborn Care to assess existing gaps between expected and available services. Proxy indicators, such as the presence of basic equipment, were used to assess the availability, access and quality of services. Information from the literature review and interviews with mothers at the household level provided data on utilisation.

### Service delivery for newborn health

Service delivery for mothers, newborns and children is best provided within a continuum of care. The continuum of care is a framework that underpins health service delivery, ensuring linkages throughout the lifecycle, as well as connections between households to health facilities by improving home based practices, mobilising families to seek care and increasing access to quality care at health facilities.<sup>54</sup> The HSSP II emphasises this continuum, connecting essential maternal, newborn and child health packages throughout adolescence, pregnancy, child birth, postnatal and newborn periods. The HSSP II also recognises the importance of strengthening the health system at each level. This includes increasing demand at the community level, implementing outreach antenatal and postnatal packages, and providing sophisticated clinical care at higher level health facilities.<sup>3</sup>

This study did not assess the distribution of facilities where newborn care is provided. However, information available at the national level indicated an imbalance between rural, urban and within regions. While HC II makes up more than half of all health facilities (2008 out of 3237), they are not mandated to provide child birth services except when a referral is impossible. The mandate of HC II is currently being reviewed to address this situation. HC III and IV manage deliveries, but are mainly in urban settings and often too far away from most homes and hospitals that provide most of the newborn service package.

### The Minimum Health Care Package for Uganda

Global standard interventions for newborn care, developed by WHO, have been adapted by the Ministry of Health. The Minimum Health Care Package for Uganda has the following listed as core interventions for maternal and newborn health:

- Provision of care during pregnancy such as TT immunisation, proper nutrition, including iron and folate supplementation, and the prevention and treatment of maternal infections such as malaria and STIs
- PMTCT
- Infection control during and after delivery
- Newborn resuscitation
- Provision of postnatal care, including thermal care, exclusive breastfeeding and Vitamin A supplementation
- Counselling and education on newborn care practices, especially careful management of low birth weight babies during the postnatal period
- Sensitisation and education on danger signs for the mother and newborn
- Promotion of appropriate care-seeking and home care practices for the mother and newborn

### Adolescent and pre-pregnancy care

Adolescents and young women need sexual and reproductive health information and services. The minimum package of adolescent health services includes:

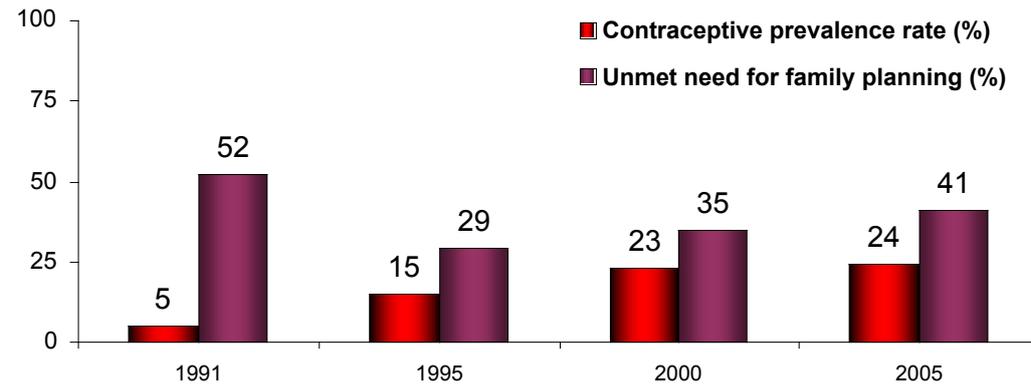
- Information and counselling on safe sex and reproductive health
- Contraception
- STI diagnosis and management
- HIV counselling, testing and care
- Counselling and care for sexual violence and abuse
- Post-abortion care

*Adolescent-friendly services:* Very few facilities focus specifically on youth. Even when special services are offered, adolescents often do not access them due to a perceived lack of confidentiality, rudeness among service providers, ignorance about the existence of these services and fear of embarrassment.<sup>52 53 55</sup> Many health workers have not received specific training with emphasis on counselling skills for young people.<sup>53</sup>

Only seven (20 percent) of the 35 facilities assessed through field research offered some privacy for adolescents; only two of the nine hospitals had a special room for young people. Two facilities (Kayunga and Naguru Teenage Centre) had specific spaces designated as adolescent-friendly areas. Both centres were established as donor-funded pilot projects in urban areas.

*Family planning:* Pregnancies that occur too early or too close together are linked to higher risks of stillbirths and newborn death. Current contraceptive use in Uganda is low (24 percent) and has not changed much over the 15 years. (Figure 5.1) Contraceptive use is lowest among young women. Although the total number of births among women aged 15-19 is low, 41 percent of births in this age group occur in less than 24 month intervals. The total unmet need for family planning is at 40 percent. Many facilities that are supposed to provide family planning services are plagued with frequent stock-outs and expired commodities. A third of health facilities in this survey reported stock-outs of indicator family planning commodities. Some of the facilities also lacked materials for counselling clients on contraceptives use.

**Figure 5.1: Contraceptive Use and Unmet Need for Family Planning Trends in Uganda**



Source: UDHS 2006<sup>2</sup>

*HIV/AIDS services:* Even though VCT services are supposed to be available at all levels, they were more likely to be found at the HC IV and hospital level, as the majority of HC III and HC II do not have testing facilities. Only three out of eight HC II had STI diagnostic services. STI screening in hospitals, HC IV and HC III was mostly for syphilis, and even this service was inadequate. For example, about half of observed facilities did not have syphilis testing kits.

*Vaccination campaigns:* Since 2002, the Ministry of Health has implemented a programme to eliminate Maternal and Neonatal Tetanus through mass vaccination of 13-49 year old women in high risk districts. Almost all of the 35 facilities assessed provided immunisation services. However, provision of TT immunisation to non-pregnant women of childbearing age was rare. In a few instances where pre-pregnancy TT was provided, it was reported to occur in schools as part of the school health program and during Child Health Days.

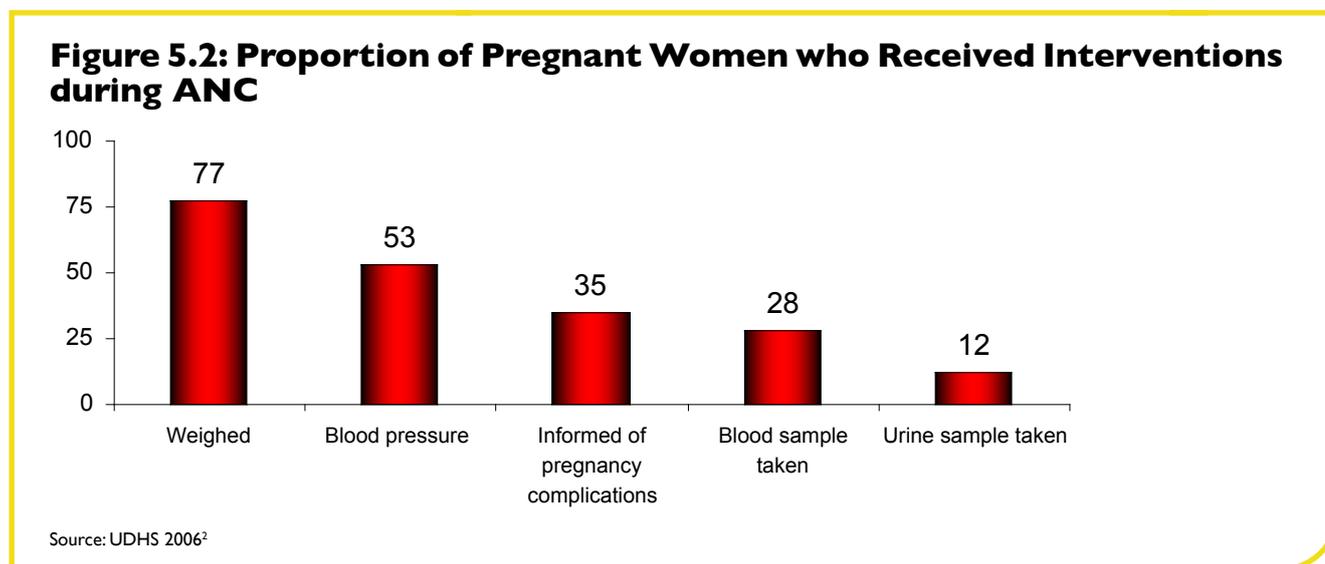
### Antenatal care

Pregnancy is a crucial time to promote healthy behaviours, prevent stillbirths and avoid some of the major causes of illness and death among newborns. Essential interventions during the pregnancy period are provided through the ANC package, including:

