



## South Sudanese Healthcare Improvement: Phase I



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## Executive Summary/Overview for Phase I

### Objectives:

- Provide clinical resources for nurses and midwives, and students working at Juba Teaching Hospital
- Create a hub for technology in healthcare in South Sudan
- Improve national health data collection
- Establish Respectful Health Care as the standard for service delivery in South Sudan
- Determine cost projections for the creation of a Center for Excellence in South Sudan, initially focusing on Maternal/Child Health (MCNH)

**Duration:** 3 months

**Budget:** USD\$100,000

**Location:** South Sudan

South Sudan is still recovering from more than two decades of civil war, which broke out in 1983 and lasted until the signing of the Comprehensive Peace Agreement (CPA) in 2005 between the Khartoum Government and the Sudan People's Liberation Army (SPLA). Most of the health training institutes and health facilities in South Sudan were destroyed during the war hence worsening the health situation and health indicators in the country. South Sudan finally became an independent and recognized country on July 9, 2011. In mid-December of 2013, the current conflict South Sudan is experiencing began and has resulted in hundreds of thousands of refugees and internally displaced, famine, and epidemics of infectious diseases. Since the signing of the Comprehensive Peace Agreement (CPA), South Sudan has struggled to provide efficient and quality health care to its population. Because not enough time from independence to the current situation has passed, little significant infrastructure in the health care system was established. In fact, since the signing of the CPA, most of the health facilities and institutions in South Sudan have been supported by local/international NGOs, Church-Based Missions and United Nations Agencies, most of who have left since the recent conflict began.

Juba Teaching Hospital is the only national referral hospital in the whole country. With an estimated population of 9.86 million basing on annual population growth of 3% from a population census conducted in 2008 and lack of proper functioning primary health care facilities upcountry, many South Sudanese have nowhere to go to but this national referral hospital. Military and police hospitals, if any, are non-functional country wide, forcing soldiers and officers to share the limited facilities with civilians.

South Sudan also needs more than a standard hospital facility in the modern sense. It needs an investment in the empowerment of the people, the ability to overhaul the current system, and to be able to promote peace and human rights from within the most important institution of the nation, its health facilities. Allowing South Sudan to create a health infrastructure that sets an example for all of sub-Saharan Africa will show the world that it has the ability to 'liberate human potential' and has a place at the global stakeholders' table. This project is not just one intended to deliver much-needed health care to some of the world's most vulnerable people, but it is also an opportunity to promote peace and resolution through positive governance in a concrete way. It is a chance to help build a nation, a continent, a planet, that is based on the underlying belief that all humans deserve the right to the high quality care that science now can allow mankind to deliver. It is not just about healing the human body, but about the human spirit as well.

With this project, RMF aims to combine several of our foundation concepts as we continue on the path towards creating a Center of Excellence in Juba to serve the entire nation of South Sudan. This will not only change the course of healthcare for an entire country, but it is our humblest hope that South Sudan will lead the way in social equality and justice through healthcare by serving a success story for the global setting.

The 6 core components of this vision are:

- mHealth Tools to support health workers
- Respectful Health Care as the foundation of all service delivery

- A Center of Excellence at Juba Teaching Hospital
- Data Collection that delivers indicators, priorities, progress, and disparities
- Supply Chain Management to identify and fill needs
- National Health Worker Training Hub in order to expand and maintain the workforce

## Phase I Deliverables

### 1. mHealth tools to support health workers and students at Juba Teaching Hospital (JTH)

#### Background:

A particular challenge for current nursing and midwifery students and new graduates is that since none of the facilities have a computer database available on the units, they do not have access to any reference materials; essentially, they must rely on what they are able to remember from the classroom in order to complete patient care. Even experienced nurses and midwives facing rare or high risk cases essentially just ‘take their chances’ and guess what to do when it comes to the diagnosis and management of cases when a doctor is not available to dictate it to them. Aside from the obvious higher morbidity and mortality that stems from such a system, this also reinforces their lack of independency. In turn, this only perpetuates the current system where nurses and midwives often rely on notes written by doctors on slips of paper and left at the patient bedside to tell them how to care for patients. This lowers the nurses’ and midwives’ self-efficacy, which only serves to increase stress and burnout among an already heavily burdened work force.

