

# Bringing Care Closer to Mothers and Newborns: Using the Gap Analysis Tool to Develop a Household to Hospital Continuum of Care

By Susan Otchere and Elizabeth Ransom



## Introduction

Survival poses a daily challenge for poor women and newborns living in rural communities, where most preventable maternal and newborn (MNB) deaths occur. Global statistics show that more than half a million women die each year from complications that arise during pregnancy, labor and birth,<sup>1</sup> immediately after birth, or within the first week of life.<sup>2</sup> Of the estimated 130 million babies born each year, 4 million die in the first four weeks of life (the neonatal period) and a similar number of babies are stillborn.<sup>3</sup> Ninety-nine percent of these MNB deaths occur in developing countries.

For the majority of mothers and infants in developing countries, most lifesaving care remains out of reach. Because complications of pregnancy and childbirth are unpredictable, all women and newborns need access to lifesaving care. However, care available at the household and community level, in peripheral health facilities (see Box 1 on page 2) and in some referral facilities (e.g., district hospitals) often do not adequately treat many MNB complications.

Timing of care is also essential. Most women and their newborns do not receive the care they need during childbirth and the first week after birth, when they are most vulnerable, often resulting in fatal outcomes. However, if women; their families; caregivers such as community health workers (CHWs) and traditional birth attendants (TBAs); and other health care providers were all well-prepared for both normal childbirth and possible MNB complications, then women and their babies would stand a better chance to receive the skilled and timely care needed to preserve health and ensure survival.

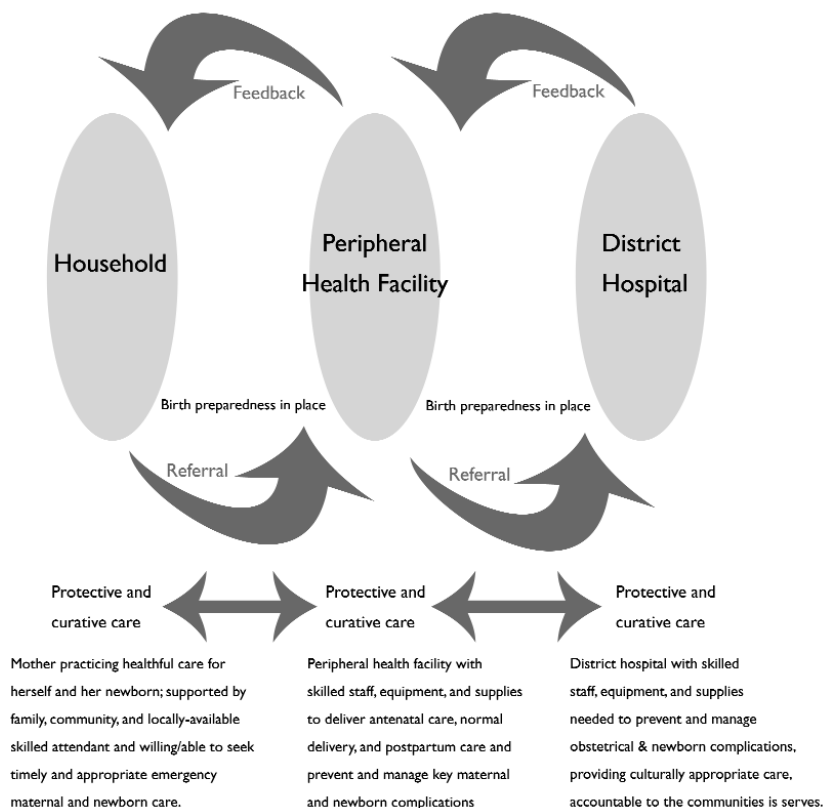
Building on experience working to improve MNB health within communities, Save the Children conceptualized and developed the "Household to Hospital Continuum of Care" (HHCC) approach to provide pragmatic steps to ensure the availability of and access to quality MNB services at peripheral health facilities and district hospitals, while strengthening linkages between them.

## The Household to Hospital Continuum of Care

The HHCC approach aims to improve the capacity of caregivers to provide protective and curative care to mothers and newborns in households, peripheral health facilities, and district hospitals (Figure 1).<sup>4</sup> HHCC builds on existing systems to bring care closer to women and newborns. At the household and community level, which focuses on the woman, her family, and community members, the HHCC promotes healthy pregnancy and birth practices, better self care, recognition of complications, and timely health service seeking.

