SUDAN DEVELOPMENT FOUNDATION

Empowering Rural Villages in South Sudan

Proposal for Maternal Child Health & Training Centers in the Republic of South Sudan

Abraham Awolich, President
Sudan Development Foundation
aawolich@sudef.org

139 Elmwood Avenue
Burlington, VT 05401 USA
802-238-4448
WWW.SUDEF.ORG

Please direct any questions to:
Julie Elmore
juliekelmore@gmail.com
Communications and Administration, SUDEF

1. EXECUTIVE SUMMARY

Five decades of civil war have left Southern Sudan one of the most devastated places on earth. The need for health services, economic and social development cannot be overstated in South Sudan. Over the course of the last three decades, Southern Sudan has not produced any doctors, nurses or midwives and has not been able to provide even the most basic of medical services to the majority of its citizens.

Maternal and infant mortality rates are among the highest in the world today in South Sudan. The overall life expectancy in South Sudan is only 42 years. Currently South Sudan has a rate of 2,054 maternal deaths per 100,000 live births, and child mortality is also extremely high, (currently 135 deaths per 1,000 live births). Skilled health personnel assist in only 5% of all deliveries in South Sudan. There is only one doctor per 100,000 people. South Sudan has the lowest routine immunization coverage rate in the world with only 13% of children fully vaccinated.

South Sudan's population is considerably rural with over 83% of Southern Sudanese residing in rural areas and only 17% living in urban communities.

Sudan Development Foundation's proposed project for our first rural community supported Maternal and Child Health and Training Center in Kathok will be completed over the next year. This first center is already under construction in Kalthok and will be dedicated to providing expectant mothers pre-natal and child birthing care along with post-natal support. The project is also designed to train and equip rural medical assistants and traditional birth attendants in the region to assist in home births, early assessment of high-risk births for referral to a hospital setting, pre-natal care and education and post-natal care and education. The training will focus on the fundamental role of the birth attendant or medical assistant in providing high quality birthing assistance, pre-natal and postpartum care and in the prevention of childhood disease due to lack of nutrition, poor hygiene and disease prevention.

The goal of our Maternal and Child Health and Training Centers is for expectant and new mothers and their children to have high quality care, increased understanding on the importance of nutrition, hygiene and disease prevention and to dramatically reduce maternal and infant mortality rates in rural regions of South Sudan.

To achieve our goal we have set three objectives: The first to work collaboratively with villages to build Health centers in rural communities dedicated to maternal and child health. The second is to provide quality care, support and education to mothers and children during pregnancy, labor, childbirth and the postpartum period. And our third objective is to ensure the timely referral and transport of mothers and children with complications beyond a rural clinic's capacity to larger facilities whenever possible.

2. BACKGROUND ON SUDAN DEVELOPMENT FOUNDATION (SUDEF)

Abraham Awolich founded South Sudan Development Foundation (SUDEF) in 2008. Abraham first returned to South Sudan in 2006 after spending 17 years in exile. When he traveled north and west from Juba, South Sudan's capital city to Awerial County, a rural state made up of numerous small villages he was struck by the desperate conditions that existed in these remote rural communities. Upon arriving in his native village of Kalthok, he began working with local community leaders, elders, church members and a broad spectrum of villagers to engage the local community in identifying their most pressing problems. Access to basic health was their number one concern, even beyond lack of food, education and skills. This was due to countless outbreaks of disease such as cholera or meningitis and the high rate of maternal and child deaths that continually plagued the village and the surrounding communities.

SUDEF's mission was developed using a model that emphasizes trust-based collaboration and partnership within rural village communities to help them identify what problems they are facing and support them in finding solutions to these problems. Using the Sudanese diaspora community SUDEF has diaspora members collaborate with the local villagers to formulate solutions that address their problems and actively engages them in participating in the resolution of these issues from the ground up.

