

# The Healthy Newborn

A Reference Manual for Program Managers

Prepared by

Joy Lawn, BM BS, MPH, MRCP (PAEDS)

Brian J. McCarthy, MD, MSC

Suan Rae Ross, BSN, MPH

The WHO Collaborating  
Center in  
Reproductive Health



The Health Unit



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# ABOUT THIS MANUAL

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Of the estimated 8 million babies who die just before birth or in the first 28 days of life, 98 percent die in developing countries. Yet almost all the books about newborn health are aimed at the two percent of deaths in high-technology care in industrialized countries. There is a dearth of information to enable program managers to design, implement and evaluate effective interventions to address the important problem of improving newborn health. This manual has grown out of a partnership between the WHO Collaborating Center in Perinatal Care at the Centers for Disease Control and CARE. While implementing programs to address fetal and neonatal mortality, we realized the need for such a reference manual and CD-ROM resource.

We hope the information will be useful for a variety of people who are committed to improving maternal and newborn outcomes. However, the primary audience is program managers, including regional or district level health professionals, non-governmental organization (NGO) project managers, and other programmers in developing countries. This information may be useful for Ministry of Health (MOH) officials, NGO headquarters staff, and technical staff of international donor agencies. It may also serve as a supplemental training guide for medical, nursing, and public health professionals.

There is rapidly growing international recognition of the importance of fetal and neonatal mortality. Although this manual recognizes the importance of both the mother and the baby, the primary focus is on the relatively neglected fetus and newborn.

For global standards of health care for mothers and newborns to have an impact, program managers must apply them at the local level. This manual aims to serve as a user-friendly reference assisting program managers to systematically implement evidence-based standards that will have the greatest effect on newborn health in their setting. The manual offers an overview of global newborn health issues and a systematic approach to analyzing data, identifying problems, selecting interventions, and evaluating their progress. Evidence-based interventions are summarized and are illustrated with lessons learned from the field.

This manual can be used in many ways. Some readers may want to read it straight through. Others may prefer to read only specific parts and then refer to other parts as needed. While this is not a training manual, a number of useful supplementary materials are provided on the attached CD-ROM.

**Why was the manual written?**

**Who is the manual for?**

**What is the focus of the manual?**

**What does the manual offer?**

**How to use the manual?**

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# OVERVIEW

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**Introduction** – Many program managers face multiple problems and have limited resources. The introduction discusses the program managers and stakeholders for newborn health and outlines some principles for newborn health programming. An example is given of how the manual can be applied in the field.

**Part One** – Part One covers the reasons to focus on mothers and newborns as well as discusses why the newborn has been neglected. The lack of reliable information on newborn health is highlighted. There is also a discussion on how, where, and why fetal and neonatal deaths occur. We also stress the importance of underlying issues inhibiting access to quality services, including the “four delays” and low social status of mothers and newborns.

**Part Two** – This section describes the need for information to assess and manage newborn health. Epidemiological tools and a discussion on how to design and use an adaptable health management information system are included in this Part. This part introduces an information tool for newborn health, the BABIES matrix (based on birth-weight groups and age-at-death), that allows simple categorization of fetal and neonatal deaths. Quality management principles and tools are outlined and many quality management resources are included on the CD-ROM.

**Part Three** – Systematic program management using information and involving the community is essential for sustainable success. The four steps of the program management cycle are:

1. define the fetal-neonatal problem;
2. assess performance of the health care delivery system;
- 3a. prioritize interventions;
- 3b. implement interventions; and
4. monitor progress and evaluate outcomes.

**Part Four** – Key principles for effectively implementing interventions are outlined in this section. There are five Intervention Packages: 1) pre-pregnancy care, 2) care during pregnancy, 3) care during delivery, 4) postpartum care of the mother and 5) newborn care (discussed further in terms of essential newborn care, extra newborn care, and emergency care).

**Last Word** – This section concludes with a brief appeal for more global attention to be focused on the newborn and for partnership at all levels to work together on improving newborn health. Finally, some practical advice on getting started.

**The CD-ROM Resource** – The attached CD-ROM contains an electronic version of this manual that is hyperlinked to selected references and many additional useful documents, including clinical guidelines, quality management tools, and epidemiology texts. The CD-ROM contents are described on the last page of the appendix.

## INTRODUCTION

### PART ONE

An Unheard Cry for  
Newborn Health

### PART TWO

A Newborn Health  
Management Information  
System

### PART THREE

A Step-by-Step Approach:  
The Program Management  
Cycle

### PART FOUR

Interventions for Newborn  
Health and Lessons Learned

### LAST WORD

Into Action for Newborn  
Health



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# REVIEWERS

---

**Ms. Annie Clarke**

(American College Nurse Midwives)

**Dr. Kate Curtis**

(Centers for Disease Control and Prevention,  
Atlanta, USA)

**Dr. Gary Darmsdadt**

(Saving Newborn Lives - Save the Children)

**Dr. Joseph de Graft Johnson**

(Save the Children- Malawi)

**Dr. Michael Deming**

(Centers for Disease Control and Prevention,  
Atlanta, USA)

**Dr. Bill Foege**

(Rollins School of Public Health, Atlanta, USA)

**Professor Stan Foster**

(Rollins School of Public Health, Atlanta, USA)

**Dr. Howard Goldberg**

(Centers for Disease Control and Prevention,  
Atlanta, USA)

**Dr. Alan Hinman**

(The Task Force for Child Survival, Atlanta, USA)

**Dr. Tariq Ishan**

(Save the Children-Asia)

**Dr. Juliette Kendrick**

(Centers for Disease Control and Prevention,  
Atlanta, USA)