The HHCC promotes targeting peripheral health facilities (first-level of care)<sup>5</sup> as a significant contributor to improving the chances of survival for women and newborns because they often link households and district referral facilities; represent the first point of contact for many women within the

**Figure 1: The Household to Hospital Continuum of Care**  
An enabling environment with supportive policies, standards, resources and political commitment to ensure that all women and their newborns have the best chance to survive and thrive.



formal health system; are usually accessible to villages; and are often available both day and night. The HHCC recommends using the peripheral health facility or outreach (see Table 1, page 4) to bring lifesaving services such as basic emergency obstetric care (BEmOC), essential newborn care (ENC) (see Box 2, page 3), and family planning services closer to women and newborns. Moreover, the need for services is great because few peripheral health facilities in developing countries are currently able to provide these services. At the district hospital level, where government resources are normally concentrated, the HHCC aims to strengthen capacity and improve the availability of quality emergency and non-emergency care.

In addition, HHCC aims to promote around-the-clock availability of lifesaving service in all health facilities, and to link the three levels of care through communication and referral systems, and improve geographic access. HHCC implementation requires support from governments and civil society to make lifesaving care both available and accessible to those who need it.

## Implementing the HHCC

To enable implementation of HHCC, Save the Children developed the Gap Analysis Tool (GAT).<sup>6</sup>

### What is the GAT?

The GAT is an assessment tool used to identify gaps within MNB programs.

### The GAT's three major uses

1. It is used by program planners to identify gaps in care (availability, access to and quality of supplies and services), assess which interventions can be provided at each of three levels (household, peripheral facility, and hospital), and then select recommended international “best practices.” Best practices are health interventions that have been evaluated and tested and are accepted by the international community, like using oxytocin to prevent and treat postpartum hemorrhage, and preparing for birth by setting money aside for emergencies, arranging transport, and identifying blood donors.

### Box 1: Peripheral facilities defined

Peripheral facilities, appropriately referred to as “first-level” care are found between the (district) referral facility and communities themselves. They include health centers, maternal and child health units, basic health units and health posts. Names vary by country. WHO divides peripheral facilities into two classifications: Type I and II health centers.

Type	Name	Characteristics
I	This type may include: maternal and child health units, basic health units, health posts, dispensaries	<ul style="list-style-type: none"> <li>• limited ambulatory and curative services</li> <li>• community development</li> <li>• no beds—possibly one maternity bed</li> <li>• staffed by auxiliary nurse or auxiliary midwife</li> <li>• family planning</li> <li>• population served &lt;10,000</li> </ul>
II	This type is larger and usually a health center in a rural area	<ul style="list-style-type: none"> <li>• ambulatory and curative services</li> <li>• health promotion, prevention and education</li> <li>• support for sub-centers</li> <li>• maternity and observation beds</li> <li>• outpatient operating room</li> <li>• staffed by multidisciplinary team (midwife, doctor, clinical officer, medical assistant, nurse, and auxiliary health workers)</li> <li>• family planning</li> <li>• small basic laboratory</li> <li>• population served &lt;100,000</li> </ul>

Sources:

1. World Health Organization (1992a) The role of health centers in the development of urban health systems. Report of a WHO study group on primary health care in urban areas. Technical Report Series 827.
2. World Health Organization (2005). The World Health Report 2005. Make every mother and child count.

2. It helps program planners compare international best practices with national standards of care and the latter with the actual MNB intervention in place. The tool provides the evidence needed for dialogue with policy-makers and development partners on existing national policies and protocols on MNB care. It guides program managers and planners in designing new and improving existing MNB programs.
3. It assesses the enabling environment to support the provision of good quality MNB services. The GAT recommends proven indicators to help monitor progress and direct resources to address gaps in availability, access to, and provision of quality MNB care.<sup>7,8,9</sup>

### Contents of the GAT

GAT best practices are categorized as follows:

- Community education and mobilization
- Maternal care during pregnancy, labor and delivery, and the postpartum period
- Essential newborn care
- Quality assurance
- Logistics supply (e.g. human resources, facilities, equipment, medicines, and supplies)
- Documentation
- Policy and standards on MNB care

The GAT assesses what should be in place at the three levels of the HHCC to improve MNB care (see Table 4 on page 9). It lists best practices for each level during the following four time periods:

1. Antenatal period
2. Labor, birth, and immediate care of newborn
3. Immediate MNB postpartum care and ENC during the first 72 hours
4. Postpartum care at six weeks

Five questions guide the GAT process. These head the columns on the GAT worksheet:

- Step 1: What interventions should be available? (i.e., best practices)
- Step 2: What is the current national standard?
- Step 3: What is the actual MNB intervention in place?
- Step 4: What are the gaps in providing quality MNB care?
- Step 5: What can be done to improve current MNB care to promote positive health outcomes for women and their newborns?