As a result of this model SUDEF's first project was a medical clinic providing basic healthcare in Kalthok, South Sudan. The clinic was built by and is entirely run by local villagers. The Kalthok Clinic has served both the immediate village population and a larger population of over 25,000 from surrounding rural villages over the past four years.

SUDEF's Kalthok Clinic has been able to successfully partner with both local government and NGO organizations in bringing medications and training to assist clinic personnel and the community in the provision of basic healthcare. Currently the Kalthok Clinic has seen the local community now paying for services the clinic provides – this has created a sustainable, self-supporting model of locally run healthcare.

We are proposing the expansion of SUDEF's Kalthok Clinic and the model we used there of community ownership and involvement to Maternal and Child Health. Our new Maternal and Child Health and Training Clinic will combat the rampant and skyrocketing maternal and infant mortality rates in South Sudan, which are in line with the UN Millennium Development Goals 4 and 5 (MDGs).

3. PHILOSOPHY AND PROJECT IMPLEMENTATION

SUDEF's methodology of community based problem solving is the basis for our Maternal and Child Health and Training Units.

The methodology SUDEF implements by bringing members of the Sudanese Diaspora into their local community gives us access to the cultural and personal commitment and connection necessary to make community development effective, sustainable and locally driven. Our model of development brings a member of the Sudanese diaspora community back into their village of origin and re-connects them with their community on a deeply personal and meaningful level. Through this process they facilitate community meetings with elders, religious and community leaders, local government officials and a broad base of community members where a dialog develops that is based on trust and a mutual desire to improve the lives and conditions of Southern Sudanese.

SUDEF's approach provides a systematic methodology for providing community development through the following steps:

- SUDEF connects a community with a diaspora member who is from their community and understands their problems and goals.
- The community discovers there is something they can do to change their own situation and that an infrastructure of services that they conceive of and support can be provided to help them achieve this.
- They overcome their concerns about the limits of their ability to bring meaningful change due to their lack of education, skills or literacy.
- They are fully invested in the project/s from their conception, helping with the construction, participating in the training and in the utilization of services.
- They overcome their doubts and commit to a new course of action.
- They become advocates and "ambassadors" for change in surrounding communities.

We have applied this methodology within the village of Kalthok. It was the basis for our first program, the Kalthok Clinic – which has provided over 25,000 community members health services over the past three and a half years and has been entirely built and supported by the local community from it's inception.

Given the increasing number of pregnant mothers and newborns visiting our Kalthok clinic SUDEF and the local community are currently constructing a Maternal and Child Health and Training Unit (MCHTU) beside the Kalthok Medical Clinic. The MCHTU will be dedicated to providing training, treatment, care and information to expectant and nursing mothers and children.

The program is designed to provide care and information on the pre-natal health and well-being of mother and fetus, the emotional well being of the expectant mother, labor and delivery, smoking cessation, improved hygiene for both the mother and child, breastfeeding, mental health, immunizations and infant

and child safety and nutrition using tools that are designed specifically for an illiterate population. Illiteracy is currently at 80% in South Sudan with a much higher rate in rural communities. This gap in skills and literacy is not something SUDEF treats as a roadblock but rather an opportunity.

By designing training and education tools using graphic stories which will be accompanied by written narrative in their native language – the training of field-midwives using traditional birth attendants can be achieved. These trainers over time will begin to learn trade specific literacy through these visual guides and will be provided the tools necessary to teach other woman and children who are illiterate about reproductive health, pregnancy, birth, pre-natal and postpartum care and the care and health of their children.

Additionally, the MCHTU will cover common childhood disease prevention, detection and treatment. Expectant mothers from early stages of pregnancy through birth and the postpartum period would be able to come to the MCHTU for check-ups with either a trained birth attendant and/or a medical assistant and get advice on staying healthy to maximize the likelihood of having and raising a healthy child.