**Professor Michael Kramer**

(McGill University, Montreal, Canada)

**Dr. Jerker Liljestrand**

(The World Bank, Washington)

**Dr. David Marsh**

(Save the Children- USA)

**Dr. Judiann McNulty**

(CARE Health Unit)

**Mr. Maurice Middleberg**

(CARE Health Unit, Atlanta, USA)

**Ms. Judith Moore**

(Saving Newborn Lives - Save the Children)

**Dr. Indira Naranyaran**

(BASICS, Washington, USA)

**Dr. Vinod Paul**

(WHO Collaborating Center in Newborn Health,  
Delhi)

**Dr. Siddarth Ramji**

(CARE Health Unit, Atlanta, USA)

**Dr. Haroon Saloojie**

(Community neonatal care, South Africa)

**Dr. John Santelli**

(Centers for Disease Control and Prevention,  
Atlanta, USA)

**Ms. Mary Ellen Stanton**

(USAID)

**Dr. Kay Tomashek**

(Centers for Disease Control and Prevention,  
Atlanta, USA)

**Dr. Petr Velebil**

(Perinatal epidemiology, Czech Republic)

# MESSAGES

## TO THE PROGRAM MANAGER

### NEWBORN HEALTH: THE GLOBAL PERSPECTIVE

---

*Message from DR. TOMRIS TURMEN  
Executive Director, Family and Community Health WHO, Geneva*

In modern times, improvements in knowledge and technological advances have greatly improved the health of mothers and children. Targeted, selective interventions, such as immunization and oral rehydration therapy, have resulted in substantial reductions in infant mortality. However, we are increasingly aware that improvements in the health and survival of the youngest infants, those aged less than one month, have not kept pace. Every year, over four million babies less than one month of age die, most of them during the critical first week of life; and for every newborn who dies, another is stillborn. Most of these deaths are a consequence of the poor health and nutritional status of the mother coupled with inadequate care before, during, and after delivery. Over 98 percent of these perinatal deaths occur in developing countries and among the poorest groups. Unfortunately, the problem remains unrecognized or – worse – accepted as inevitable in many societies, in large part because it is so common.

There is a widely shared but mistaken idea that improvements in newborn health require sophisticated and expensive technologies and highly specialized staff. The reality is that many conditions that result in perinatal death can be prevented or treated without sophisticated and expensive technology. What is required is essential care during pregnancy, the assistance of a person with midwifery skills during childbirth and the immediate postpartum period, and a few critical interventions for the newborn during the first days of life. Ensuring that all babies are born into a clean and warm environment, that those who need help in breathing get it, and that mothers and babies are supported in breastfeeding are not complex and difficult tasks. The establishment and maintenance of systems to provide such support to a mother and her baby is among the key responsibilities of the programme manager.

This manual provides a much needed resource for programme managers to draw upon, combining epidemiology, evidence-based interventions, and a guide to step-by-step programming. The manual outlines how to generate and use information to identify the problem and to select approaches that are feasible in low-resource settings. Although the problems are global in scope, the solutions must be local. Informed decision-making and leadership by the programme manager are essential.

---

# MESSAGES

## TO THE PROGRAM MANAGER

### HEALTHY MOTHERS, HEALTHY NEWBORNS

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*Message from ANNE TINKER*

*Director of Saving Newborn Lives, A Gates Foundation-funded Initiative of Save the Children U.S.  
Formerly Lead Health Specialist at The World Bank*

*Every minute, somewhere in the world...  
...8 babies die in the first month of life  
...6 babies die in the first week  
...8 babies are stillborn.*

Maternal and newborn deaths could be prevented by available, cost-effective interventions. Newborn health has been particularly neglected and requires focused attention. Newborn outcomes are closely linked with the mother's health. Up to 70 percent of fetal and newborn deaths could be prevented by interventions targeting the mother. Both mother and baby will benefit from appropriate antenatal care, such as infection prevention and treatment, nutritional supplementation, and tetanus toxoid immunization, as well as skilled attendance during delivery and referral care for complications.

The majority of maternal and newborn deaths occur during the first days after delivery, yet this is a time that has been grossly ignored in health strategies and programs. An early postpartum contact with a health professional is important to identify any problems facing mother or baby. Promoting appropriate newborn care, such as immediate and exclusive breastfeeding, thermal control, and clean cord care, can also further prevent newborn deaths.

This manual emphasizes the links between the mother's and the baby's health. It provides an overview of interventions through the lifecycle of the mother to benefit newborn and mother. In addition, there are many useful documents contained on the CD-ROM, including important global standards in care during pregnancy and childbirth.

Application of these approaches and interventions will save the lives of mothers and newborns, but requires new emphasis on newborn health by individual program managers for their local areas. Major reductions in mortality rates for neonatal and fetal mortality are possible, even in a relatively short time if program managers work with their partners to prioritize local problems and address these. The local NGO, SEARCH, in Maharashtra, India, was able to reduce neonatal mortality by two thirds in a two-year period through home-based interventions.

---

# MESSAGES

## TO THE PROGRAM MANAGER

### HEALTHY NEWBORNS, HEALTHY CHILDREN, HEALTHY WORLD

---

*Message from PROFESSOR BILL FOEGE*

*The Director of Task Force for Child Survival, and Senior Health Advisor to the Gates Foundation, Distinguished Professor of International Health, Emory University School of Public Health, Atlanta*

Many of our experiences are too unique to be shared, while others are so universal as to bind us to all people in the world and to all people who have ever lived. An example of the latter is the mixture of happiness and anxiety as we wait for the reassurance that our newborn is healthy. And then the absolute undiluted joy when we learn that it is true. For some the outcome is different and what should have been one of the happiest moments of life turns to loss or disability. This manual seeks to make undiluted joy more frequent, to share what has been learned with everyone, and to encourage strategies to give every child a head start regardless of where they are born.