### Box 2: Definitions

1. Basic Emergency Obstetric Care<sup>1</sup> includes the following six lifesaving procedures (or "signal functions"): (1) parenteral (intravenous/intramuscular) oxytocics; (2) parenteral antibiotics; (3) parenteral anticonvulsants and/or sedatives; (4) manual removal of placenta; (5) removal of retained products (e.g. with manual vacuum aspiration kit); and (6) assisted vaginal delivery (e.g., using a vacuum extraction or by forceps delivery). A facility offering all six lifesaving procedures is a Basic EmOC facility.
2. Comprehensive Emergency Obstetric Care<sup>2</sup> includes the provision of eight lifesaving procedures that include: all the six Basic EmOC functions plus, obstetric surgery such as cesarean section and safe blood transfusion. A facility offering all eight lifesaving procedures is a Comprehensive EmOC facility.
3. Essential newborn care<sup>3</sup> comprises immediate care at birth, care during the first day and care up to 28 days. Care includes care for the preterm baby, newborn resuscitation, antibiotics for treatment of infections, treatment for tetanus and diarrhea.
4. A skilled attendant<sup>4</sup> is a health professional (for example midwife, doctor or nurse) with competencies for care during normal birth and the capacity to recognize, manage and refer complications in the woman and newborn.

#### References

1. WHO-UNICEF-UNFPA. Guidelines for monitoring the availability and use of obstetric services. 1997.
2. WHO-UNICEF-UNFPA. Ibid.
3. Beck D., Ganges F, Goldman S, Long P. Care of the Newborn Reference Manual. Saving Newborn Lives/Save the Children Federation. 2004
4. World Health Organization. Skilled attendants vital to saving lives of mothers and newborns. 2004.

**Table 1: Recommended essential skills for managing MNB complications at peripheral facilities**

For the Mother				
Complication (Life threatening)	Lifesaving procedure	What is needed	Who can perform lifesaving procedure at Peripheral facility	
			Type I HC	Type II HC
Bleeding (postpartum hemorrhage)	IM/IV oxytocics* IV Fluids Referral	Oxytocin AMTSL <sup>3</sup> Referral	Auxiliary Nurse/ Midwife	Midwife Nurse-Midwife Auxiliary Nurse
Bleeding (from retained placenta)	Manual removal* of placenta	Gloves Antibiotics Oxytocin, IV Fluids	Auxiliary Nurse/ Midwife	Midwife Nurse-Midwife Auxiliary Nurse
Bleeding (from retained products of conception)	MVA*	MVA kit Oxytocin, IV Fluids Antibiotics Family Planning	Auxiliary Nurse/ Midwife	Midwife Nurse-Midwife Auxiliary Nurse
Infection (from premature rupture of membranes)	IM/IV antibiotics*  (Protective Care) Clean delivery	Antibiotics (ampicillin, metronidazole, co-trimoxazole) Tetanus toxoid injection syringe, needle	Auxiliary Nurse/ Midwife	Midwife Nurse-Midwife Auxiliary Nurse
Pre-eclampsia/ eclampsia	IM/IV anticonvulsants* Referral for prompt delivery	Magnesium sulphate <sup>1</sup> Diazepam Referral and prompt delivery within 12 hours of onset of convulsions in eclampsia	Auxiliary Nurse/ Midwife	Midwife Nurse-Midwife Auxiliary Nurse
Obstructed Labor	Monitor labor with partogram Assisted vaginal delivery by vacuum extraction*	Partogram Referral Vacuum extraction kit	Refer to Type 2 or hospital for cesarean section or other procedure	Nurse-Midwife Doctor, clinical officer, medical assistant
Shock	Rehydration with IV Fluids	IV fluids, IV tubes, catheters	Auxiliary Nurse/ Midwife	Midwife Nurse-Midwife Auxiliary Nurse
Anemia	(Protective care) Iron Folate IPT, ITN, bed nets Deworming	Iron Folate tablets IPT, ITN, bed nets (malaria endemic area)	Auxiliary Nurse/ Midwife	Midwife Nurse-Midwife Auxiliary Nurse
For the Newborn				
Birth Asphyxia	Resuscitation Referral to hospital	Mouth-to-mouth resuscitation Resuscitation kit	Auxiliary Nurse/ Midwife	Midwife Nurse-Midwife Auxiliary Nurse
Low Birth Weight	Keep baby warm and dry Skin-to-skin KMC (being field tested) Clean cord care Assist in feeding Referral to hospital	Dry, clean cloth to cover baby	Auxiliary Nurse/ Midwife	Midwife Nurse-Midwife Auxiliary Nurse
Infection	Antibiotics Clean cord care Referral to hospital	Antibiotic (Ampicillin, cloxacillin, Gentamycin)	Auxiliary Nurse/ Midwife	Midwife Nurse-Midwife Auxiliary Nurse