When a higher risk pregnancy is detected, mothers will be counseled and referred when possible to a nearby hospital setting for closer monitoring such as the Juba Teaching Hospital, which is a three hours drive away.

This project also encompasses training up to twelve field birth attendants per year and providing them with traveling medical kits they can use to provide treatment and birth assistance to children and mothers in the field. The kits will contain sterile birthing equipment for handling of the umbilical cord and the infant, equipment necessary for assisting in labor and delivery, equipment for suctioning the infant and other apparatus appropriate for field lay-midwives. The training will focus on the fundamentals of midwifery to prepare trainees to provide high quality birth assistance and pre-natal and postpartum care to both mothers and their children.

The training will equip the midwife trainees with the knowledge necessary to provide expectant mothers and their children advice on sound nutrition and hygiene both during and after pregnancy.

The Maternal and Child Health and Training Center will comprise of a facility designed to provide two separate rooms. The first section will be equipped with beds and equipment to admit expectant mothers and those in more critical condition that might be awaiting transfer to the main hospital in Juba. This room will also be used to conduct pregnancy classes and as a training center for midwives. The second section will provide space for the trained midwives to attend to normal assisted deliveries and provide postpartum care to mothers and children.

4. PROJECT JUSTIFICATION

South Sudan's need for basic health services and maternal and child healthcare are profound. Basic demographic statistics show clearly the severity and urgency of this situation.

According to African Medical Relief Fund (AMERF) South Sudan has the highest maternal death rate in the world. This is caused by a severe lack of trained midwives, inadequate health facilities and a high rate of teen pregnancy. In South Sudan trained health personnel assist in only 5% of all deliveries. There are only 4,600-trained health workers currently in South Sudan. It is estimated that more than 17,000 health providers are needed to provide adequate health care. Preventable diseases such as TB and diarrhea cause most deaths and illness. Forty five percent of children under the age of five suffer from chronic diarrhea – which is one of the largest killers. There are very limited government funds for health services. The few hospitals and clinics that do exist are unevenly distributed – with the vast rural areas being the most severely underserved in South Sudan.

According to the last survey by the government and the UN, 135 out of 1,000 children in South Sudan die before they are five years old and a fifth of all expectant mothers are adolescents. The statistics from the Office of the UN Resident and Humanitarian Coordinator for Sudan, states that there are only 10 registered midwives in South Sudan. Although the under-five mortality rate has decreased from 250 (per 1,000 live births) in 2001 to 135 (per 1,000 live births) in 2006, one out of every 6 children dies before their first birthday. South Sudan has the lowest routine immunization coverage rate in the world. Only 13% of children are fully vaccinated, compared to 29% in Darfur. Only 39% of children in South Sudan receive measles vaccines before their first birthday.

The civil war resulted in significant destruction of physical infrastructure and loss of life, widespread poverty, gross underdevelopment and a total collapse of systems.

The population of The Republic of South Sudan, based on World Bank data from 2008 is roughly 9.7 million with 84% of the population living in rural areas. Thirty three percent of children under the age of five are malnourished.

The infant and maternal mortality rate is among the highest in the world with 102 infant deaths per 1,000 and 2,054 maternal deaths per 100,000 live births.

There were over 71,000 reported cases of malaria in 2009 and only 9% of the rural population has access to improved sanitation. According to the last survey by the government and the UN, 135 out of every 1,000 children in South Sudan dies before they are five years old and one fifth of all expectant mothers are adolescents. The lack of access to basic obstetric services has led to the high maternal mortality ratio (MMR) and severe morbidity such as vesico-vaginal fistula and recto-vaginal fistula. There are estimates that huge numbers of women have developed VVF throughout South Sudan. One of the most pressing challenges in the health sector in South Sudan is a lack of human resources to run the health sector.