The facts are clear and stark. The world has made tremendous progress in some health areas. Smallpox is gone, polio and guinea worm will soon be a thing of the past, and measles rates have declined. In other areas, the gap between what is possible and what actually exists is unconscionably large. Infant mortality rates may differ by 20-fold or even 30-fold. Most progress has been in postneonatal deaths, while rates of neonatal and fetal deaths have changed little. Neonatal mortality now accounts for about 66 percent of all infant deaths. If this were a totally logical world, we would put absolute priority on those first hours and days. Either they provide for a lifetime or they become the lifetime. Few disparities are as great in health as are the risks to both mothers and newborns in the best versus the worst areas of the world.

This manual is striking in the breadth and depth of the review. It is reminiscent of a statistical account of Scotland that George Washington was asked to review. His comments on March 15, 1793, included this statement: “I am fully persuaded, that when enlightened people, will take the trouble to examine so minutely into the state of society, as your inquiries seem to go, it must result in greatly ameliorating the condition of the people, promoting the interests of civil society, and the happiness of mankind at large.” In like manner, I am fully persuaded that this manual will improve the state of newborns around the world, and the happiness of their parents.

The manual is more than detailed. It is also program manager “user friendly.” It shows managers what has worked in other areas, lets them decide which interventions they should use, and encourages evaluation to document improvements. Of great importance is the opportunity it provides to see rapid results. As with so many things in global health, the science accumulated and the experience of others is of no use if not applied. Science problems still exist, but the real problems are management problems. This manual provides explicit guidance in management — defining the problem, assessing performance, securing the assistance of other groups, prioritizing actions, monitoring progress, and providing transparency to the evaluation of what is working and what needs to be changed.

Finally, this publication is a rebirth of interest in the birthing process. It is a single-volume equivalent of a post graduate course for the program managers faced daily with the quandary of improving health with scarce resources. Application of these techniques will lead to children’s lives being saved, parents who watch their children grow up, and a world that benefits from the contributions of those lives. The ripples that will result from the application of this manual will be felt for all time.

---

# MESSAGES

## TO THE PROGRAM MANAGER

### THE HEALTHY NEWBORN: A SYSTEMS APPROACH THAT WORKS

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*Message from DR. HU CHING-LI*  
*Professor of Pediatrics and Senior Advisor, Shanghai No.2 Medical University,*  
*Previously Assistant Director General of WHO*

Despite improvement in childhood and infant mortality rates in the last two decades, the perinatal and neonatal mortality rates, particularly in some developing countries, remain unchanged. In 1995, the neonatal mortality rate was 39 per 1,000 live births in developing countries. In Africa, this rate was 75 per 1,000 live births. The rate was 53 per 1,000 in Asia (as a whole), which is ten times higher than in North America.

The problem is larger than previously acknowledged, and there is no single intervention that will provide a universal solution. Although the solution requires consensus at the global level, adapted national policy and strategy will only be effective if the community is actively involved. The program manager currently lacks materials to guide them in decision-making for local newborn health programs. Attempts to solve the problem will be unsuccessful if the local program manager does not provide quality services. Providing quality services requires a systems response, involving the health system, the community, and the intersectoral system (transport, education, etc.). This system can reduce the perinatal and neonatal death rates by implementing the “packages” of interventions described in WHO’s “Mother and Baby Package” and most recently in “Making Pregnancy Safer.”

This manual strongly emphasizes the need for a system, including practical guidance on assessing the system, strengthening its capacity, and improving the quality of its services. The manual also provides many inspiring examples from low-resource settings. It helps the program manager prioritize which evidence-based interventions will be most effective and feasible in their setting and to evaluate whether the intervention improved newborn health outcomes.

The approach described in this manual is not new, but it does require perseverance. WHO successfully used it in Shunyi County, Beijing, China in the 1980s. This systematic approach, using epidemiology, clinical practice guidelines, and public health management principles, identified asphyxia and neural tube defects as major problems in Shunyi County. Implementing changes in clinical practice reduced the perinatal mortality from 27 to 17 per 1,000 total births (34%) in two years. Subsequently, a large community-based intervention program was successful in reducing neural tube defects through periconceptual folic acid supplementation. This program will have a lasting effect at the national level.

The lessons learned in Shunyi are adaptable today. You, as a program manager, can adapt and apply the step-by-step approach and reduce fetal and neonatal deaths in your area, thereby significantly improving the life of your community.

---

# INTRODUCTION

## TARGET AUDIENCE

---

### Who Is the Program Manager?

Several types of people can be considered program managers. In this manual when we refer to the program manager, we include all individuals whose task it is to make decisions about programs for maternal and newborn health. This may include:

- ❖ district/Regional Medical Officers;
- ❖ managers of NGO programs; and
- ❖ regional or national managers of safe motherhood/reproductive health/child survival programs.

While this is not an exhaustive list, we hope it is clear that we are targeting those who make decisions about and implement programs. In many settings there may be several program managers with slightly different roles, but they all make programmatic decisions. Therefore, from this point forward, when the term **program manager** is used, it may refer to one or several of these people.

The overall role of the program manager is to facilitate the provision of quality information and services to the population, with an overall aim to achieve the highest level of health possible. No one organization can do this alone, and partnership is key.