\*Lifesaving procedures include the six functions of basic emergency obstetric care, (Box 2, page 3); <sup>1</sup> Recommended drug of choice by the World Health Organization; HC - Health Center; AMTSL - Active Management of Third Stage of Labor; IPT - Intermittent preventive treatment; ITN - Insecticide-treated bed nets; IV - Intravenous; IM - Intramuscular ; MVA - Manual vacuum aspiration; KMC - Kangaroo Mother Care

**Note:** Configurations in the choice of care likely depend on the available infrastructure, professional skills and proximity of services to women and newborns. For more information: Koblinsky, Marge. Essential Obstetric Care and Subsets. Basic and Emergency Obstetric Care: What's the Difference. MotherCare Policy Brief #1. Arlington, VA: John Snow, Inc., 1999 or <http://www.jsi.com/JSIInternet/Publications/women.cfm>

## Using the GAT

### Who can use the GAT?

MNB health program planners, health service managers, health workers, district managers, and community advocates, and others responsible for improving MNB health may use the GAT.

### What kind of team is needed for the GAT assessment?

At a minimum, the assessment should be carried out by a multidisciplinary team with both quantitative and qualitative research skills. In addition, the team should have at least one technical person, preferably with clinical training, as well as one person familiar with community level qualitative research methods (formative research). Program managers can choose who should lead the GAT assessment.

### When can the GAT be used?

The GAT can be used in the following situations:

- As part of the situation analysis for design of new programs;
- To assess gaps and select priority actions to strengthen existing program efforts, especially in the case of working on component strengthening along the HHCC; and
- To monitor or evaluate whether “gap filling” efforts are successfully strengthening the system at various levels to promote protective and curative practices.

When using the GAT, it is important to involve relevant stakeholders and partners such as ministry of health officials, and international or local private voluntary organizations with the power to influence health policies, motivate community acceptance, and use the results of the GAT to select best practices to improve MNB care.

### How long will the GAT assessment take?

The assessment process carried out in five Save the Children sites lasted 5-10 days, including travel time. From this experience, we suggest that the team plan on one to two weeks. The duration of the assessment, however, will vary depending on a number of factors including: the size of the geographic area being assessed, the number of people on the assessment team, the ease of travel between selected communities and various facilities in the intervention area, and the number of facilities included in the assessment.

### Preparing for the actual assessment

It is beneficial for the GAT assessment team to review the existing protocols for service delivery at various levels of the health system and the responsibilities of various cadres

of health workers as set by national standards, know the national standards, read available background information and formative research reports, and use other tools (e.g., the facility-based assessment tool) to complement activity.

### Resources needed to use GAT

The costs related to implementing the GAT vary and include staff time; consultants (where necessary); transportation (vehicle and fuel costs); computers; a planning workshop to train the assessment team; per diem expenses of assessment persons and drivers; and miscellaneous expenses such as paper, pens, and pencils.

### Challenges of using the GAT

The GAT faces challenges similar to other needs assessment tools: time and effort to conduct the assessment, travel time, meetings with particular target populations and individuals, financial resources to carry out the assessment and to translate the tool into different languages, adaptation of the tool to meet local conditions, and the sensitivities of partners (e.g., clinical staff) associated with conducting a review of practices and service quality.

### What to do after the GAT assessment

The action planning stage, which follows the GAT assessment exercise, requires participation of stakeholders at all levels. Stakeholders—such as Ministry of Health officials or others with the power to influence health policies, motivate community acceptance, and use the results of the GAT to select best practices—need to be involved. Stakeholders should agree on concrete actions—who will do what, when, and by what means—to achieve best practice.

## Bringing care closer to mothers and newborns using the GAT

Save the Children applied the GAT in five countries, including Guinea and Afghanistan, in collaboration with ministries of health, international development partners, and community-based organizations.