South Sudan has an estimated population of 8.26 million, with one of the poorest indicators of maternal health in the world; antenatal care coverage stands at 16%, Contraceptive Prevalence Rate at <1% and only 5% of births are attended by skilled health workers. HIV/AIDS is also rising especially with the current influx of people returning after the CPA and the establishment of South Sudan as an independent nation. South Sudan's health infrastructure is very weak and access to health facilities extremely limited. The few health facilities have very limited functional capacity. The distribution of health facilities is skewed, with more in urban areas than the rural areas.

The lack of basic emergency obstetric services has had a profound effect on maternal health and pregnancy outcomes. This scenario is compounded by absence of a referral network even where the available health personnel would know how to intervene. Not surprisingly, this has led to a very high maternal mortality ratio.

5. THE EFFECTIVENESS OF SUDEF'S APPROACH: THE KALTHOK CLINIC – FOUNDED 2007

SUDEF implemented its first project in 2007 by working with the local community on identifying their most pressing problems and then working together on how to achieve a solution. The result was the construction, staffing and implementation of the Kalthok Clinic. This clinic has been operational since 2008. During 2009, prior to South Sudan winning it's independence from the north and becoming a sovereign nation on July 9, 2011, our first clinic was burnt down in a raid on the village. The village quickly rebuilt the clinic as it had become so important to their daily lives.

This past winter we documented the work of our clinic and the impacts it has had on the community and individuals lives in the community. We also looked at what the community felt about the need for a maternal health center. We created a short documentary film, Grace Under Pressure – The Story of Kalthok to demonstrate the huge change this clinic has made to the villages it serves. To view this short film, (15 minutes in length) go to: http://vimeo.com/43206352 and type in the password clinic2

Through hours of interviews with patients, clinic staff, traditional birth attendants, village chiefs, government officials and others we were able to clearly see the enormous impacts this small clinic has provided to the more than 25,000 people it serves.

SUDEF keeps meticulous records of all patients treated and for what causes and diseases. Additionally, the government also requires we keep thorough reports of all medications used and disease and illness treated. An example of one of our quarterly reports is also attached. (see attachment Lakes States April – June 2012 Report).

The success we have seen can not just be measured by the over 1,500 people the clinic sees and treats every three months but also by the changes in attitude and hope it has brought to the people living in these rural

communities. It has shown them they have within themselves the ability to solve their problems and has inspired new businesses; small shops have sprung up near the clinic. Many local people come and volunteer each day maintaining the grounds, supporting construction projects and assisting in the transport of patients who can not walk their on their own. Most of all, children are not dying nearly as much as they used to and that has most of all given renewed hope that the future is brighter for the future of these villages.

KALTHOK MEDICAL CLINIC (KMC)

Budget for last phase of maternity unit construction

Item	description	Cost (SSP)	Total Cost (SSP)
Aggregate	For casting	10 trips @350	**3,500**
Sand	For plastering/mixing	6 trips @ 350	**2,100**
Cement	Plastering	70 bags @ 65	**4,550**
Timbers	For ceiling/verandah	20 @ 45	**900**
Water paint	For painting wall	20 @ 80	**1,600**
Oil paint	For windows/doors	15 tins @ 65	**975**
Doors	Verandah and inner doors	3 doors @ 750	**2,250**
Bricks	Verandah	4000 bricks	**2, 000**
Wire mesh	verandah		**709**
Labor			**5,184**
Transport			**6,000**
Total			**29,768**
Total + 25%	**Accounts for inflation**		**37,210**
Exchange Rate	**SSP into US dollar**	**$ 1 @ 3.5 SSP**	**$10,631**

6. **FUNDING FOR COMPLETION OF MATERNAL CHILD HEALTH & TRAINING UNIT – INCLUDING EQUIPMENT AND FIRST ROUND OF TRAINING**

SUDEF has previously raised enough funds so that the completion of the building remaining is approximately $10,600 (US dollars). Inflation is high in South Sudan so these numbers continue to climb. (See attached budget – page

The clinic and MCHTU have all been built using local villagers and laborers and training has taken place in basic construction, how to make bricks and build. The village has a huge personal stake and involvement in this project.