- TT immunisation
- Identification and management of STIs, including HIV and syphilis
- Malaria prevention through IPTp, ITN and treatment
- Identification and management of pregnancy complications, such as preeclampsia and anaemia
- Nutrition counselling
- Birth preparedness
- Counselling on maternal and newborn danger signs

*Focused ANC:* The Ministry of Health has now adopted a goal-oriented, focused ANC model for the implementation of ANC services.<sup>3</sup> Focused ANC involves attending at least four visits starting early in the first trimester, and receiving all the necessary interventions for this package. According to the UDHS 2006, only 47 percent of mothers attended ANC four times; only 17 percent made their first visit during the first three months. Forty-one percent of pregnant women had their first visit during the fourth or fifth months of pregnancy, and 37 percent only attended ANC in their sixth month or later.<sup>2</sup>

All health facilities are mandated to provide antenatal care. Field assessment findings indicated that ANC was available in all facilities except for two HC II. These findings supported the current utilisation of ANC services, with 94 percent of women attending at list one visit.<sup>2</sup> However, the complete package of ANC interventions was not always available at health facilities. Even when services were available, they were not offered to all pregnant women. Field research found that laboratory tests were infrequent; health workers reported that reagents to perform certain tests were often out of stock. However, HIV testing kits were more often available, likely due to donor funding. Fig. 5.2 shows the proportion of pregnant women who received various interventions during an ANC visit according to UDHS 2006.<sup>2</sup>



*TT Immunisation:* TT immunisation was available in all 35 facilities. Despite its availability and high ANC attendance, there were missed opportunities to ensure TT coverage of all pregnant women. From the UDHS 2006, just 51 percent of mothers had received 2 or more doses of TT for their last live birth, remaining the same since 1995.<sup>8</sup> This is a missed opportunity as more than 80 percent of pregnant women attended ANC at least 2-3 times and could have received the recommended 2 TT doses.<sup>2</sup>

*Identification and management of STI:* Syphilis is a major cause of adverse pregnancy outcomes, including stillbirths and newborn deaths. A recent HIV sero-behaviour survey showed that 33 percent of women who had sex in the year preceding the study had signs and symptoms of an STI. Three percent of Ugandan adults are currently infected with syphilis.<sup>43</sup> Most health units surveyed (21 out of 39) were not providing syphilis screening services, especially at the lower levels. Just 33 percent of women had blood taken during ANC. This is comparable to the UDHS 2006 results, which indicated that only 28 percent of women who attended ANC had a blood sample taken.<sup>2</sup>

*PMTCT services:* While HIV/AIDS is not a direct cause of neonatal death, maternal HIV status affects newborn survival by causing an increased risk of unexplained stillbirths. It also contributes to adverse neonatal outcomes, such as preterm and low birth weight and low Apgar scores. The antenatal HIV prevalence in Uganda is 6.5 percent. Although the PMTCT programme was initiated in 2000, only 28 percent of health facilities provided PMTCT by 2006. The majority of these facilities were hospitals.<sup>50</sup> Table 5.1 summarises the availability of PMTCT services in the facilities visited during this assessment. Of the 39 health facilities in the study, 22 provided PMTCT services, which was higher than the national average. The nature of PMTCT services requires a number of contact points with the health system. In Uganda, there is low uptake and continuity of these services. According to the UDHS 2006, 39 percent of pregnant women

**Table 5.1: Availability of PMTCT Services by Facility**

Level of facility visited	Yes	No	Percent offering PMTCT services
Health Centre II	0	8	0%
Health Centre III	5	6	45%
Health Centre IV	8	2	80%
Hospital	9	1	90%
<b>Total</b>	<b>22</b>	<b>17</b>	<b>56%</b>

Source: Field research

attending ANC were counselled, and 21 percent were offered and accepted a test. However, just 18 percent were counselled, offered and accepted an HIV test and received the results.<sup>2</sup>

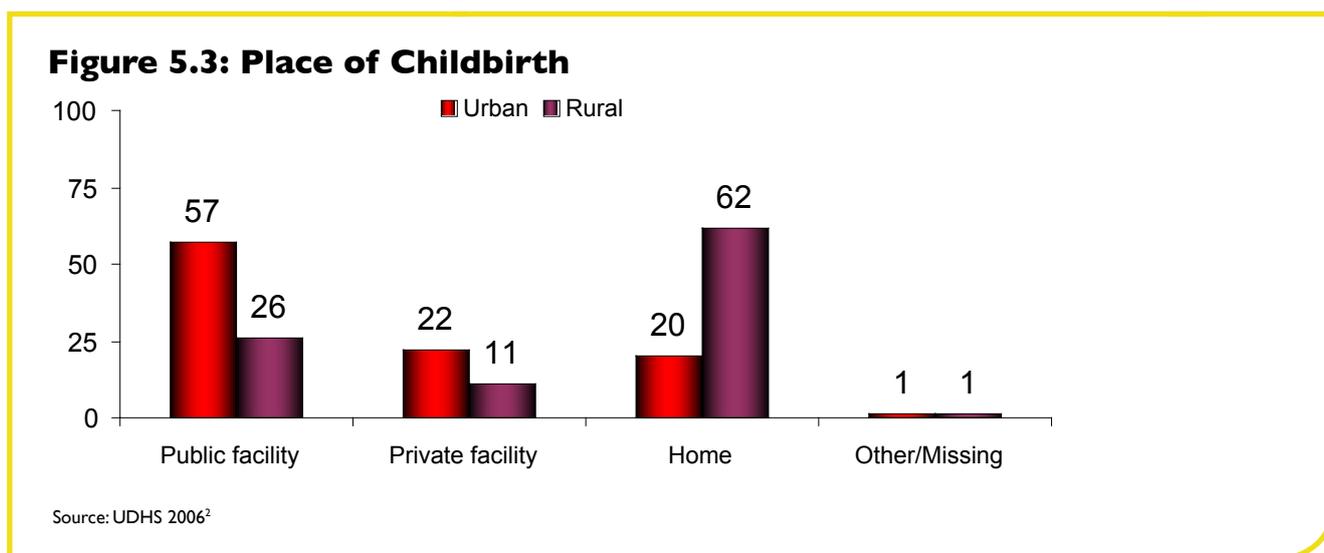
**Malaria services:** Malaria is endemic in 95 percent of the country, while 5 percent is prone to epidemics.<sup>46</sup> Malaria causes an estimated 15 percent of maternal anaemia in Uganda and malaria infection during pregnancy is a risk factor for miscarriage, stillbirths, preterm birth and low birth weight.<sup>56</sup> Therefore, the Ministry of Health recommends that women take Fansidar prophylaxis at least two times during pregnancy and three times if they are HIV-positive.<sup>56</sup> All facilities reported that IPTp was available during ANC. However, according to the UDHS 2006, only 17 percent of pregnant women received the recommended two doses during ANC.<sup>2</sup> A new community-based delivery system for IPTp has been proposed using TBAs, dispensary vendors, community health workers and peer counsellors.<sup>56</sup> The irregular supply of Fansidar presents the main constraint facing IPTp provision at both facility and community levels.

**Nutrition supplementation:** Most surveyed health facilities (33 out of 39) carried out physical examination for anaemia and offered iron and folic acid tablets to women during ANC. Half of the facilities offered nutritional counselling. However, pregnant women were not adequately counselled to ensure compliance. The UDHS 2006 reported that 63 percent of women took iron tablets,<sup>2</sup> but field research found that nearly half of pregnant mothers did not take the iron tablets as recommended.

**Birth preparedness:** ANC provides an opportunity to help women prepare for childbirth by providing information about pregnancy danger signs, skilled care at childbirth and healthy postnatal practices. All facilities providing antenatal services are expected to give mothers birth preparedness counselling, but it was not always offered, especially at the HC II level. In facilities where counselling was provided, the content did not follow national guidelines. The most common information recalled was regarding danger signs in pregnancy, VCT, PMTCT, and items needed for the birth and newborn, such as gloves and a clean blanket. Saving money for transport, preparing for an emergency and choosing a place for delivery seemed to have received minimal attention.