### Building on an existing safe motherhood program in Mandiana, Guinea

Save the Children's Child Survival Project in rural Mandiana District, Upper Guinea, began in 1997. The project included recognition of danger signs, care-seeking for antenatal care, labor, and birth, clean delivery practices, and tetanus toxoid vaccination as part of safe motherhood activities. Two years later, Save the Children, with technical assistance from the American College of Nurse-Midwives and other United States Agency for International

Development (USAID)-funded partners, added a community-based life-saving skills (CBLSS) intervention into the child survival program, with the goal of improving household health and care-seeking behaviors, improving facility-based services in the health centers and health posts, and mobilizing communities to use these services. In addition, the CBLSS intervention aimed to strengthen the knowledge and skills of TBAs to recognize and respond to the most common emergencies (hemorrhage and birth asphyxia), and to improve interaction between clients and health facility staff and promote prompt referral.

The project engaged elderly women and traditional practitioners in a communication strategy to change social norms to make motherhood safer. The project trained more than 100 traditional TBAs to conduct clean deliveries and respond to cases of hemorrhage and asphyxia. According to a 2002 evaluation, the proportion of births attended by trained TBAs increased from 36 to 80 percent between 1998 and 2002. A majority of women (55 percent versus 13 percent at baseline) knew at least two danger signs and over twice as many women (97 percent versus 45 percent at baseline) received at least two antenatal consultations.

To strengthen the CBLSS intervention and improve maternity services for women in Mandiana, Save the Children wanted to find out what kind of services were available at the household level, in peripheral facilities, and at the district hospital. A GAT assessment in December 2001 identified gaps at each level of the continuum of care and underlined the need to improve obstetric services—particularly for complications (see Table 2 for highlights of the gaps identified in the assessment).

Save the Children took several steps in 2002 to address these problems, including strengthening the referral system by using cards to improve important information sharing and feedback between the levels of care, and meeting with the Ministry of Health to advocate for capacity-building of nurses and midwives to provide lifesaving care for mothers and newborns in health centers and in the district hospital. By 2003, almost 30 midwives and nurses from Mandiana received training in Burkina Faso in lifesaving skills and newborn care. UNICEF

donated a refrigerator for blood storage at the district hospital which was vital in improving timely provision of blood transfusion. Community members advocated for and received an ambulance from the Ministry of Health and other bilateral donors. A radio network connected the health centers to the district hospital which greatly improved referrals of obstetric and neonatal complications. A local volunteer was selected to inform the community of available maternity and newborn services and what to expect at time of visit. The gap analysis facilitated dialogue among different groups of people: the community, Ministry of Health authorities, and UNICEF, leading to improvements in MNB services along the continuum of care.

### **Working with the Ministry of Health in Afghanistan to initiate a new safe motherhood and newborn health program**

In November 2003, Save the Children, in partnership with the Ministry of Health in the Jawzjan province in northern Afghanistan, initiated a project to reduce MNB mortality through sustainable improvements in community awareness, promotion of healthy practices, and improved quality, access to, and use of maternal and child health services. Project staff and partners used the GAT to assess self care and care-seeking behavior, and the availability of and access to lifesaving interventions at the household, periphery, and district level facilities. They used this information to develop program strategies and interventions with the Ministry of Health (see Table 3 for highlights of the gaps identified in the GAT assessment).

### **Conclusion**

By strengthening care at the household and community, and linking it to the peripheral and district facility levels, the HHCC approach ensures that mothers and newborns can access preventive services and in particular lifesaving care when they need it most—during the vulnerable days and weeks immediately following childbirth. The GAT also provides a way for program planners to systematically assess current MNB care, make a plan of action to address gaps in care, and ensure the involvement of essential stakeholders such as community members and health policymakers.

**Table 2: Highlights from the GAT used to strengthen the HHCC in community-based safe motherhood programming in Mandiana district in Upper Guinea (December 2001)**