Upon the physical site being completed we need additional funds to equip the facility with beds, lighting, solar or gas powered generator, shelves for medicines and equipment and birthing kits for traditional birth attendants. Next we will partner with Massachusetts General Hospital and Harvard Medical School's program in South Sudan for training birth attendants and midwives, (MNCS) Maternal Newborn and Child Survival. (pages 10 though 17)

We have made contact with them in South Sudan and are awaiting completion and equipping of our facility to begin the first training round in the village.

Below find cost analysis of what we need to raise to equip the facility.

Furnishings

- What is needed after the completion of the maternity unit construction, are beds (12 to start and 30 beds at most). $4,800
- We already have examination bed and we might need two more (MedAir) is providing such help with examination beds.
- We will need two refrigerators, two generators and cupboards or shelves for storage of regular drugs and cooling system for vaccines. $15,000.00
- Will need medical kits for 12 traditional birth attendants and 6 first aid kits for the community health workers (See cost figures from MCHTU)

The cost of funding the MCHTU training program in the village is attached separately.

We have also included a detailed report from MCHTU on the training methodology they use and have been very successful with in other states in South Sudan. This partnership with MCHTU will be the first of its kind in Lakes State, South Sudan.

Maternal Newborn and Child Survival Training in South Sudan

Title:
Maternal, Newborn, and Child Survival (MNCS): An innovative training package for building frontline health worker capacity in South Sudan

Authors: (currently in alphabetical order)

Roy Ahn, SD [a,b]
rahn@partners.org
Sarah Bell [a]
bellsarah1@gmail.com
Thomas F. Burke, MD [a,b]
tfburke@partners.org
Melody Eckardt, MD, MPH [a]
eckardtm@comcast.net
Alaa El-Bashir, MPH
alaa891@gmail.com
Maya Fehling, MD [a]
maya.fehling@gmail.com
Eva Ghirmai
eghirmai@fas.harvard.edu
Brett D. Nelson, MD, MPH, DTM&H [a,b]
brett.d.nelson@gmail.com
Genevieve Purcell
gpurcell@partners.org
Margaret Tiernan [a]
maggie.tiernan@gmail.com
Emily K. Walton
emilykastrup@gmail.com

a. Division of Global Health and Human Rights, Department of Emergency Medicine, Massachusetts General Hospital, Boston, MA, USA
b. Harvard Medical School, Boston, MA, USA

Abstract:

Improving maternal, newborn, and child health is a leading priority worldwide. It is a particularly urgent issue in South Sudan, which suffers from the world's worst maternal mortality and among the worst newborn and child mortalities. A leading barrier to improving these health indices in South Sudan is limited frontline health worker capacity. In partnership with the Ministry of Health, the Division of Global Health and Human Rights (Department of Emergency Medicine, Massachusetts General Hospital, Boston, MA) has developed and is currently implementing its novel Maternal, Newborn, and Child Survival (MNCS) Initiative throughout much of South Sudan. The purpose of MNCS is to build frontline health worker capacity through a training package that includes 1) participatory training course, 2) pictorial checklists to guide appropriate care and referral, and 3) re-useable medical equipment and commodities. Program implementation began in November 2010 utilizing a training-of-trainers model. To date, 72 local trainers and 648 frontline health workers have completed the training and received their MNCS checklists and commodities. Initial monitoring and evaluation results are encouraging as further evaluation continues. This innovative training package may also serve as a model for building capacity for maternal, newborn, and child health in other resource-limited settings beyond South Sudan.