### Childbirth care

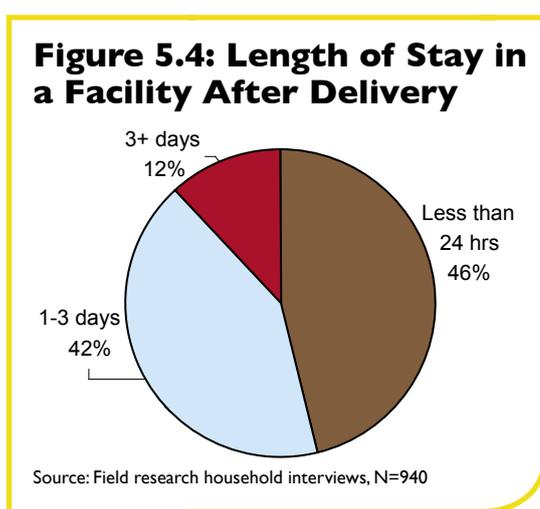
Ugandan policy recommends that all mothers deliver at a health facility with skilled attendance. Currently, childbirth services are available at the HC III level and above. Only 41 percent of births occur at a facility, a statistic that has remained fairly constant over the past 10 years. Women in urban areas are much more likely to deliver in a facility than rural women. (Figure 5.3)



Mothers reported access issues, such as the distance to the facility (13 percent), an abrupt onset of labour at night (15 percent) and a lack of transport assistance (18 percent) as reasons why deliveries occurred outside health facilities. In addition, poor attitudes by service providers and the lack of basic equipment and supplies discouraged use of health facilities.

Results from household interviews showed that almost half (46 percent) of women who delivered in health facilities were discharged in less than 24 hours, reducing the time they were available to be monitored by skilled personnel. (Figure 5.4) Common reasons provided for discharge were overcrowding and the mother’s desire to go home.

While hospitals reported having most of the necessary equipment and supplies for quality care during childbirth, fewer resources were available in lower-level facilities. (Table 5.2) Many units had no water or soap, and poor hygiene and overcrowding were observed in some of the units. Less than 50 percent of HC III had ergometrine at the time of the survey. While partographs were available in a number of the facilities, there was little evidence of their use. The main reasons for not using a partograph included the presentation of mothers in the second stage of labour and inadequate staffing.



**Table 5.2: Availability of Equipment and Supplies for Childbirth**

Equipment and supplies for childbirth	Health facility level			
	HC II N=8	HC III N=11	HC IV N=10	HOSPITAL N=10
Delivery equipment sterile and ready for use	2	7	7	8
Protective gear (sterile gloves, aprons, gumboots)	2	8	9	10
Disinfectant and buckets for diluted solutions	2	8	9	10
At least 3 vials of ergometrine	3	5	8	10
Partographs	1	6	6	7
Sharps containers	5	7	9	8
Placenta pit	2	7	9	10

Source: field research

*Emergency obstetric care:* About 15 percent of all pregnant women will develop obstetric complications, most of which cannot be predicted through risk screening.<sup>1</sup> Unless emergency care is available, the woman and the baby could either die or develop severe disabilities. The national needs assessment for EmOC found that in the 55 districts surveyed, 459 (78 percent) facilities did not meet the criteria for EmOC facilities.<sup>27</sup> Only 48 (8 percent) facilities met the criteria for comprehensive EmOC and 85 (14 percent) for basic EmOC services. The average Caesarean section rate was 3 percent. The UDHS 2006 reported wide discrepancies in care available to rural and urban women, with just 2 percent of women in rural areas giving birth by Caesarean section compared to 9 percent in urban areas.<sup>2</sup>

In response to the national EmOC needs assessment, many HC IV were upgraded from HC III. However, they were not provided the necessary infrastructure, such as functional operation theatres and staffing levels to offer EmOC. In the facility assessment, only three out of ten HC IV provided comprehensive EmOC, and the rest provided basic EmOC. Two out of ten hospitals did not meet the criteria for providing comprehensive EmOC services. The facilities that could not provide this service lacked functioning theatres or essential supplies like blood for transfusions.

*Immediate newborn care:* Approximately half of all newborn deaths occur in the first 24 hours after birth, mostly as a result of complications that occur during labour. The key interventions for the newborn immediately after birth include support for breathing, warmth and feeding. These interventions are included and prioritised in the HSSP II.<sup>3</sup>

Only 17 percent of women who delivered at a health facility and just 6 percent of women who delivered at home received care within the first 4 hours after delivery. This is the crucial time for immediate newborn care practices.<sup>2</sup>

Interviews with health providers revealed that childbirth was often assisted by just one person who attended mainly to the mother, and often did not have the skills to provide newborn care. This greatly compromised the capacity of health facilities to provide timely and quality skilled care for saving newborns, especially for those who may be asphyxiated.

During the facility assessments, many facilities lacked weighing scales for the newborn and thermometers to monitor temperature. Basic resuscitation equipment for newborns, such as a bag and mask, was lacking at all levels, even within units that performed deliveries. For example, only two out of eleven HC III had basic resuscitation equipment ready for use. The majority of facilities also lacked basic drugs, such as dextrose and ampicillin, to manage newborn conditions. Table 5.3 lists the availability of basic equipment for immediate newborn care in the facilities.

**Table 5.3: Availability of Equipment and Supplies for Immediate Newborn Care**

Equipment and supplies for childbirth	Health facility level			
	HC II N=8	HC III N=11	HC IV N=10	HOSPITAL N=10
Basic resuscitation equipment for the newborn available and ready for use	1	4	5	6
Ambubag and mask	1	4	8	9
Thermometer	3	6	8	7
Weighing scale	3	7	10	9
Mucous extractor	3	3	6	7
Stethoscope	4	8	10	8
Clean cord ligatures	2	7	6	9

Source: field research

The assessment also found that the service package for immediate newborn care was not well understood at all levels. The available services tended to focus on the mother alone and exclude the newborn. Health workers had a poor level of awareness of the national guidelines and protocols for immediate maternal and newborn care in the postnatal period. Out of the 10 hospitals assessed, only four were aware of the antibiotic protocols for newborn care. In one of the health facilities, a nurse was observed giving an adult antibiotic dose to a newborn. In those units where providers were aware of the guidelines and protocols, hard copies were often not available on site. Many unit heads reported what they practiced routinely to be their policy, which in most cases was different from the set standards.

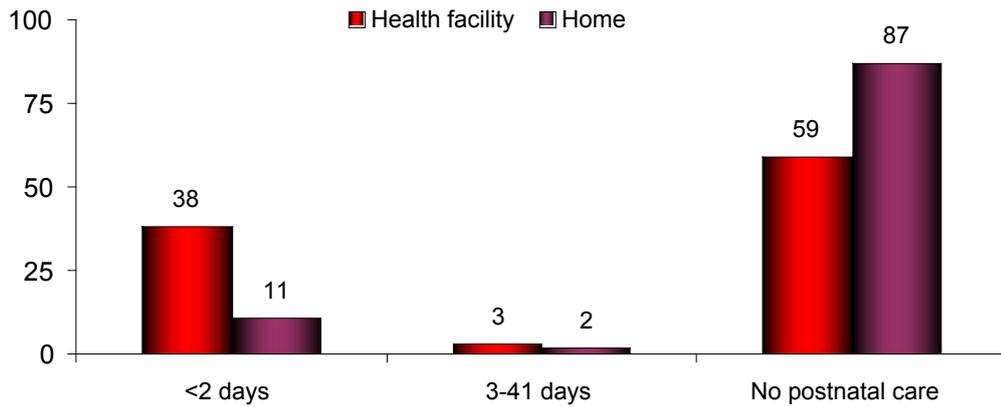
### Postnatal Care

The postnatal period covers the first six weeks of life. Care during this time period includes preventive practices, as well as identifying and managing complications for both mother and baby. Infection prevention at home, in addition to early recognition and care-seeking for illness, are crucial to reduce newborn deaths. This is also the time to support the initiation and maintenance of healthy behaviours, which have lasting beneficial effects for mother and baby. Key interventions during this period include:

- Counselling and assessment for mother and newborn danger signs
- Management and referral for illness for both mother and newborn
- Checking for weight and temperature
- Supporting optimal feeding practices, particularly exclusive breastfeeding
- Promoting hygiene and good skin, eye, and cord care
- Counselling on family planning
- Routine immunisation and supplementation
- Birth registration

Coverage of postnatal care remains low. According to UDHS 2006, postnatal care within two days is nearly 4 times as common for facility births compared to home births.<sup>2</sup> (Figure 5.5) However, three quarters of women receive no postnatal care at all.