What should be available at each level of the HHCC to improve MNB survival?  "best practice"	What is the national policy or standard?	What is the current program activity?	What is the gap?	What more can be done (and if done effectively) would improve MNB survival at each level? (i.e. filling the gap)
<b>Household and community level</b>				
Accurate record keeping	Record patient information	a) TBA attends pregnant women b) TBA keeps pictorial records of pregnant women she sees and referral	a) Inconsistencies in record keeping by TBAs of women seen or referred b) Staff in facilities are unable to track women referred by TBAs	Strengthen referral system by using a system of cards and feedback mechanism
<b>Peripheral level</b>				
a) Peripheral facility and staff should be capable to provide 24/7 lifesaving care for mothers and newborns (e.g. basic emergency obstetric care and essential newborn care) b) Availability of supplies and equipment for provision of lifesaving services	Peripheral facility staff not permitted to perform the lifesaving procedures	Nurses in health centers refer all obstetric and newborn emergencies to the district hospital, because of inadequate skills.	a) None of the peripheral health centers have the capacity to provide BEmOC and essential newborn care b) Nurses also do not have adequate skills to manage or provide first aid for obstetric and newborn emergencies	a) Discuss with MOH in a meeting the need to build the capacity of nurses and midwives in health centers to provide lifesaving care for mothers and newborns b) Train in a phased manner all nurses and midwives in peripheral facilities to provide three (or more) BEmOC functions (as permitted by MOH) c) Work with the hospital and the community to develop system of revolving drug fund to assure constant supply of essential drugs and supplies
<b>District hospital</b>				
a) District hospital and staff should be capable of providing 24/7 lifesaving care for mothers and newborns [Comprehensive emergency obstetric care (CEmOC), Essential newborn care, Care of the sick newborn] b) District hospital should have equipment, drugs and supplies to provide lifesaving care to mothers and newborns	a) District hospital staff should be able to perform lifesaving procedures and care of the sick newborn b) District hospital should have equipment, drugs and supplies to provide lifesaving care to mothers and newborns, and perform others functions specified by the MOH	a) Doctors, midwives, nurses, lab technician (the emergency response team) have inadequate skills to manage obstetric and newborn emergencies b) Insufficient quantities of drugs and supplies c) Absence of refrigerator	a) Lack of adequately trained doctors, midwives, and laboratory technicians to effectively manage obstetric emergencies b) Hospital lacks refrigeration facilities and other equipment and materials to maintain blood supplies c) Recurrent shortages of operating and delivery supplies d) Hospital does not provide 24-hour CEmOC due to shortage of staff	a) Train doctors, midwives and laboratory technicians to provide emergency obstetric care and essential newborn care b) Provide means of refrigeration (electrical or solar) to enable staff to type, test, transfuse and store blood donated by family members and volunteers for emergency situations c) Work with the hospital and the community to develop system of revolving drug fund to assure constant supply of essential drugs and supplies d) Work with MOH to find a solution to staff shortage
<div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p><b>Actions taken: (2002)</b></p> <ol style="list-style-type: none"> <li>1. Midwives and nurses at peripheral health centers and the district hospital sent to Burkina Faso for training in lifesaving skills and newborn resuscitation</li> <li>2. One doctor was sent to Conakry for training in obstetric surgery and one laboratory technician for training in blood safety and storage</li> <li>3. UNICEF provided refrigerator for blood storage</li> </ol> </div>				
<p>HHCC - household to hospital continuum of care; MNB - maternal and newborn; MOH - Ministry of Health; TBA - traditional birth attendant; CHC - community health center; AMTSL - active management of the third stage of labor; ICG - infection control guidelines; NGO - non-governmental organization</p>				

**Table 4: Household and community section**

Draft GAT and User Guide is available from the Reproductive Health Department of the Office of Health at Save the Children