### Who Are the Stakeholders for Newborn Health?

There are many definitions of stakeholders. In simple terms, they are the key *people that either make or influence decisions in the community, formal health care system, or the intersectoral sector*. The stakeholders in one community will be very different from those in another community, and local knowledge is required to identify the important stakeholders for a given program.

In this manual when we refer to the stakeholders for newborn health, we include all individuals who make or influence maternal and newborn health decision-making. This may include:

- ❖ women leaders;
- ❖ community and religious leaders;
- ❖ providers of clinical services;
- ❖ public health policy makers; and
- ❖ local representatives of the inter-sectoral sector, (such as education/transport or rural development).

There are many reasons, presented below, for involving each stakeholder group in every step of programming.

- ❖ Develop broad ownership of the problem.
- ❖ Identify all the existing resources available to address the problem.
- ❖ Motivate collective action, according to the strengths of the various partners.
- ❖ Design interventions and strategies that reflect the local needs (i.e., be respectful of local culture) and that promote sustainability.

# INTRODUCTION

## PRINCIPLES

### Principles for Maternal and Newborn Health Programming

There are four main principles that will be discussed throughout this manual. These principles are the keys to effective newborn health programming.

1. **Rights** – The right of the mother and baby to access needed services.
2. **Systems approach** – The importance of a systems approach to address the complex problems of maternal and fetal-neonatal deaths. This requires a comprehensive view of the health care delivery system (HCDS), including the community. Each sector has an important role to play in addressing fetal and neonatal mortality.
3. **Health management information system (HMIS)** – The need for information for decision-making.
4. **Management process** – The effectiveness of a management process to organize and synthesize information and to mobilize key stakeholders to react to the problems identified in the local setting related to fetal-neonatal mortality.

### Principle 1: Rights of the Mother and Baby

The most basic human right is the right to life. Yet every year an estimated 585,000 women die from pregnancy-related causes, and approximately 8 million babies die in late pregnancy or during the first 28 days of life. Almost all of these deaths occur in the developing world. The problem is not a lack of interventions but a lack of equity in implementing interventions known to work.

Maternal and fetal-neonatal survival depends on a continuum of basic services throughout pregnancy, delivery, and the postpartum/newborn period. The aim is to match the needs of the mother–baby dyad with the appropriate level of care within the HCDS. The purpose of this approach is **not** to have all women delivering in institutions. We advocate that a skilled provider is present at each delivery, but in many settings, delivery may occur at peripheral health institutions or at home. In order for women and newborns to access the “right care at the right time,” families and communities must be empowered and educated. Women and their families need to have information about danger signs for themselves (during pregnancy, childbirth, and the postpartum period) and for their newborns, as well as a plan for reacting to an emergency. Key stakeholders (i.e., providers, policy-makers, men) also need to be actively involved in the development and application of protocols that make the best use of limited resources.

**The health of the MOTHER and the BABY will be improved by a system that ensures...**

**...the Right Person**

**...in the Right Place**

**...at the Right Time**

**...doing the Right Thing**

**...in the Right Way**



**This is the RIGHT of the mother and the baby.**

# INTRODUCTION

## PRINCIPLES

### Principle 2: A Systems Approach

Fetal-neonatal deaths result from a complex combination of interrelated social and medical causes. No single intervention can address this problem. Therefore a *systems approach* is required, the core principles of which are:

<b>S</b>	<b>situation</b> -sensitive approach, using local data to define the problem;
<b>Y</b>	<b>you</b> , the program manager, matter in making a difference;
<b>S</b>	<b>systematic</b> decision-making to prioritize and implement evidence-based interventions;
<b>T</b>	<b>teamwork</b> involving all stakeholders;
<b>E</b>	<b>empowerment</b> of women, their families, communities, and health institutions;
<b>M</b>	<b>management</b> information system to monitor and evaluate progress and impact; and
<b>S</b>	<b>sustainable</b> results.

Throughout this document the term *systems* will refer to interrelated components, operating as a whole, to efficiently achieve a specific goal. In this manual, the goal is the reduction of fetal-neonatal deaths. The most important parts of the system are a comprehensive HCDS and an adaptable HMIS.

**Comprehensive HCDS** – The World Health Report 2000 defines health systems as “all of the organizations, institutions, communities, and resources that are devoted to producing health actions.” This includes three levels that affect health decision-making:

1. The **community/informal sector**, consisting of individuals, households, and communities (i.e., families and community health providers, such as traditional birth attendants, village doctors, herbalists).
2. The **formal health care system**, composed of the people and institutions that provide health services including preventive and curative interventions. They include government, private providers, and institutions.
3. The **intersectoral system**, composed of the sectors of society, such as education and transportation, which indirectly affect health.

Throughout the document, when the HCDS is discussed, it will refer to all three of the sectors. The role of each sector varies in different settings, but involvement of all sectors in every step of decision-making is vital. Involving stakeholders and taking time to listen makes for a slower process but one that is more likely to succeed and be sustainable.



As well as involving the three levels of the HCDS, a systems approach for newborn programming addresses the relevant time periods for intervention, which include:

-  pre-pregnancy health;
-  care during pregnancy;
-  care during delivery;
-  postpartum care of the mother; and
-  newborn care (essential, extra and emergency).

# INTRODUCTION

## PRINCIPLES

### Principle 3: Adaptable HMIS

An HMIS is a basic system for collecting and analyzing key pieces of data. It allows the program manager and key stakeholders to organize their data and transform the raw data into useful information for decision-making. An information system provides the means to manage by fact. In many settings, program managers have data (they are data-rich), but they either lack the data they need to answer key questions or they lack the means to analyze the data at a level that would be the most useful. An HMIS does not have to be cumbersome or expensive. However, it must be carefully designed and analyzed to answer the key questions at the most appropriate level. An HMIS can provide data to answer two key questions:



More in  
PART  
Two

- ❖ **Am I doing the right things?**  
Do the interventions selected address the problem that was identified?
- ❖ **Am I doing things right?**  
Are the interventions that were selected being done in the right way (i.e., are they available, accessible, acceptable, affordable, appropriate)?