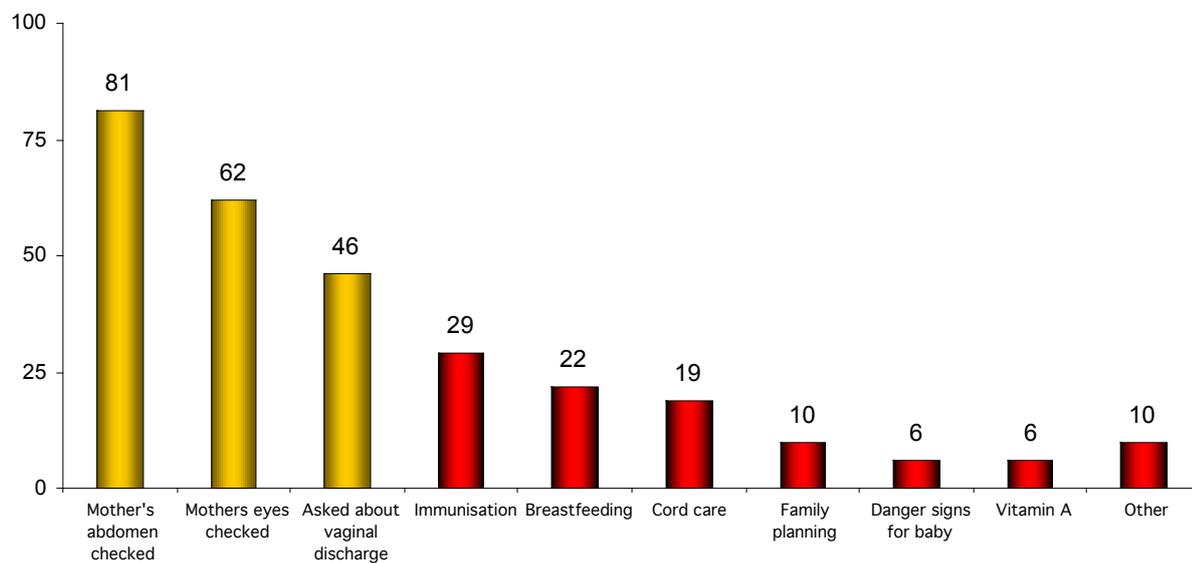
**Figure 5.5: Timing of First Postnatal Visit by Place of Delivery**



Source: UDHS 2006<sup>2</sup>

Key informant interviews indicated that health worker knowledge of postnatal care was inadequate. Immunisation for the baby and Vitamin A supplementation for the mother were commonly reported as key interventions, with little mention of counselling or management of newborn illness. The UDHS 2006 asked some questions about the specific content of care provided to mothers during her first postnatal check after birth.<sup>2</sup> The coverage of these interventions was relatively high. This study also asked about the type of information and interventions provided during a postnatal visit, and confirmed that quality of postnatal care was lacking. (Figure 5.6) Close to 80 percent of mothers were not given information about breastfeeding, while 90 percent of mothers received no information on family planning. This study found no evidence of home visits by professional health staff to mothers in the early days after delivery.

**Figure 5.6: Mothers Report of Content of Postnatal Visit**



Sources: Yellow bars-UDHS 20062; Red bars-Field research, N= 786

While coverage of immunisations scheduled to be given at birth (e.g. BCG, polio) is high in Uganda, it was only reported by 22 percent of women, who also noted that immunisation was seen as different from postnatal care. Contributing to this discrepancy, a majority of facilities reported provision of BCG and polio vaccinations at birth, which means that a health worker was checking on the baby. This could provide an opportunity to integrate important interventions in the early postnatal period.

The management of sick newborns suffers with such low uptake of postnatal care. The Ministry of Health has recently revised the IMCI guidelines to include newborn health. However, health workers have yet to be oriented on the new guidelines. Only three out of eight HC II and four out of eleven HC III provided services for

identification and treatment of neonatal illness. Health workers reported that all sick newborns seen at first-level facilities were referred, often without appropriate pre-referral care. Basic pre-referral antibiotics drugs for newborns, such as gentamicin and injectable ampicillin, were not available at any of the first-level facilities.

Care for small babies was lacking in most of the facilities, despite the fact that it is major factor contributing to newborn death. None of the HC III and IV provided special services for the management of low birth weight babies. Health workers reported that low birth weight newborns were always referred to hospitals; if referral was not possible, they would be covered with cotton and extra clothing for warmth. In some cases, lanterns and charcoal stoves were used to provide extra heat in the rooms where small babies were kept. In hospitals, the most available intervention for the management of low birth weight babies was extra warmth provided by locally made incubators. However, these were often not functional due to an irregular power supply or breakdown of some of the equipment. None of the facilities provided Kangaroo Mother Care (KMC), an effective and low-cost technique of caring for the small baby through skin-to-skin contact with the mother.

## Kangaroo Mother Care

Kangaroo Mother Care includes:

- *Kangaroo position:* skin-to-skin on the mother's chest, secured with a cloth or wrap
- *Kangaroo nutrition:* exclusive breastfeeding whenever possible
- *Kangaroo support:* the mother is the primary caregiver, and healthcare staff provide support to the mother to take care of her infant in the hospital and family support KMC practice at home

According to UDHS 2006, approximately one in seven newborn babies in Uganda is born with low birth weight (smaller than 2,500 grams), and requires extra care to survive and thrive. Compared to normal birth weight babies, small babies have a much greater risk of death. Those who survive are at a greater risk of illness during infancy and childhood. They may also have compromised cognitive, motor, and behavioural development. Because of their size and immature organs and systems, small babies are not able to maintain normal body temperature. Therefore, they need special care to stay warm, failure of which can lead them to develop complications including coldness, failure to feed, and infections.

### Existing methods to care for small babies

Incubators are widely used for the care of very small and premature babies. However, because of their high cost, many hospitals do not have incubators. Others have incubators that do not work due to power cuts or missing parts. In all cases, the number of babies needing to use the incubator exceeds the number of available incubators. In addition, the prolonged stay in hospital associated with incubator care is often very costly for most families, and contributes to overcrowding of the already small space in neonatal units.

### Alternative method: Kangaroo Mother Care

As soon as the small baby is stable and has no complications, a cheap and safe method called Kangaroo Mother Care (KMC) exists and is promoted in Uganda. KMC involves provision of warmth through skin-to-skin contact of the mother and baby's bodies. The baby is undressed except for a cap on the head, nappy and socks, and is placed upright between the mother's breasts with its head turned to one side. This positioning is not new to Uganda, and is in fact practiced by some tribes in the western region of the country. The baby is then tied to the mother's chest with a cloth and covered with the mother's clothes. If the mother is not available, the father or any adult can provide skin-to-skin care.

### Advantages of Kangaroo Mother Care

KMC is safe, cheap and affordable for most mothers. KMC is effective for keeping the baby warm and also enables early breastfeeding, protection from infections, early stimulation, love and bonding of the parents to the newborn baby. KMC reduces the amount of hospital space required to manage newborns, and reduces the length of stay in the hospital for parents. Once babies are stable and the parents have learned to provide KMC, they are discharged from the hospital and are seen on a weekly basis during clinic days, specifically to review the progress of the small babies.

### Kangaroo Mother Care is spreading

Kangaroo Mother Care is currently practiced mainly in Mulago Hospital Neonatal Unit in Kampala, but the Ministry of Health is working with development partners, such as Save the Children, WHO and UNICEF, to raise awareness about KMC and encourage its use in hospitals and other health facilities. KMC has been introduced in four additional districts of Kayunga, Luweero, Nakaseke and Nakasongola, and will eventually be rolled out across the country.

## Human resources for provision of newborn care

Availability of skilled providers is a crucial component of quality newborn care services. In Uganda, midwives positioned at HC III are the main frontline providers of newborn care during pregnancy, childbirth and the postnatal period. Clinical officers and comprehensive nurses provide care for mothers and newborns at the first level of care. Table 5.4 lists the number of facilities that met the expected staffing component by cadre and level of facility. Staffing levels for clinical officers were met for majority of HC IV and hospitals. However, average staffing levels for midwives at HC III, which is where most deliveries were expected to occur, were not met by majority of the facilities assessed.