What should be at (or done at) the household and community level to improve MNB survival?	What is the national policy or standard?	What is the current program activity?	What is the gap?	What more can be done (and if done effectively) would improve MNB survival at each level? (i.e. filling the gap)
<b>Antenatal period</b>				
Availability of skilled attendant				
Seek ANC with skilled attendant (e.g., midwife), where available, or TBA or CHW				
Recognition of MNB danger signs during pregnancy, labor and delivery and the postpartum period, and prompt referral by family and or community				
Birth planning (e.g., emergency funds and transport, identify blood donor, place of delivery and with whom)				
Maternal immunization with tetanus toxoid vaccine				
Malaria prevention - Insecticide-treated bed nets, intermittent preventive treatment				
Reproductive health infections including syphilis, HIV/AIDS - Provide information and counseling and encouragement to seek screening and treatment where appropriate				
<b>Labor and birth / Care immediately after birth of baby</b>				
Presence of skilled birth attendants (where available)				
Use of partograph to monitor labor by skilled attendant where feasible/appropriate				
Active management of 3rd stage of labor by skilled attendant where feasible/appropriate				
Safe management of labor & delivery by trained TBA or CHW <sup>10</sup>				
Immediate care of newborn after delivery (warming, drying, wrapping, initiation of breastfeeding within one hour after birth)				
Recognition of danger signs and onset of MNB complications by trained TBA, CHW, and skilled attendant for prompt referral				
<b>First aid treatment for postpartum hemorrhage - Mother</b>				
- External bi-manual compression of uterus where appropriate - Use of (oral/IM/IV) oxytocics where appropriate - Use of misoprostol (where appropriate) - IV fluids (where appropriate) - Other procedures: Hydration with oral fluids, initiation of early suckling, encouragement to pass urine				
Management of birth asphyxia - Newborn				
<b>Immediate Postpartum contact and ENC</b>				
Postpartum visit by TBA, CHW, or skilled ttendant within first 72 hours after delivery				
For the Newborn: - Promotion of Immediate and exclusive breastfeeding - Immunizations required by local policy at birth: BCG (for tuberculosis), OPV (for Polio), HBI (for hepatitis) - Vitamin K - Clean cord care/ hand washing - Ophthalmia neonatorum - chemoprophylaxis				
For the Mother: - Vitamin A and Iron supplement where appropriate - Check for ability to pass urine				
Mother and Newborn: Check for: - Bleeding (abnormal postpartum bleeding or from umbilical cord) - Fever - Foul smelling vaginal discharge or umbilical stump (possible onset of infection)				
<b>Postpartum contact at 6 weeks</b>				
Counseling on FP for benefits of birth spacing (outlets: community-based distributors of methods, community pharmacy shops, outreach services) Breastfeeding support & counseling to maintain exclusive breast feeding Prevent childhood diseases by following national guidelines on childhood immunizations				
MNB - maternal and newborn; ANC - antenatal care; TBA - traditional birth attendant; CHW - community health worker; HIV/AIDS - human immunodeficiency virus/acquired immunodeficiency syndrome; IM - intramuscular; IV - intravaneous; ENC - essential newborn care; FP - family planning				



**Table 3: Highlights from applying the GAT in Afghanistan to improve maternal, newborn and child health in the Jawzjan province (November 2003)**

What should be available at each level of the HHCC to improve MNB survival?  "best practice"	What is the national policy or standard?	What is the current program activity?	What is the gap?	What more can be done (and if done effectively) would improve MNB survival at each level? (i.e. filling the gap)
<b>Household and community level</b>				
a) Counseling for preparation for childbirth (emergency funds and transport, identification of blood donor, place of delivery, with whom) b) Trained TBAs work closely with peripheral facility staff, in the home, at outreach services and during home-visits	None	a) None b) Trained TBAs work closely with peripheral facility staff, in the home, at outreach services and during home-visits	a) Health workers and male and female CHC members have not received training on preparation for childbirth b) Postnatal care not part of home care and outreach activities	a) Assist national effort of adapting birth planning teaching materials for local use b) Train health workers in preparation for childbirth; Assist them to train male and female CHC members to inform women and their families c) Train TBAs to recognize danger signs in mom and newborn after delivery plus prompt referral
<b>Peripheral level</b>				
a) Peripheral facility and staff should be capable to provide 24/7 lifesaving care for mothers and newborns (e.g. basic emergency obstetric care and essential newborn care) b) Availability of supplies and equipment for provision of lifesaving services c) All peripheral facilities should have a means of communication with district hospital	Under development	Preventive MCH services and recognition of dangers signs	a) Peripheral facility not equipped to treat obstetric and newborn complications b) Health workers (mostly midwives) not trained to use partograph, perform AMTSL, manage obstetric complications or provide first aid before referral to higher facility c) All peripheral facilities lack telephones, transport and other means of communication and hence fail to inform hospital regarding emergency referral.	a) Work with MOH to establish sustainable equipment in facilities b) Train community-based midwives to use partograph, AMTSL (where permissible) manage obstetric and newborn complications and to provide first aid to stabilize condition for onward referral c) Work with district hospital to provide supervision of midwives
<b>District hospital</b>				
a) Ability to test and store blood for emergencies b) Adherence to ICG	Standards provided by NGOs	a) Blood screening and on-the-spot transfusion b) Non-adherence to ICG despite training	a) Lack of refrigeration and blood storage equipment b) Inadequate supervision of staff	a) Determine whether all district hospitals need to store blood. If not, select one which is central to population served and provide needed equipment and supplies. b) Train hospital management in supervision for proper infection control and for other clinical services provided
<div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: 80%;"> <p><b>Actions Taken:</b></p> <ol style="list-style-type: none"> <li>MCH workers selected from the community undergoing 18 months training in midwifery that includes management of obstetric and newborn complication (November 2004).</li> <li>GAT results used to develop program strategies and interventions with the MOH.</li> </ol> </div>				
<p>HHCC - household to hospital continuum of care; MNB - maternal and newborn; MOH - Ministry of Health; TBA - traditional birth attendant; CEmOC - comprehensive emergency obstetric care; BEmOC - basic emergency obstetric care; AMTSL - active management of the third stage of labor; ICG - infection control guidelines; NGO - non-governmental organization</p>				