Using iPads loaded with the Health eVillages content-reference material, new content areas, and other service delivery support can be available in real time through the establishment of an ICT center to serve nursing and midwifery students and the staff at Juba Teaching Hospital. The center will be located at the Juba College of Nursing and Midwifery (JCONAM), which is on the same grounds as the hospital. The ICT center will serve to offer the iPads for use during assigned shifts, provide troubleshooting for user questions/concerns, and assure that all devices are secure, functioning properly and are routinely charged. This serves several purposes:

1. Improve service delivery by giving students and practitioners databases to search for differential diagnoses, management/treatments, and expected outcomes they may not be familiar with through both text and video content
2. Begin laying the groundwork for establishing electronic health records (EHR)/digital database use in future JTH Center of Excellence as the standard
3. Maintain a workflow for device security
4. Allow for ongoing feedback from end-users throughout the project length so continuous quality improvements can be integrated into the program/inform future phases of the project.

In addition to the JCONAM students, Phase I of this project will provide iPad training, lending of devices, and WIFI to workers at Juba Teaching Hospital from units where the need is the greatest. That includes maternity, pediatrics, and the emergency (A & E) unit. The goal is to expand to all units of the facility in later phases.

#### Core Objective and Key Activities in Phase 1

| Objective  | Activities   |
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| Establish ICT Center at Juba College of Nursing and Midwifery/Juba Teaching Hospital | <ul style="list-style-type: none"> <li>• Establish and maintain an iPad “library” where devices can be borrowed during work shifts</li> <li>• Create workflow for device security (user contract, repairs, loss, upgrades, etc)</li> </ul> |

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|  | <ul style="list-style-type: none"> <li>• Curate database of documents to add to existing Health eVillages product (national guidelines and other international standards that the Ministry of Health would want)</li> <li>• Coordinate and complete any required translation of materials</li> <li>• Provide training sessions on device use and responsibility of users</li> <li>• Hold weekly sessions for older members of workforce and less literate workers to teach new “tips and tricks” of iPad use (such as accessing video content, short cuts, how to access lower literacy tools) to make sure nobody is “left behind” in technology use</li> <li>• Assure that all devices are properly functioning and routinely charged</li> <li>• Provide ICT assistance to end users in answering questions/providing one-on-one help</li> <li>• Collect feedback/suggestions from iPad users which can inform and improve the program and inform RMF for future phases of the project</li> </ul> |
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## 2. Respectful Health Care as the foundation of all service delivery

### Background:

South Sudanese stakeholders have recently turned attention to the issue of disrespect and abuse (D&A) by staff within health centers and hospitals as a deterrent to patients seeking potentially lifesaving services. In addition to people delaying or avoiding lifesaving services, a pressing issue is that communities often are fearful of seeking preventative services, including antenatal care because of ongoing ethnic tensions and the potential for prejudice by health workers. Conversely, families often accuse health workers of foul play or ‘witchcraft’ when there are bad patient outcomes. There have even been several instances of violence in South Sudanese hospitals as angry families seek retribution. This has been a deterrent to health workers staying in their jobs and for recruiting new graduates to fill empty positions, particularly in the overburdened public institutions that serve the majority of the population that cannot afford private services. Finally, working relationships between colleagues of different ethnic backgrounds can prove to be tense and ultimately affect the patient care they provide as poor communication leads to poor collaboration.

RMF’s Respectful Health Care Program will not only train staff to eliminate negative behaviors and promote trust among communities seeking the safe, fair, and equitable health services all South Sudanese deserve, but will also facilitate working relationships with colleagues that are solution-oriented. Namely, we will address stress and burnout reduction as well as the creation of a work environment where all participants have an ‘equal voice’. The RHC program will also establish a standard where communities realize that the health system is one where equitable care is provided and ultimately perhaps build enough credibility so that some of the community outreach programs that several NGOs are attempting in the peace and reconciliation sectors will ultimately be successful.