**Table 5.4: Number of Facilities Assessed that Met Expected Staffing Norms**

Cadre	HC II N=8	HC III N=11	HC IV N=10	HOSPITAL N=10
Anaesthetist	N/A	N/A	2	7
Medical officer	N/A	N/A	2	5
Clinical officer	N/A	3	8	7
Nurse	2	1	2	6
Midwife	5	3	9	5
Nursing Assistant	3	5	2	6
Health Assistant/Inspector	2	6	6	6
Records Assistant	N/A	5	7	6
Laboratory Technologist/Assistant	N/A	1	8	7

Source: field research

Recent estimates by the Ministry of Health indicate that there are only 12 midwives and 22 nurses per 10,000 patients in Uganda.<sup>51</sup> This means that adequate coverage of all the essential service areas for newborn care may be impossible, especially in regard to 24-hour clinical care. Staff shortages and a heavy workload were cited as some of the constraints to providing newborn care. It was common to find just one staff member covering the labour ward, delivery room and neonatal ward.

The capacity to provide emergency obstetric and newborn care was lacking. Medical doctors positioned at HC IV are the main providers of emergency care, but staffing levels at HC IV were inadequate, with only two out of the 10 HC IV meeting expected staffing norms. This does not reflect the disparities in distribution of medical doctors between rural and urban areas, and between remote and easily accessible geographical areas.

Despite the fact that the majority of women still give birth outside a health facility, there is currently no human resource strategy or cadre of staff dedicated to increasing access to care at the community and household levels. This limits the capacity to access care for the mothers and newborns who are most at risk.

In addition to low staffing levels and heavy workload, not all staff have sufficient skills to provide the necessary services to save the lives of newborns and mothers. For example, among the 80 facility personnel assessed, only a few claimed to possess all the skills required to provide postnatal care. The largest knowledge gaps among health providers were in the following areas: resuscitation, the provision of oral and parenteral antibiotic treatment for newborns, and the management of low birth weight babies.

## Conclusion

Maternal and newborn health services are provided most effectively through a continuum of care, which links health service packages across the lifecycle and the level of care provided. The continuum of care begins even before pregnancy. While efforts have been made to address the low coverage of family planning services, the limited emphasis on youth-friendly services meant that these services did not reach those most at risk. General entry of pregnant women into the formal health system was high, as reflected in coverage of at least one ANC visit. However, the quality of care during this time was below the expected level; coverage dropped off for care during childbirth and routine postnatal care. Emergency care for mothers and newborns was well below minimum standards, and especially low for the majority of women who give birth outside a health facility.

Provision of quality immediate and early postnatal care services was constrained by a lack of basic equipment, such as thermometers and weighing scales, as well as regular stock-outs of basic supplies and drugs. Inadequate integration of newborn care into existing services, particularly in regard to drug supply protocols at lower level health facilities, contributed to the limited availability of newborn care services, including pre-referral care at first-level facilities.

Services for managing sick newborns and low birth weight babies were inadequate in the majority of the facilities that were closest to the communities, and within the communities themselves. Major barriers to effective, essential newborn care included inadequate knowledge of newborn care among health providers, a lack of institutional support for evidence-based low-cost interventions, such as KMC, and a critical lack of trained staff.





## CHAPTER 6

# CONCLUSIONS AND OPPORTUNITIES FOR ACTION

This chapter presents a summary of the major findings of the situation analysis, and highlights the major gaps, existing opportunities and recommended actions to improve newborn health in Uganda. Recommendations are based on a summary of immediate, community-based and facility-based action points, as well as specific, long-term actions to strengthen the overall continuum of care.

## Recall: Why do newborns die?

Major causes of death among newborns in Uganda include infections, primarily sepsis and pneumonia, asphyxia, and complications of preterm birth. Risk factors associated with these deaths include hypothermia, especially among small babies, first order births, mothers younger than 20 years old, and births that occur less than 18 months from a previous birth. Malaria and HIV are also major contributory factors. The riskiest time for babies is the first day through the first week of life. Babies born into poor families and/or in rural areas are particularly vulnerable.

Table 6.1 presents key issues that must be addressed if newborn health is to be improved in Uganda.

**Table 6.1: Challenges and Opportunities for action**

Challenge	Opportunities for action
<b>Newborn health information</b>	
Data regarding the number and causes of neonatal death are limited, despite the fact that neonatal mortality contributes up to one-third of infant mortality and 22 percent of under-five mortality.	<p>Enforce legislation for the registration of births and deaths. Begin with a review and update of the existing legislation.</p> <p>Integrate a perinatal death audit into maternal death notification, which is now a mandatory requirement for health facilities.</p> <p>Strengthen record-keeping in health facilities, as well as the capacity of the Health Management Information System (HMIS), in order to capture newborn health information.</p>
<b>Policies and programmes</b>	
The health sector is grossly under-funded, especially at the district level, which constrains the implementation of MNCH services. Remote and poor districts with most of the vulnerable segments of the population cannot attract and retain skilled health workers.	<p>Form a national Partnership for Maternal, Newborn and Child Health (PMNCH) to mobilise resources. Monitor and track funds to build justification for additional funding.</p> <p>Implement a differential incentives policy at the central government level to attract skilled health workers to remote and poor districts.</p>
The first postnatal visit is scheduled at 6 weeks, and not in the first week of life when both mothers and newborns are most vulnerable. The delivery strategy and service package for postnatal care beyond immunisation is unclear, particularly at the community level.	<p>Refocus the postnatal care package to prioritise the first week of life.</p> <p>Integrate newborn care into the VHT roles, training manuals, job aides and service kits, in order to ensure universal access of newborn care services at household and community levels during the first week of life. Expedite the roll out of the VHT strategy to cover all the villages in the country, since it has already been identified as a priority in the HSSP.</p>

<p>Private providers offer 30 percent of facility-based health care services in the country. Mechanisms to enforce the government's regulatory role, such as setting and monitoring standards of care, are weak. This limits the oversight of uptake and practice of newborn care protocols in the private sector.</p>	<p>Finalise and operationalise the draft policy on private-public partnerships.</p> <p>Develop a mechanism to orient the private sector on new management protocols for newborn care.</p>
<p>Parallel and vertical implementation of PMTCT and malaria programmes outside reproductive health constrains the available human resources for provision of integrated services, which further limits the potential to have a combined impact upon maternal, newborn and child health.</p>	<p>Arrange services so that PMTCT and malaria programmes are integrated into antenatal, childbirth and postnatal care, and not provided vertically.</p> <p>Reinforce basic care for mothers and newborns within PMTCT and malaria policies and training curricula, in order to create synergies for achievement of the objectives of both programmes.</p>
<b>Service availability</b>	
<p><u>Pre-Pregnancy care</u> The majority of maternal and newborn deaths occur among teenage mothers, but youth-friendly services are not a priority.</p> <p>Frequent stock-outs of contraceptives affect availability, and general contraceptive use is still very low.</p>	<p>Prioritise provision of youth friendly services in the MNCH cluster of the HSSP II.</p> <p>Use community-based strategies to increase demand for contraceptives.</p> <p>Address system constraints that contribute to frequent stock-outs of contraceptive commodities.</p>
<p><u>Pregnancy care</u> Coverage of ANC attendance is high, but quality of care provided is still very low.</p> <p>The rollout of PMTCT and malaria programmes has not helped improve coverage of antenatal care, despite overlapping time periods for service provision.</p>	<p>Support scaled up implementation of quality goal-oriented/focused ANC.</p> <p>Address and integrate PMTCT and malaria programmes with goal-oriented ANC.</p>
<p><u>Childbirth care</u> Skilled care during childbirth is low because of poor quality, as well as the indirect and hidden costs of accessing facility level care.</p> <p>Staffing is inadequate, especially at the lower levels.</p> <p>Knowledge and skills among the majority of health workers are inadequate for immediate and emergency care for the newborn.</p> <p>There is a lack of basic supplies and equipment, such as oxygen bags and masks, in the majority of facilities that are mandated to provide skilled care.</p>	<p>Use VHT to promote skilled care and refer mothers and newborns.</p> <p>Expedite filling of all vacant midwifery posts at HC III level. Where access to HC III is limited, recruit and position midwives at HC II level. Expedite training and posting of comprehensive nurses as a long-term strategy.</p> <p>Support integration of newborn care into pre-service training, especially for midwives and comprehensive nurses. Provide in-service training for health workers on essential newborn care, including emergency care.</p> <p>Review essential supplies list to ensure that newborn care is included; institute regular stocktaking reviews to assess availability.</p>