## Acknowledgements

This document was prepared by Susan Otchere (Maternal Health Advisor, Office of Health, Save the Children USA) and Elizabeth Ransom (Research Dissemination Specialist, Saving Newborn Lives, Save the Children USA). Washington DC Mary Beth Powers (Senior Reproductive Health Advisor, Save the Children) and David Oot (Director, Office of Health, Save the Children) provided technical oversight during the development of the GAT tool. Eric Swedberg (Child Survival Specialist, Save the Children) provided essential information about the safe motherhood program in Guinea. Many thanks to colleagues in Save the Children and Ministry of Health partners in countries who participated in the GAT assessments. In Save the Children, Dr. Tariq Aftab, Dr. Asma, Amy Kayo, Judith Moore and Winifride Mwebesa all played important roles in the GAT assessments. Julia Ruben (Program Associate, Saving Newborn Lives initiative, Save the Children) edited and designed the document. Helga Fostad (Technical Officer, Health Systems, Department of Making Pregnancy Safer, World Health Organization), Karen Leban (Executive Director, The CORE Group), Virginia Lamprecht (Senior Technical Advisor, Monitoring & Evaluation and Community-based Family Planning / Reproductive Health, USAID), Janet Myers (Family Planning / Reproductive Health Technical Advisor, Child Survival Technical Support Project), David Marsh (Senior Child Survival Advisor, Save the Children), Martita Marx (Deputy Director, Saving Newborn Lives initiative, Save the Children), and Anne Tinker (Director, Saving Newborn Lives initiative, Save the Children) reviewed drafts of the article and provided helpful suggestions.

Photo credits: Michael Biscelgie/Save the Children (front); Julia Ruben/Save the Children (back)

## References

1. WHO, UNICEF, UNFPA. Maternal Mortality in 2000. Estimates developed by WHO, UNICEF and UNFPA. Geneva: 2005.
2. Li XF, Fortney J, Kotelchuck M., Glover LH. "The Postpartum period: The key to maternal mortality." International Journal of Obstetrics and Gynecology. Vol. 54, Pages 1-10. 1996.
3. Zupan J, Aahman E. Perinatal mortality for the year 2000: estimates developed by WHO. Geneva: 2005.
4. Nanda G, Switlick K Lule E. "Accelerating Progress Towards Achieving the MDG to Improve Maternal Health: A Collection of Promising Approaches." World Bank Health, Nutrition and Population Discussion Paper.: April 2005. HHCC will also be featured in forthcoming issue of the ICDDRDB Journal of Health, Population, and Nutrition: in press.
5. World Health Organization. The World Health Report 2005. Make every mother and child count. Geneva: 2005.
6. Otchere S, Powers, M. The Gap Analysis Tool and User Guide. Save the Children. Washington, D.C: in press.
7. Saving Newborn Lives. CORE Newborn Indicators. Save the Children. Washington, DC: 2000.
8. Global Maternal Health Indicators.
9. The CORE Group. Maternal and Newborn Standards and Indicators Compendium. USAID/CORE. Washington, DC: 2004.
10. Program for Appropriate Technology in Health. Basic Delivery Kit Guide. Seattle: 2001

**SAVETHE CHILDREN** is a leading international nonprofit child-assistance organization working in over 40 countries worldwide, including the United States. Our mission is to make lasting positive change in the lives of children in need. Save the Children is a member of the international Save the Children Alliance, a worldwide network of 30 independent Save the Children organizations working in more than 100 countries to ensure the wellbeing and protect the rights of children everywhere.

**SAVING NEWBORN LIVES**, supported by the Bill & Melinda Gates Foundation, is Save the Children's global initiative to improve the health and survival of newborns in the developing world. Saving Newborn Lives works with governments, local communities and partner agencies in developing countries to make progress toward real and lasting change in newborn health.