### BABIES

This tool allows program managers to locate the main neonatal and infant mortality problems based on two pieces of data: age at death and birth weight. BABIES is an acronym for:



More in  
PART  
Two

<b>B</b>	birth weight and
<b>A</b>	age at death
<b>B</b>	boxes for
<b>I</b>	intervention and
<b>E</b>	evaluation
<b>S</b>	system

BABIES allows the program managers to plot whatever data they have in terms of age at death and birth weight, assess where problems exist, prioritize what further information to collect, select interventions to address the problem, and choose indicators to monitor the progress of those interventions. This tool will be explained further in Part Two.

# INTRODUCTION

## PRINCIPLES

### Principle 4: Program Management Cycle: A Step-by-Step Approach

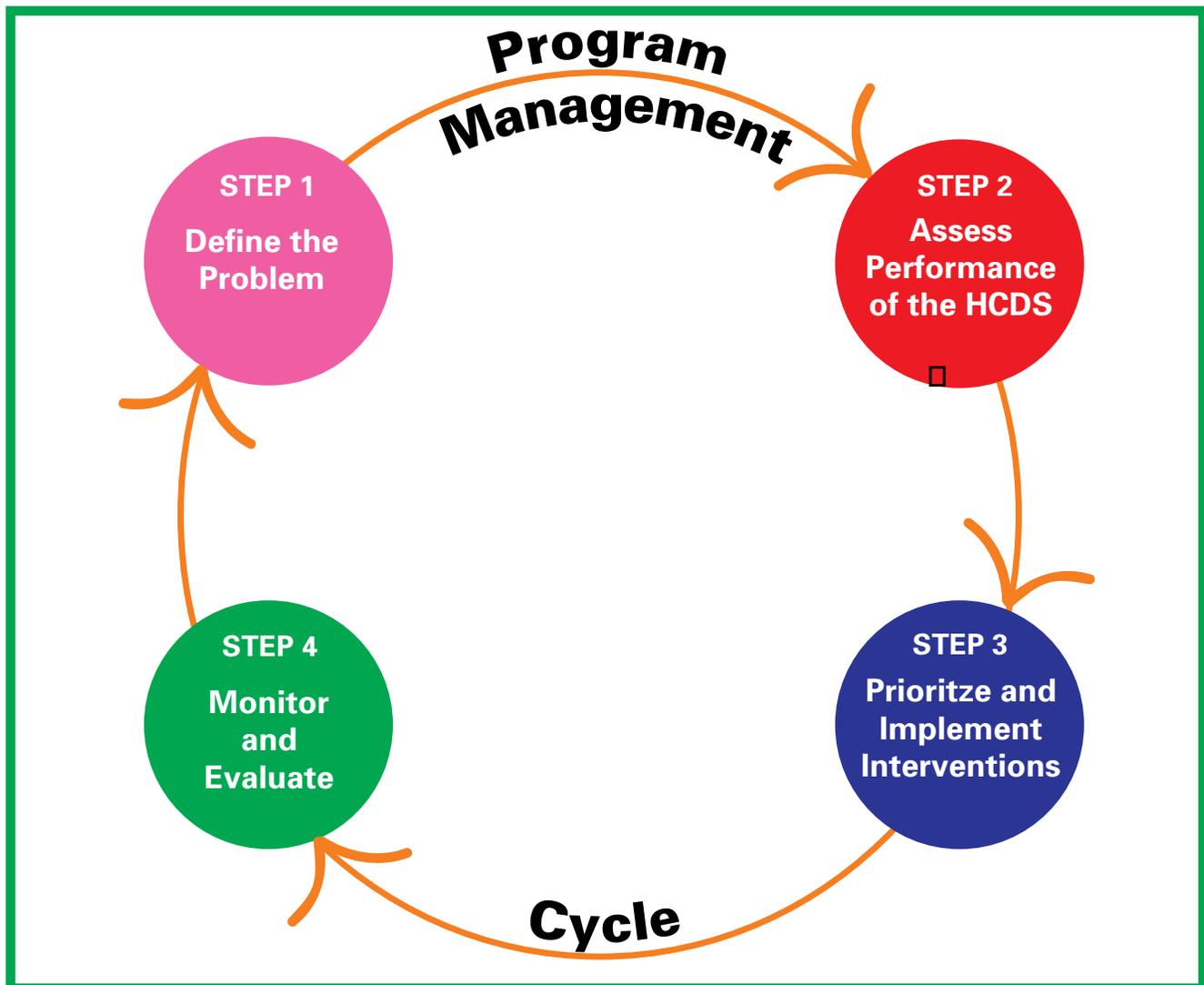


The *program management cycle* is a four-step cycle to assist program managers in identifying the problem in their setting, assessing performance of the HCDS, prioritizing and implementing appropriate interventions, monitoring process, and evaluating the outcomes. The four steps are shown below and covered in detail in Part Three.

At every point in the program management cycle, program managers should:

- ❖ involve all of the HCDS (formal, informal, and intersectoral) to review the information to generate potential solutions; and
- ❖ review data, possibly using the assessment tool (BABIES) and link this with other relevant data.