RHC is possibly one of the most significant interventions that can be introduced in the creation of a new model for health services, community resilience and peace building in South Sudan since providing care in this manner will set the standard that respectful treatment is not just a privilege but a human right to be guaranteed for all people. RMF has already successfully begun to implement an RHC training program among maternity workers and the South Sudanese Master Trainers RMF has trained in the past will continue their work during this program as well. RMF and the Ministry of Health have agreed that RHC training must always be integrated in all health improvement projects until respecting coworker and patients alike ultimately becomes the standard of service delivery for all health care in the nation. In the broad view, this will influence the nation even outside of the health system in terms of promoting peace, conflict resolution, and collaboration.

**Core Objectives and Key Activities in Phase 1**

| Objectives  | Activities   |
|---|--|
| Implement Respectful Health Care (RHC) for all Juba Teaching Hospital (JTH) staff that did not already receive training through prior RMF workshops | <ul style="list-style-type: none"> <li>• Have Master Trainers do pre-service evaluation of RMC at JTH</li> <li>• Master Trainers to facilitate training sessions with JTH staff</li> <li>• Post service assessment</li> <li>• Post-test evaluation at 6 and 12 months</li> </ul> |
| Train all Nursing and Midwifery Students at JCONAM in RHC   | <ul style="list-style-type: none"> <li>• Have Master Trainers hold RHC workshops for JCONAM students</li> <li>• Post-test evaluations at 6 and 12 months</li> </ul>  |

**3. A Center of Excellence at Juba Teaching Hospital**

**Background:**

While Real Medicine Foundation (RMF) has made significant permanent improvements at both JTH and in the nation of South Sudan in general, the current situation calls for a long-term, high impact, and sustainable solution. The current JTH facility essentially consists of old army barracks that were converted into medical units out of necessity. Even with upgrades such as those RMF has completed in the A&E Department, Pediatrics, and other medical and surgical wards, the facility itself has not only outgrown the exploding population of Juba, but also is not modern enough to match the high skill level of the providers that training programs in South Sudan are currently producing.

Phase I will focus on the most pressing current needs of the South Sudanese people-maternity care. A woman in South Sudan has a 1 in 7 lifetime risk of dying as the result of getting pregnant. Technology, expertise, medication, and equipment exist to prevent almost all of these deaths but South Sudan faces many barriers to delivering safe maternity care to its women. A Women’s Health and Birth Center at Juba Teaching Hospital which can address family planning, domestic violence, antenatal, labor & delivery, postpartum and surgical needs will not only save the lives of those who present for care, but also set the standard for how women in all of sub-Saharan Africa deserve the same quality of care that we enjoy in the developed world where maternal death is a rarity. These services will be based on RMF’s value of ‘Liberating Human Potential’ by tapping into the process of community participatory design so as to reflect the cultural preferences of both the community and the staff.

**Core Objectives and Key Activities in Phase 1**

| Objectives | Activities |
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| Needs Assessment for Women’s Health and Birth Center             | <ul style="list-style-type: none"> <li>• South Sudanese architect to determine construction needs with on-site research and meetings</li> <li>• Summary of electricity, waste and water solutions</li> <li>• Community and staff interviews for design process</li> <li>• Renderings and report of costs for construction</li> <li>• RMF staff to assess staffing, equipment, supply, and medication costing</li> </ul> |
| Needs Assessment for Center of Excellence at JTH (hospital-wide) | <ul style="list-style-type: none"> <li>• South Sudanese architect to determine construction needs with on-site research and meetings</li> <li>• Summary of electricity, waste and water solutions</li> <li>• Community and staff interviews for design process</li> <li>• Renderings and report of costs for construction</li> <li>• RMF staff to assess staffing, equipment, supply, and medication costing</li> </ul> |