<p>Emergency obstetric and newborn care services are limited in their availability. EMOC signal functions currently do not include emergency newborn care</p> <p>Implementation of maternal and perinatal death review is limited.</p> <p>Special services for the care of preterm and low birth weight babies, e.g. Kangaroo Mother Care (KMC), are limited in their availability.</p>	<p>Include neonatal resuscitation as one of the signal functions for emergency care.</p> <p>Institutionalise maternal and perinatal death audit and sensitise staff on the benefit of conducting regular mortality review meetings.</p> <p>Integrate and scale up KMC at HC IV and hospitals, while sensitising lower levels and communities to the package.</p>
<p><b>Postnatal care services</b> Most deliveries occur at home without skilled care and no follow-up visit to the health facility. The first postnatal visit is scheduled to occur at six weeks.</p> <p>The PNC service package is not clear and focuses on immunisation.</p> <p>Care for sick newborns is delegated to higher-level facilities that are not easily accessible, especially in remote areas.</p>	<p>Redefine the postnatal care package and timing of postnatal visits with a focus on reaching all mothers and newborns within the first two days after birth.</p> <p>Use VHT to increase access to care at the community level, at least in the short-term, to mitigate the human resource constraints for providing care in the first week of life.</p> <p>Use the recent IMCI adaptation to include the first week of life to increase access to newborn care at first-level care facilities. Allocate resources for in-service health worker orientation on the revised algorithm. Basic drugs, such as gentamicin and injectable ampicillin, for the management of common newborn problems should be made available at first level care facilities (HC II and HC III).</p>
<b>Practices and care at the community and household level</b>	
<p>On average, youth initiate sexual intercourse and marry at a young age and contraceptive use is low, despite high awareness levels of contraceptive methods and HIV/AIDS.</p>	<p>Provide more youth-oriented services, while strengthening ongoing campaigns for primary prevention of HIV/AIDS and universal secondary education.</p>
<p>The majority of women give birth at home, yet existing care practices during and soon after birth-especially hygiene, breastfeeding, cord and skin care-are not well known. Some traditional practices have negative effects on the health of the newborn.</p> <p>There is a low demand for skilled care due to the poor quality of facility-based care.</p>	<p>Increase distribution of clean delivery kits to increase facility births and increase hygiene at home births.</p> <p>Integrate newborn care into the VHT remit and scale up VHT strategy to address this community care gap.</p> <p>Improve community-based promotion of the healthy home behaviours before, during and after childbirth; promote skilled care during childbirth.</p> <p>Intensify support and supervision for health workers and address health system issues, such as supply and drug stock-outs and human resources shortages.</p>
<p>Women exhibit limited knowledge of PMTCT.</p>	<p>Increase awareness about PMTCT within antenatal and postnatal care services.</p>

Recommendations for improving newborn health and survival are presented both for immediate action alongside more costly and complex interventions that could be prioritised over the next 5-10 years.

## Immediate Actions

### Community Actions

- Develop a newborn package for inclusion in the VHT and Community IMCI strategy. Train at least one member of the VHT to support mothers and newborns starting with pregnancy surveillance, support for preparation for birth and newborn care, promotion of clean deliveries and skilled attendance, and finally linking to support, care and referrals during the early postnatal period.
- Develop a communications strategy to provide quality reproductive health and newborn care information, including care of preterm babies and control of neonatal infections through VHT and media campaigns. Include a particular focus on reaching rural families.
- Mobilise communities to organise transport schemes to assist women to reach maternity services; involve men to address delays in accessing skilled care.

### Health Facility Actions

- Revise policy guidelines package and timing for postnatal care and disseminate widely.
- Update and launch the newborn care service package, disseminating it widely to all facilities that offer maternity services (including HC II). Prioritise space for postnatal care in health facilities and encourage mothers to stay in facilities for at least 24 hours.
- Increase interest in EmOC with local government leadership. Follow advice from the 2007 Annual Health Sector Review Report, which highlighted ownership at this level as key to improving EmOC services.
- Expedite filling all vacant midwifery posts at the HC III level. In special contexts where access to HC III is limited, recruit midwives at the HC II level.
- Institute a mechanism for effective linkages between communities and facilities within IMCI, as well as for the training and supervision of VHT.

### Policymaker Actions

- Mobilise more resources at the highest level to support newborn programmes within maternal and child health. Ensure that programmes target the poorest families in both rural and urban areas.
- Revitalise national statistics, improve record-keeping for newborn health to capture birth weight, illness and deaths, and include these data in the HMIS. Institutionalise and strengthen maternal and perinatal/neonatal death audits/reviews.
- Redirect poverty eradication programmes at the community and family levels, in order to make a difference in the prevailing poverty levels and encourage families to prioritise health expenditure.
- Increase collaboration between the health sector and other related sectors (agriculture, water and sanitation) to improve nutrition and hygiene. Increase resources to improve hygiene, access to clean water and adequate sanitation.
- Improve maternal education by improving enrolment and retention and increasing vocational training opportunities to girls.

## Long-Term Actions (5-10 years)

### Pre-pregnancy care

- Improve access to family planning and birth spacing services for adolescents by expanding and overseeing reproductive health services in private health facilities and at the community level.
- Improve promotion of nutrition and health education to prepare women for pregnancy. De-worming during Child Health Days should be extended to cover older children beyond 14 years through schools and outreach services.
- Prevention and treatment for STI and HIV/AIDS, tetanus and malaria control should be scaled up through school health programmes and adolescent-friendly services in public and private health facilities, and linked to the overall health system.

### Antenatal care

- Scale up and improve goal-oriented ANC, including pre- and in- service training for health workers on counselling for birth preparedness, recognition of maternal and newborn danger signs, and the importance of early and effective postnatal care.
- Effectively integrate vertical PMTCT, malaria and tetanus elimination efforts into health system services.

### Childbirth care

- Institutionalise and strengthen maternal and perinatal mortality audits and include these in district and national health assemblies for follow up for action.
- Increase training and expedite deployment of staff, especially midwives, to meet expected staff norms at all levels. Special attention should be paid to HC III.
- Intensify support, supervision, monitoring equipment and drug levels at lower level health facilities. Intensify work on public-private partnerships to offer appropriate incentives (e.g. ITN and mama kits) for the rural poor.
- Scale up EmOC at all HC IV, effectively equipping theatres and deploying appropriate numbers of trained staff. Strengthen health worker skills at the HC II and HC III level to screen and refer high-risk cases for EmOC, provide referral transport from lower- level facilities, and establish greater communication between health facilities (e.g. text messages on mobile phones).

### Postnatal Care

- Improve health workers, community workers and mothers' newborn care knowledge and skills; scale up support for care of preterm babies and control of neonatal infections. Integrate and scale up KMC, starting at the HC IV level and above. Later move to the HC III level with effective links to lower-level facilities and communities.
- Orient health workers on the revised IMCI protocols for management of the sick newborn. Revise the essential drug list to include basic drugs for provision of INCI at HC III and HC II.
- Develop and establish a community-based cadre of staff linked to the VHT to offer pregnancy and birth surveillance and early postnatal care during the first week of life.

## Summary of Opportunities to Improve Newborn Care

- 1) Increase availability of youth-friendly services and provide sexual and reproductive health information to girls through school programmes.
- 2) Strengthen ANC service quality and integration of PMTCT and malaria programmes.
- 3) Use VHT to educate communities on healthy home behaviours, such as good nutrition, birth preparedness, hygiene, care-seeking for danger signs, potential harmful traditional practices, and mobilise active involvement of spouse and family.
- 4) Address gaps in community level services through pregnancy and birth surveillance; link communities to health facilities by promoting emergency transport schemes.
- 5) Improve the quality of care at the facility and ensure staff are trained in essential newborn care in all health facilities.
- 6) Improve access to skilled attendance and EmOC including emergency care for the newborn, especially neonatal resuscitation and extra care for preterm and low birth weight babies.
- 7) Strengthen birth and death registration; institutionalise maternal and perinatal death audits using the HMIS.
- 8) Increase overall funding to the health sector in order to improve the effectiveness and efficiency of for basic service delivery.