**FIGURE I.1**  
**THE PROGRAM MANAGEMENT CYCLE**



# INTRODUCTION

## USING THE HEALTHY NEWBORN MANUAL

### LIFE AS A PROGRAM MANAGER

The new District Medical Officer (DMO) sat at his desk, closed his eyes, and put his head in his hands. As soon as he arrived, he found a long list of needs in the district, including:

- ❖ deaths and much suffering due to HIV/AIDS and other STIs;
- ❖ mothers with long-term complication after pregnancy;
- ❖ many child deaths, especially among newborns and from infectious diseases in infancy; and
- ❖ adults missing work because of recurrent malaria.

The district hospital and the eight health centers were short of staff and supplies. Despite his many years of training and experience, he felt unprepared to tackle all of these problems.

### IDENTIFYING PARTNERSHIPS

He heard that there was a nongovernmental organization (NGO) actively involved in health programming in the district, and he decided to meet with them. About a week later, the NGO program manager met with the DMO and his staff. The manager provided a briefing on the main problems and how they had been working to solve them. One of their key concerns was the high number of neonatal deaths, although they did not have any data to document the situation. Many babies were believed to be dying, mainly at home, and the causes of death were uncertain. The DMO agreed that this was a problem, and there were some data at the hospital level. However, he had not looked at the data and was unsure of how to analyze the available data. The NGO program manager said that she had recently received a manual entitled The Healthy Newborn: A Reference Guide for Program Managers. Although the manual was large, perhaps they could work through it together. They agreed to meet with some of their staff and review the manual over the following weeks.

### NEWBORN HEALTH AS A PRIORITY (PART ONE)

At their next meeting, they reviewed the first part of the manual together and were surprised to discover three facts:

- ❖ there are an estimated eight million fetal-neonatal deaths each year;
- ❖ newborn health has major long-term consequences for the individual and society; and,
- ❖ most fetal and neonatal deaths could be prevented or treated with simple, low-tech interventions.

During the meeting, staff learned the definitions of fetal, perinatal, and neonatal mortality, which they had previously found very confusing. They also had a new appreciation of the importance of low birth weight for neonatal survival. This stimulated their thinking about what the problems might be for newborn health in their district and possible interventions.

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# INTRODUCTION

## USING THE HEALTHY NEWBORN MANUAL

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### USING INFORMATION FOR DECISION-MAKING FOR NEWBORN PROGRAMMING (PART TWO)

At their next meeting, another member of the group presented what he had learned from reading Part Two, “A Newborn Health Management Information System.” He was especially impressed with the need to find simple ways to collect information locally to help make good decisions. The assessment tool, BABIES (Birth weight by Age at death Boxes for Intervention and Evaluation System), struck them as a simple way to focus attention on one problem to investigate further. The tools for quality improvement inspired them to think of small, feasible projects that could be addressed in the community or clinic, such as a curtain to increase privacy for postpartum women so they could stay in the clinic and still feel comfortable breastfeeding.

After discussion, the district health team and the NGO staff agreed to collect available information from the district hospital, health centers, and community and to use this information to define the key problems for newborn survival. The key stakeholders would be informed and involved in the process.

### A STEP-BY-STEP APPROACH: THE PROGRAM MANAGEMENT CYCLE (PART THREE)

The group worked through Part Three of the manual about the program management cycle. After some debate, the group agreed with the four steps:

1. Define the fetal-neonatal problem.
2. Assess system performance for fetal and neonatal health.
3. Prioritize and implement interventions to improve fetal-neonatal outcomes.
4. Monitor process and evaluate outcomes.

They decided to have a meeting with key stakeholders to understand their perspectives.

### STAKEHOLDERS' VIEWPOINTS

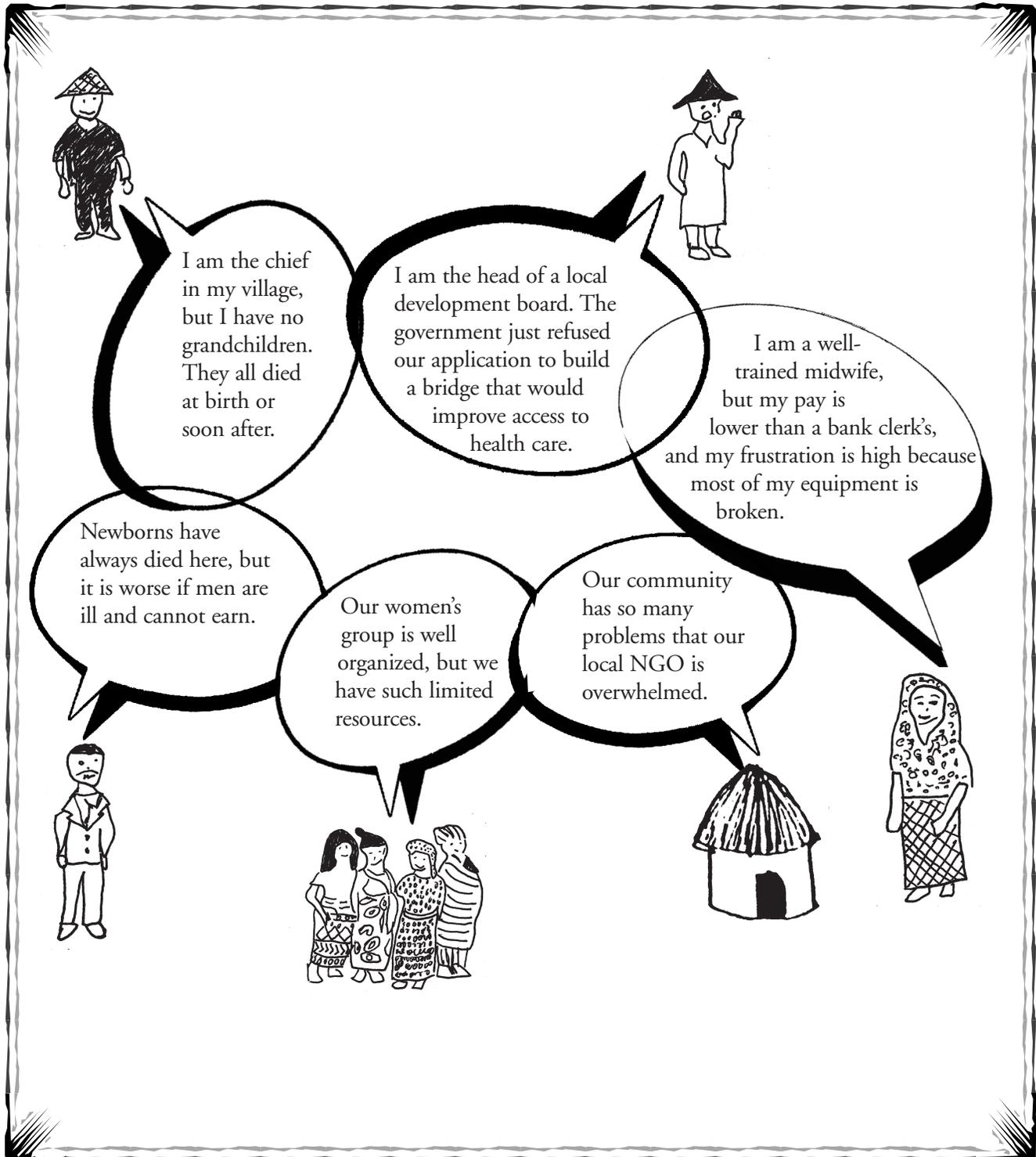
About 30 people crowded into a tiny, hot room. In addition to the district health team and the NGO team, there were:

- ❖ community leaders and individuals from the community;
- ❖ clinicians including a midwife and an obstetrician;
- ❖ the program manager of a local NGO;
- ❖ some Ministry of Health leaders, including the regional safe motherhood/reproductive health manager; and
- ❖ other local ministry members, including a representative from the ministry of rural development.

# INTRODUCTION

## USING THE HEALTHY NEWBORN MANUAL

**FIGURE I.2**  
**VARIOUS VIEWPOINTS OF THE MANY STAKEHOLDERS**



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# INTRODUCTION

## USING THE HEALTHY NEWBORN MANUAL

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All of the individuals at the meeting had their own story of personal loss, problems in their own community, frustrations with their jobs in the clinic, difficulties with influencing policy or getting funds (Figure I.2). Newborn health was important to different groups for the reasons presented below.

- ❖ All of the stakeholders were concerned about the high number of newborn deaths, but were less aware of the importance of fetal deaths.
- ❖ There was concern about the effect that many newborn deaths had on increasing maternal deaths and worsening maternal health as women rushed into pregnancy after a fetal or newborn death.
- ❖ Since many newborn health problems had not been addressed and death rates were high, the group felt that this was an area in which, compared with other local problems, quick progress could be made and many lives saved.
- ❖ The program manager's NGO had recently made newborn health a priority area, and so there was a chance of getting some funds and technical input.

At this meeting, a short list of key stakeholders was identified to be actively involved in the decision-making process.

### **WHAT TO DO TO IMPROVE NEWBORN HEALTH: INTERVENTIONS AND LESSONS LEARNED (PART FOUR)**

The DMO, the program manager, and their teams were keen to find out what interventions could have an impact on newborn survival locally. Studying the evidence-based Intervention Packages in Part Four gave them many new thoughts on what could be done, even with little additional resources. The group particularly wanted to increase emergency preparedness for mothers and newborns. The resources on the CD-ROM, especially the WHO guidelines, provided helpful additional details.

We hope you find this manual useful. For more copies, please contact us at [www.cdc.gov/nccdphp/drh](http://www.cdc.gov/nccdphp/drh)

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# THE AUTHORS

(LISTED IN ALPHABETICAL ORDER)

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## **JOY LAWN, BM BS, MPH, MRCP (PAEDS)**

*Fellow, WHO Collaborating Center (WHO/CC) in Reproductive Health, Atlanta*

Dr. Lawn completed her medical school and postgraduate training in England, gaining membership of the Royal College of Paediatricians. She has spent much of her life in Africa, being born in a rural hospital in northern Uganda by emergency cesarean-section. In addition to involvement in various maternal and child health projects in Kenya and Malawi, Joy spent four years as a Lecturer in Child Health in a teaching hospital in Ghana. During this time she oversaw busy nurseries for sick newborns, promoted newborn health including resuscitation training and exclusive breastfeeding, and was actively involved in training medical students and postgraduate doctors. She recently completed a Masters of Public Health at Emory University, Atlanta. Joy is an enthusiastic advocate for newborn health, stressing the need to combine epidemiology, clinical skills, public health management, community participation and policy change to improve newborn survival. She is currently working on a number of newborn care clinical manuals and the global statistics for “The State of the World’s Newborns,” a report by Saving Newborn Lives. Joy has served as a consultant or on advisory groups for WHO, The Institute of Medicine, and NGOs, such as CARE and Save the Children.