Introduction

Improving maternal, newborn, and child health (MNCH) is a leading priority worldwide. However, MNCH-related Millennium Development Goals remain those most at risk of not being achieved. This is particularly true in South Sudan, which is plagued by the world's worst maternal health indices and some of the world's worst newborn and child health indices. The maternal mortality ratio is estimated to be 2,054 per 100,000 live births.[i] The infant and child mortality rates are estimated at 102 and 235 deaths per 1,000 live births, respectively. Meanwhile, more than one in four children under the age of five is malnourished in South Sudan, and only approximately 10% of children are fully vaccinated.[ii]

The greatest obstacle to quality maternal, newborn, and child health (MNCH) in South Sudan is a lack of skilled MNCH providers. Recent country-wide assessments have revealed as few as 5 obstetrician/gynecologists, 3 pediatricians, and 8 fully certified midwives.[iii] These numbers are not likely to quickly change in the near future, and increasing the number of providers with such advanced training may not be the best use of limited resources.

The vast majority of births in South Sudan are occurring at home among unskilled birth attendants, such as traditional birth attendants.[iv] Many of these providers are non-literate and have received no formal education or training. Instead, they must rely on knowledge and skills passed down from previous generations. However, multiple studies have shown that many of these traditional practices may not be effective and may even be unsafe.[v,vi]

Given the large number of ongoing deliveries among unskilled birth attendants, and the anticipated time it will take to build sufficient health

infrastructure and a skilled birth attendant cadre, we sought to develop and implement an evidence-based approach to building local capacity among frontline health workers in South Sudan.

MNCS objective

The objective of the MNCS initiative is to develop, implement, and assess an essential package for building MNCH capacity among South Sudan's frontline health workers. In this case, a frontline health worker is any community-based health worker who provides initial primary care for pregnant and laboring mothers, newborns, and children (e.g. traditional birth attendant, community health worker, midwife, nurse, and clinical officer).

MNCS package

After a multimodal needs assessment among providers and stakeholders in South Sudan, and under the direction of the Government of South Sudan Ministry of Health, the MNCS team developed an evidence-based package for frontline health workers. This MNCS training package is comprised of 1) a participatory training course; 2) pictorial checklists to guide prevention, care, and referral (e.g., danger signs during pregnancy, bleeding after delivery, newborn resuscitation, child malnutrition, etc.); and 3) re-useable commodities (e.g., blood pressure cuff, thermometer, newborn breathing bag-mask device, etc.). Implementation of this initiative utilizes a training-of-trainers model, where local trainers are recruited and empowered to teach the frontline health workers.

A. Participatory training course

The MNCS faculty, which included emergency physicians, OB/GYNs, and pediatricians from Massachusetts General Hospital and Harvard Medical School, developed two training curricula: a 5-day curriculum for frontline health workers and an 8-day training-of-trainers curriculum for our local trainers. The curricula are identical, except that the trainers receive additional training on how to effectively train and supervise frontline health workers. An outline of the 5-day training curriculum for frontline health workers is provided in Table 1.

B. Pictorial checklists

While our carefully selected local trainers are literate, the frontline health workers whom they train are most frequently not literate. Therefore, we developed training materials that are predominantly pictorial. These materials include 9 pictorial checklists covering safe pregnancy and delivery, newborn care, and child health. The checklists focus on identifying danger signs, performing appropriate life-saving care, and providing early referral. For example, Figure 1 depicts one of our "healthy pregnancy" checklists, emphasizing the importance of iron, folic acid, de-worming, and tetanus shots for pregnant women. Our best-evidence newborn care checklist is modified, with permission of the American Academy of Pediatrics, from the Helping Babies Breathe initiative.[vii]

The 9 MNCS checklists cover the following topics:

1. Healthy pregnancy
2. Danger signs during pregnancy
3. Preparing for delivery
4. Danger signs during labor
5. Bleeding after delivery
6. Newborn care
7. Danger signs in children
8. Diarrhea and vomiting
9. Child malnutrition

We also developed a comprehensive Trainer's Manual (140 pages) and Teaching Flipcharts (108 pages) to provide detailed guidance to trainers as they prepare for and conduct their frontline health worker trainings. Overall, the MNCS training employs a range of participatory teaching techniques, including simulation, role play, checklist review, peer teaching, and small group discussions.