## Important Research Needs for Newborn Health

While there are a number of important ongoing studies to address newborn health issues in Uganda, there is much more to explore. Information is needed on regional differentials and risk factors related to the time and place of newborn deaths, causes of death and harmful traditional practices in order to inform programmes. While more neonatal mortality data is becoming available, the quality and reporting frequency must be improved. There is also very little available population-based, neonatal morbidity data. Operations research is required to demonstrate practical methods for improving newborn recordkeeping in health facilities and communities. Specific research is also required on how households and communities care for low birth weight babies and neonatal infections, which are two main causes of neonatal deaths. Studies should explore practical and simple methods for screening for low birth weight at the community level and examine the effectiveness of caring for low birth weight babies at the community level.

There is much to learn about community perceptions around childbirth and newborn care. Knowledge around how to mobilise spousal involvement in reproductive health and newborn care is an important gap in areas where males are the household decision-makers. User perceptions and beliefs about the benefits of ANC would be helpful to improve quality of ANC services. More formative research is required on care-seeking practices for the prevention and treatment of major illnesses, both for newborns and mothers. A critical and immediate research gap relates to the minimum package of services to support mothers and newborns during the early postnatal period.

### Information and research gaps

- o High quality and frequent population-based birth and death data, including cause of death
- o Innovative solutions for improving record keeping for newborns in health facilities
- o Impact of civil unrest and displacement on newborn health
- o Practical methods of screening for low birth weight at community level
- o Community level care for small babies and neonatal infections
- o Community perceptions and practices around childbirth and newborn care including prevalence of harmful practices and behaviour change communication strategies

### Filling research gaps: improving newborn health and survival in Uganda

The Department of Health Policy Planning and Management, School of Public Health, Makerere University together with development partners and the Ministry of Health, is conducting newborn health research in a demographic surveillance site in two rural districts of Iganga and Mayuge. The study will adapt, develop and cost an integrated maternal-newborn care package that links community and facility care, and evaluate its effect on maternal and neonatal practices in order to inform policy and scale-up in Uganda.

**Rationale:** Studies in Asia and South America have shown that neonatal mortality can be reduced through community based interventions, but these have not been adapted to scalable intervention packages for sub-Saharan Africa where the culture, health system and policy environment is different. In Uganda, no systematic efforts for newborn health have been directed at the community. Postnatal home visits are prescribed by the national Health Sector Strategic Plan II but these are not yet taking place and demand evidence-based, practical experiences to guide implementation.

**Intervention:** Through formative research around evidence-based practices and dialogue with policy and technical advisors, the investigators are constructing a home-based neonatal care package to be implemented by the responsible Village Health Team member, effectively a Community Health Worker (CHW). The CHW will be trained to identify pregnant women and make four home visits – two before and two just after birth – linking women to health facilities and delivering targeted messages for home-care and care-seeking.

**Setting and Design:** The study is taking place in a new Demographic Surveillance Site in Iganga and Mayuge districts in Eastern Uganda. It is a two-arm cluster randomised controlled design with 32 intervention and 32 control areas (villages). The comparison villages will receive the standard care already being provided by the district, but a system for community health workers to visit the mother 4 times in her home during pregnancy and the neonatal period will be implemented in intervention areas. Both areas will benefit from strengthening of facility care for mothers and newborns.

Policy and technical advice is provided by key partners including the Iganga and Mayuge districts, Uganda Ministry of Health, Saving Newborn Lives/Save the Children, WHO and UNICEF. The study will document the implementation process and disseminate findings nationally and internationally for policy impact. The project will take place over 3 years from 2008 to 2010.

## Conclusion

The health and survival of newborns in Uganda has gone unnoticed for too long. However, both immediate and long-term opportunities exist to improve newborn care at all levels.

Uganda has many policies in place, but the postnatal period illustrates a critical policy gap, especially in regard to the crucial first week of life. Existing policies and guidelines have not been well disseminated, integrated or implemented by service providers, leading to poor and inconsistent quality of care. Existing policy implementation is poor partly due to limited funding of the overall health sector and service delivery at the district level. Funding for traditionally vertical programmes has not been effectively integrated with overall maternal and newborn health. There is an opportunity for policymakers to take a leading role to improve newborn health from the highest level in both public and private facilities. This can be achieved by making and disseminating appropriate policies, improving staffing levels and supervision in facilities, and providing an enabling environment for community-level care.

Health providers are often ill-equipped to carry out their roles. They face a heavy workload, limited skills and lack of necessary equipment and supplies. Staff must be empowered to deliver quality services ranging from counselling to emergency care or referral. Research is needed to find practical methods to improve newborn recordkeeping and demonstrate the benefits of regular mortality review meetings.

There are many opportunities to improve care at the community level. This requires innovative communication strategies and the mobilisation of community leaders and families to demand quality care and increase access to facility care. The VHT provides an opportunity for strengthening newborn care at the community level, but care must be taken to increase VHT capacity before overloading the VHT with various tasks. A specific community health worker cadre may be needed for maternal and newborn support.

Differential access to services between urban and rural families, and poor and better-off families, results in unmet needs among those who are most at risk. Strategies to address newborn health at all levels must prioritise those who are most vulnerable and who are typically missed in conventional strategies.

Uganda has an opportunity to improve care for the nearly 1.5 million babies who are born each year, and address the deaths of 45,000 of its most vulnerable citizens. Many of the recommendations provided here also will improve care for mothers and older children and strengthen the overall health system. Every effort made to improve the health of these newborns is an effort to improve Uganda's future.

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# APPENDIX I: LIST OF INDIVIDUALS INTERVIEWED

## Key Informants Interviewed - National Level

Dr. Sam Zaramba – Director General Health Services – MoH

Dr. Kenya Mugisha, Director Health Services, MoH

Dr. Sam Okware – Commissioner Community Health Dept, MoH

Dr. Jacinto Amandwa - Commissioner Clinical Services MoH

Dr. Herman Kyabagu - Technical Advisor Human Resource, MoH

Dr. Jeremiah Twa Twa: Principal Med Officer– School Health & Ag ACHS – Child Health Division, MoH

Dr. Francis Runumi – Commissioner Planning MoH

Dr. Mbonye Anthony – Assistant Commissioner RH- MoH

Robert Basaza – Senior Health Planner- MoH

Mr. Paul Kaggwa – Achs-Hp& E Division, MoH

Dr. Posy Mugenyi- Acting Program Manager, UNEPI

Dr. Abongomera – Commissioner Occupational Safety & Health and Ag. Director Occupation Health & Labour- Min. Of Gender & Social Development

Dr. Mugenyi- Director Education, MoES

Mrs Rose Mary Waya Mugeni – Principal Policy Analyst – MoES

Dr. Olive Sentumbwe, National Officer Population and Reproductive Health, WHO, Kampala

Dr. Bishoborwa, Child Health Programme, WHO, Kampala

Dr. Vincent Orinda, Head of Health Child Health Division, UNICEF, Kampala

Dr. Jannex Kabarangira, Programme Officer, Child Health Division, UNICEF

Dr. Pius Okong, Consultant Obstetrician and Gynaecologist Nsambya Hospital

Dr. Peter Ibembe, National Program Manager, Family Planning Association of Uganda

Dr. Jolly Nankunda Kaharuza, Chairperson Uganda Paediatric Association

Dr. Betty Nakazi Kyaddondo, Head Family Health Department, Population Secretariat, Uganda

Dr. Margaret Nakakeeto, Consultant Neonatologist, Mulago Hospital, Kampala

Dr. Sarah Naikoba, National Programme Manager Save Newborn Lives, SCF-USA

Dr. Frank Kaharuza, Chairman, Uganda Obstetrics and Gynaecology Association of Uganda

Dr. Jennifer Mugisha, Chairperson, Women Doctors' Association of Uganda

Dr. Justine Nankinga, National Programme Officer PMTCT Programme, Uganda

Dr. Robinah Babirye, Advisor HIV/AIDS Pathfinder, Uganda

## Key Informants Interviewed - District Level

### Arua District

Dr. Anguzu Yuma, District Health Office

Dr. Alex Andema, Medical Superintendent Arua Hospital

Mr. Benard Atiku, Chairmam District Health Management committee

Mr. Andua Drani, Assistant Chief administrative Officer

Mr. Franco Tollea, Community Development Officer Vice Chairman LC 5, and Secretary for Social Services