## **BRIAN J. MCCARTHY, MD, MSC**

*Principal Investigator, WHO Collaborating Center (WHO/CC) in Reproductive Health*

Dr. McCarthy completed his training and board certification in pediatrics. He served as an Epidemic Intelligence Service (EIS) Officer at CDC and completed its Preventive Medicine Residency. His assignment to the MCH Division in the State of Georgia resulted in frequent contact with county level programs on projects that included studies on teenage pregnancy, child abuse, risk assessment in regional programs, and an extensive investigation of under-reporting of infant deaths. During a three-year secondment to WHO/Geneva, he was introduced to MCH issues in developing countries. Upon his return to CDC, he was assigned to the WHO/CC. Over the next 18 years he focused on developing methods to improve maternal and perinatal health information systems, performing in-country MCH needs assessments and program evaluations for UN agencies, carrying out health service research, and conducting MCH epidemiologic and management workshops to develop the local level capacity in these topics. Dr. McCarthy has visited more than 25 developing countries while serving as a consultant to WHO, UNRWA, UNICEF, UNDP, UNFPA, the World Bank, and USAID. He also coordinates the WHO/CC participation in the CARE/CDC Health Initiative (CCHI).

## **SUSAN RAE ROSS, BSN, MPH**

*Senior Maternal and Newborn Advisor, Health Unit, CARE, Atlanta*

Ms. Ross began her career in intensive care nursing and has expanded her formal education to include Masters level training in public health. She is currently completing a second Masters in international business. Susan has served as a Senior Health Advisor to USAID in Eritrea, Nigeria, and Washington. Susan was the Asian Regional Technical Advisor for CARE, based in the Philippines. This position focused on providing technical assistance for the reproductive health programs in the ten Asian countries in that region. During her last five years at CARE, she has spearheaded an effort to improve maternal and newborn programs within CARE and its partners. Now a network of CARE staff supports the advancement of the state-of-the-art interventions in maternal and newborn programming. Susan has participated on several advisory groups for USAID, WHO, UNICEF, NGOs, and PVOs. Susan authored CARE’s manual entitled Promoting Quality Maternal and Newborn Care: A Reference Manual for Program Managers, published in 1999. The Healthy Newborn Manual is a natural addition to that publication.

# ACRONYMS

<b>5As</b>	Availability, Accessibility, Acceptability, Affordability, and Appropriateness	<b>MOH</b>	Ministry of Health
<b>AIDS</b>	Acquired Immune Deficiency Syndrome	<b>MMR</b>	Maternal Mortality Ratio
<b>ANC</b>	Antenatal Care	<b>MTCT/HIV</b>	Mother-To-Child Transmission of HIV
<b>BABIES</b>	Birth weight & Age-at-death Boxes for Intervention & Evaluation System	<b>NGO</b>	Non-Governmental Organization
<b>BP</b>	Blood Pressure	<b>NMR</b>	Neonatal Mortality Rate
<b>CARE</b>	Cooperative Assistance for Relief and Development Everywhere	<b>NTD</b>	Neural Tube Defect
<b>CDC</b>	Centers for Disease Control and Prevention	<b>PATH</b>	Program for Appropriate Technology for Health
<b>C-D-C</b>	Count, Divide, Compare Cycle	<b>PLA</b>	Participatory Learning and Action
<b>CFR</b>	Case Fatality Rate	<b>PMR</b>	Perinatal Mortality Rate
<b>COD</b>	Cause of Death	<b>PRA</b>	Participatory Rapid Appraisal
<b>CSF</b>	Cerebral Spinal Fluid	<b>RPR</b>	Rapid Plasma Reagin
<b>DMO</b>	District Medical Officer	<b>SGA</b>	Small for Gestational Age
<b>EmOC</b>	Emergency Obstetric Care	<b>SP</b>	Sulphadoxine-Pyrimethamine
<b>G6PD</b>	Glucose 6 Phosphate Dehydrogenase Deficiency	<b>STI</b>	Sexually Transmitted Infections
<b>HCDS</b>	Health Care Delivery System	<b>TBA</b>	Traditional Birth Attendant
<b>HMIS</b>	Health Management Information System	<b>TQM</b>	Total Quality Management
<b>HIV</b>	Human Immunodeficiency Virus	<b>TT</b>	Tetanus Toxoid
<b>ICD</b>	International Classification of Disease	<b>UNICEF</b>	United Nations International Children's Fund
<b>IMCI</b>	Integrated Management of Childhood Illnesses	<b>USAID</b>	United States of America International Development
<b>IMR</b>	Infant Mortality Rate	<b>WHO</b>	World Health Organization
<b>IUGR</b>	Intra-Uterine Growth Restriction	<b>WRA</b>	Women of Reproductive Age
<b>LBW</b>	Low Birth Weight (birth weight less than 2.5kg)		
<b>LBWR</b>	Low Birth Weight Rate		
<b>MCH</b>	Maternal and Child Health		
<b>MCPC</b>	Managing Complications		

There is a detailed alphabetical glossary and alphabetical index in the appendix. Each part of the manual begins with a list of the key terms used in that part.

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# LIST OF ICONS

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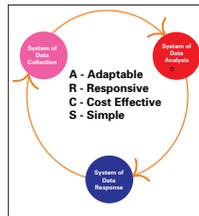
BABIES



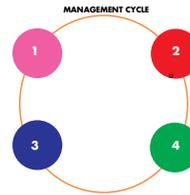
CD-ROM



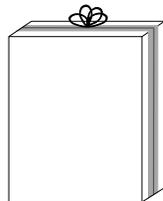
Health Care  
Delivery System



Health Management  
Information System



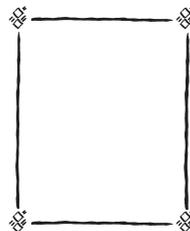
Program Management  
Cycle



Intervention  
Package



Intervention Package  
Component



Panel for  
Lessons Learned