C. Reusable commodities

The final component of the MNCS package is a backpack filled with critical commodities for frontline health workers. Because of the very limited medical supply chain in South Sudan, it is essential that frontline health workers are provided a basic set of equipment and supplies to do their jobs effectively. These materials were carefully selected to be appropriate and safe for frontline health workers in this setting.

Each frontline health worker receives a durable, water-resistant backpack filled with essential commodities, including: newborn breathing bag-mask device, thermometer, scissors, umbilical cord ties, gloves, etc. (Figure 2). The 9 checklists – laminated and bound together with a metal ring – are also carried in the backpack and brought by the frontline health workers to every delivery and patient encounter.

Accomplishments to date and next steps

Since November 2010, the MNCS initiative has trained 72 trainers and 648 frontline health workers in 7 of the 10 states of South Sudan. While further monitoring and evaluation is ongoing, our initial data show that after completing the training, trainees exhibit a significant increase in knowledge and skills pertaining to maternal, newborn, and child health care and referral. We are currently analyzing data to determine what impact this intervention has had on trainee practices in their communities.

Our future goals are to expand the MNCS initiative during the coming years and further refine the MNCS model. The Ministry of Health estimates that there are a total of 4,700 frontline health workers in the country. During the next several years, we aim to significantly increase the number of trainers

and frontline health workers trained, increase coverage to all 10 states, and conduct refresher trainings among those already trained. It is also our hope

that our MNCS model can be adapted and applied to other resource-limited countries where maternal, newborn, and child health indices may be poor.

Conclusion

Improving maternal, newborn, and child health is a leading priority worldwide and in South Sudan. A limited health worker cadre, however, represents a significant barrier. This innovative, evidence-based, MNCS package aims to address this barrier by building capacity among previously untrained frontline health workers. Dozens of local trainers and hundreds of frontline health workers have now been trained in South Sudan. Initial results from this initiative are encouraging as further evaluation continues.

1. MNCS training curriculum for frontline health workers

	Day 1	Day 2	Day 3	Day 4	Day 5
Morning session	Introduction	Review	Review	Review	Review
		Danger signs during labor	Bleeding after delivery	Newborn care	Dehydration
	Healthy pregnancy				Malnutrition
Lunch break					
Afternoon session	Danger signs during pregnancy	Bleeding after delivery	Newborn care	Danger signs in children	Additional practice scenarios
	Preparing for delivery				Testing and wrap up

Figure 1. Example of one of the nine pictorial checklists.