Mr. Binega David, Rhino camp HC IV

Mr. Oziru Ondega Veranik, Registered Nurse In charge Health Unit

Clinical Officer, In charge Oli Division HC II

Committee Member, Ombidriondrea HC II

VHT, Rhino Camp

LC3, Secretary for Health, Manibe Sub County Senior Nursing Officer, In charge UNEPI, Arua District Education Officer, Arua District

### Bushenyi District

Dr. Ben Twentegyire, District Medical Officer

Mr. Nazarus Akambuhwa, Scretary for Education/ Health LC5

Dr. Aidahnga, Medical Officer Kyabugimbi HC IV In-charge midwife in Maternity, Kyamuhanga Camboni Hospital

### Iganga District

Mrs E. Pauline Pudo, assistant Chief Administrative Officer, Health

Dr. Waiswa, Deputy District Health Officer

Secretary for Education and Health, Iganga District  
 Ms Ruth Nalusube, District Nursing Office  
 Ms Betty Naigaga, Incharge Martenity Unit, Iganga District Hospital  
 In-charge Busesa Health Sub-district health Centre  
 In-charge Clinical officer Buyanga sub-county  
 Ms Joy Kisira, In-charge Busesa Health Centre III  
 Mr. Nabikamba LC 3 Nangule

Kabarole District

Mr. Kiror-Olipot, Chief Administrative Officer  
 Dr. Oketch, District Health Officer  
 Ms africano Bwengyenera, principal Nursing Officer, Buhinga Hosipital  
 Mr. John Kinuge, Secretary social; services Bukuku Sub-county  
 Sister Rose Kabasinguzi, PMTCT Coordinator Kabarole District  
 Ms Rose Byabasaija, Secretary for Health LC 5  
 Dr. Hilda Tumwebaze, In-charge Bukuku HC IV  
 Ms Beatrice Kabanyoro, in-charge, Muchwa CH II  
 Ms Aisha Katuramu, Secretary Health LC 3

Kampala District

Dr. Martin Nsubuga, Nsambya Hospital  
 Dr. Habomugisha, Naguru HC  
 Sr. Molly Busingye, Kiswa HC  
 Mrs Victoria Kasasasa, Naguru Teenage Centre  
 Ms Nyombi Rukia, CCA Bukoto I Parish  
 Dr. Sentongo, PMTCT  
 Sr. Namugere Edith, In charge Naguru Health Centre  
 Sr. Catherine Nsubuga, SNO – Deputy In charge, Kawempe HC IV

Kayunga District

Dr. Dirisa Musisi, District Director of Health Services  
 Dr. Matovu, Medical Superintendent, Kayunga Hospital  
 Mr. Kangulumira, Vice Chairman LC5  
 Ms Betty Alikoba, District Nursing Officer  
 In-charge maternity Kayunga Hospital  
 In-charge ANC, Kayunga Hospital  
 Ms Monica Wambuga, in-charge HC II, Kayunga  
 Mr. Cornelious Byekwaso, In-charge, Busano Health Centre  
 In-charge Health Centre II, Kasaali

Kumi District

Mr. M. Kasozi, Chief Administrative Officer

Mrs Jane Ediegu, District Nursing Officer  
 Mr. Francis Ekadu, Programme Officer Save the Chidren, Kumi District  
 Dr. Mugweri, Medical Superintendent Atutur Hospital  
 Ms Ruth Ikiring, Secretary for Women Kumi District  
 Mr Fred ngora in-charge Maternity Wing Kumi District Hospital  
 Mr. Francis Omong In-charge Nyero Health Centre III

Lira District

Dr. Acheng, Medical Superintendent, Lira Hospital  
 Mr. Ogwang Adwari, Vice Chairman LC 5, and Secretary for Health, Lira Municipality  
 Mr. George Odolo, Chief Administrative Officer (CAO)  
 Senior Community Development Officer  
 Mrs, Christine Atiang, District Senior Nursing Officer  
 NGO Coordinator, UPHOLD, Northern Region.  
 Mr. Bosco Odong, Assistant Senior Education Officer  
 Mr. Wesonga, Clinical Officer in charge Amuca SDA HC IV  
 WFP, Representative  
 Mrs Abonyo Harriet Sarah, Enrolled Midwife, Bar Apwo HC II  
 Mr. Odel Martin, LC I Chairman Aminnganga Village  
 Mrs Mary Ogwang D.C, Secretary for women  
 Dr. Robert Odeawu, In charge Alebtong HC IV  
 Administrative Officer, Lira Regional Referral Hospital  
 Chairman Health Committee, Aloji Sub county, Lira District

Rakai District

Director of Health Services, Rakai District  
 Dr. George Wagumbulizi, Medical Superintendent Kalisizo Hospital  
 Ms Judith Nampera, District Health Visitor  
 Secretary for Health and Education Rakai  
 Mr. Sempira, Chairman Health management Committee HC IV  
 In-charge Lwanda Health Centre  
 Midwife in-charge of Maternity, Kalisizo Hospital  
 Midwife in-charge of Maternity, Rakai District Hospital  
 Mr. R. Sakor, Medical Officer in-charge, Kakuto HC IV  
 In-charge Health Centre II, Kasaali Sub-county

## APPENDIX 2: RESEARCH TEAM

### **Northern Region**

*Team Leader:* John Arube-Wani

*Deputy Team Leader:* Jenipher Twebaze

*Research Assistants:*

Grace Ariokoti

Patrick Sebyala

David Adoke

John Akora

Susan Ombaru

Miriam Okello

Peter Ayo

Lawrence Odong

Claire Ocotoko

Susan Ombaru

Keja Adule

Joel Alioni

Eunice Aliru

### **Western Region**

*Team Leader:* Fred Kalyowa

*Deputy Team Leader:* Stephen Sebudde

*Research Assistants:*

Damali Mwogererwa

Elizabeth Munyuka

Juliet Mugasha

Esther Wanyana

Ann Naggayi

Amos Mugumbya

Faith Amanyana

Save Bunyendeza

Simon Mugisha

Wilson Agaba

Soweddi Mukasa

John Musinguzi

Patrick Ayebale

### **Eastern Region**

*Team Leader:* David Kyadondo

*Deputy Team Leader:* Godfrey Siu

*Research Assistants:*

Mary Nsimbe

Agnes Nakimera

Ronald Bukenya

Annet Achom

Peter Etyang

Simon Okello

Goreti Amongin

David Kanonya

Philemon Mukasa

Olive Nbatende

Aggrey Dhamuzungu

Sr. Mary Naziwa

### **Kampala Region**

*Team Leader:* Margaret Nakaketo

*Deputy Team Leader:* Ivan Lyazi

*Research Assistants:*

Pross Kalyowa

Ronald Kyansanku

Sandra Namyalo

Patrick Katende

Michael Simwogerere

Nicolas Mukyukisa

Christine Nabawanga

Denis Sebugwawo

Teddy Makubuya

### **Central Region**

*Team Leader:* Richard Sekiwunga

*Deputy Team Leader:* Ruth Nabaggala

*Research Assistants:*

Margaret Musoke

Mabel Kivumbi

Florence Mayanja

Maureen Nankanja

Norah Kyazze

Jastine Ndagire

Anita Lumala

Juliet Kikule



## **Key messages from the *Situation Analysis of Newborn Health in Uganda*:**

- 1. Each year in Uganda at least 45,000 newborns die, and an equal number stillborn. Many more newborns do not reach their full potential due to preventable illness or disability.**
- 2. Uganda has many good policies in place to protect women and their newborns and to provide integrated care. However, there is a need to support the provision of better care during the early postnatal period and effectively disseminate and implement such policies.**
- 3. Many newborn deaths are preventable with increased knowledge and practices at the family and community levels, and with appropriate care-seeking when danger signs are recognised. However, life-saving practices are not always followed due to poverty, cultural beliefs, lack of household food security and poor access to health care services.**
- 4. Uganda has a strong network of health centres and hospitals to provide care to mothers and newborns. While most women access the formal health system during pregnancy, quality of care and links between facilities must be improved in order to address low service use around the time of childbirth and the early postnatal period, when most maternal and newborn deaths occur.**

**Based on these key messages, this situation analysis proposes recommendations for immediate and long-term action to improve newborn survival within the continuum of care. These recommendations also serve as an inter-sectoral call to action for the overall health of women, newborns and children in Uganda, including the family and community, district level and national stakeholders. Together we can contribute significantly to the attainment of the health sector related Millennium Development Goals.**