#### 4. Data Collection that delivers indicators, priorities, progress, and disparities

##### Background:

Accurate data collection is a global problem in the health setting. This is particularly true in the often acute and overburdened maternity systems in sub-Saharan Africa. Currently the MOH of South Sudan and JTH have statistical analysis units in place. However, the data collection itself is rarely used correctly or efficiently due to a variety of reasons. Again, using the iPads new nurses and midwives will have as a result of the Health eVillages program, a simple and digital birth log can easily be added as a stand-alone app. Since nurses often staff maternity units rather than midwives (due to midwife shortages), all JCONAM students will be trained in digital birth log use along with maternity staff. Using the variables for data collection that the MOH has already determined they want to collect (facilities are currently given government issued logbooks with them proscribed in them), a tool that acts much like a spreadsheet, which allows for easy data entry by the nurse or midwife can be developed. While simple sounding, accurate data collection has been one of the “Holy Grails” of maternity care in South Sudan. Accurate data collection gives insight into why women die and will help prioritize resources in order to ultimately prevent the bad outcomes South Sudan currently faces. A database set up using a standardized format will ultimately allow for uniform data collection throughout the country and even set the stage for other countries to follow suit. For later phases of the project, the hope is to integrate benchmarks/data collection for other units and eventually have these integrated into an electronic health record and greater HMIS program that is used facility wide in the Center of Excellence.

#### Core Objectives and Key Activities in Phase 1

| Objectives                       | Activities   |
|----------------------------------|--|
| Development of digital birth log | <ul style="list-style-type: none"> <li>• Design database using MOH preferences and variables in collaboration with JCONAM</li> </ul> |

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|  | <p>midwifery tutors</p> <ul style="list-style-type: none"> <li>• Incorporate birth log entry training into overall iPad training program</li> <li>• Monthly collection of databases from iPad users</li> <li>• Analysis of birth logs and reporting to all stakeholders including MOH</li> </ul> |
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## 5. Supply Chain Management to identify and fill needs

### Background:

Consistent access to equipment and supplies in South Sudan is extremely difficult. Among the major barriers are:

- South Sudan is one of the most cost prohibitive nations to operate in on the continent
- Almost all goods are imported
- Distribution is limited by communication limitations
- Lack of coordination between charitable organizations operating in South Sudan

Phase I will not include activities to develop Supply Chain Management. Subsequent phases will include the integration of this type of software and the supportive infrastructure needed to implement its use.

## 6. National Health Worker Training Hub in order to expand and maintain the workforce

### Background:

South Sudan is experiencing a severe workforce shortage in all sectors of health. For example, there is only 1 qualified midwife per 30,000 people in the nation and the WHO has stated that the most important intervention to save the lives of women in childbirth is that skilled birth attendants attend all deliveries. Training programs need to be expanded in order to meet the needs of the growing population. RMF is the co-founder of and current board member at the Juba College of Nursing and Midwifery (JCONAM), the first diploma level nursing and midwifery program in the country.

Phase I will not include activities to expand health worker training. Subsequent phases will include medical training and residency, nursing and midwifery program expansion and continuing education.

## Monitoring and Evaluation of Outcomes

Much of this 3-month Phase I work will be devoted to data collection in order to assess and inform the subsequent phases in moving towards creating a Center of Excellence. As such, the following data will be collected, analyzed, and reported as soon as iPad devices are in use with students and hospital staff. The methodology will be to use pre-service assessment tools (checklist and survey), mid- and end-point cross-sectional data collection with interviews added so that we have both quantitative and qualitative outcomes. Final stakeholder reporting will be available at the end of the 3-month Phase I.

| Outcome being measured           | Methodology  |
|----------------------------------|--|
| Patient Satisfaction Surveys     | Administered in short structured interviews with patients at discharge by RMF team member (not by a patient care team member)  |
| Antenatal Attendance Rates       | Collected from logbooks  |
| Delivery Attendance Rates        | Collected from both existing paper log books and from iPad devices on birth log  |
| Qualitative End-User Perceptions | Semi-structured interviews with students, nurses and midwives by ICT center tutor (essentially collect anecdotal stories where devices helped them save lives/improve service delivery, ask for pros/cons of iPad program, and suggestions for improvements) |