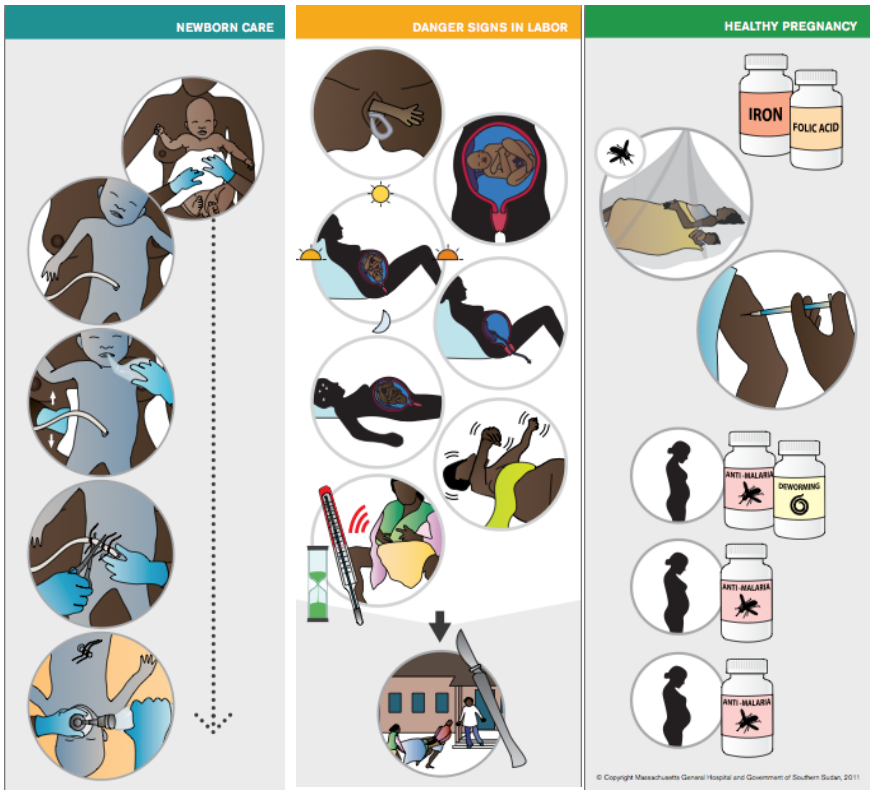

Figure 2. Reusable commodities and training materials for frontline health workers.

[High-resolution figure attached]

Photo credit: Tara Clark

References

[i] Sudanese Government of National Unity and Government of Southern Sudan. 2006 Sudan

[ii] World Health Organization. Interim reporting from World Health Organization, 2008.

[iii] UNFPA South Sudan leadership. Interview by Burke T, Eckardt M, Dierberg K, Nelson B, Prestipino A. Juba, South Sudan, 8 April 2009.

[iv] Unicef. Unicef in South Sudan. Available at: http://reliefweb.int/sites/reliefweb.int/files/resources/Children%20in%20Sudan%20summary%20sheet%20final.pdf (Accessed August 1, 2011)

[v] Keri L, Kaye D, Sibylle K. Referral practices and perceived barriers to timely obstetric care among Ugandan traditional birth attendants (TBA). *Afr Health Sci.* 2010 March;10(1):75-81.

[vi] Thatte N, Mullany LC, Khatry SK, Katz J, Tielsch JM, Darmstadt GL. Traditional birth attendants in rural Nepal: knowledge, attitudes and practices about maternal and newborn health. *Glob Public Health.* 2009;4(6):600-17.

[vii] American Academy of Pediatrics. Helping Babies Breathe. Available at: http://www.helpingbabiesbreathe.org/ (Accessed August 1, 2011)

Budget for Training of Traditional Birth Attendants and Clinic Staff in Kalthok

Twic East Training - ESTIMATE

	Twic East training	Notes
In-country transportation for MGH staff and trainers (to/from Juba)		
MGH staff Juba- Twic East - Juba	?????	Cost to include flight to Bor and car hire to Twic East
Lodging/meals for MGH staff & Master Trainers		
Trainers' meals	$164.71	40 SSP/day x 2 people x 7 days
MGH staff meals	$164.71	40 SSP/staff/day
Accomodation	$165	
Lodging/meals/transportation for Frontline Health Workers		
Lodging for 15 FHWs	$658.82	
Meals for 15 FHWs	$1,235.29	Food and water for 7 days for 15 participants
Transportation reimbursement	$441.18	100 SSP/participant
Payment of Master Trainers		
Training fees	$300.00	100SSP/day * 2 trainer * 6 days
Supervision fees	$300.00	150USD/week/supervisor
Training Materials		
Printing OSCEs and registration forms	$30.00	
Commodities		
Checklists	$180.00	15 checklists at $12 ea
Commodity kits	$1,500.00	15 commodity kits at $100 ea
Communication		
Cell phone and internet credit	$100	
Rental of training sites in field		
Hiring training site	$200	
MGH Training fee	$2,500	
Mischellaneous		
Opening and closing ceremony	$100	
Total Travel and Other Costs	**$8,039.41**	