

Sterilizer Progress Report

April – June 2007

Date: July 24, 2007	Prepared by: Dr. K.H.R. Karunaratne, FRCS, Minerva Fernando & Dr. Martina Fuchs
I. Demographic Information	
1. Country: Sri Lanka	
2. Organization: Real Medicine Foundation (www.realmedicinefoundation.org)	
3. Project Title: Procurement of a High Pressure Steam Sterilizer for Tangalle District (Base) Hospital, Sri Lanka	
4. Reporting Period: April, May, June 2007	
5. Project Location (region & city/town/village): Tangalle, District of Hambantota, Sri Lanka	
6. Please choose an answer that best describes the population you are serving:	
Rural or Urban:	<input type="text" value="Both"/>
Displaced population or non-displaced population:	<input type="text" value="Non-displaced population"/>
Relief camp population or non-relief camp population:	<input type="text" value="Non-relief camp population"/>
II. Project Information	
7. Project Goal: To improve the quality of health services and to provide safe medical care for the long-term for the tsunami-affected populations in the Hambantota District, Sri Lanka.	
8. Project Objectives:	
1. To provide safe and sterile surgery and deliveries and to attend to seriously traumatized patients to save their lives without jeopardizing them.	
2. All wounds to be dressed with sterile dressings, thus preventing any introduction of infection.	
3. To improve and upgrade the medical and surgical care at Tangalle Hospital.	
4. To provide sustainability.	
9. Summary of DRI-sponsored activities carried out during the reporting period under each project objective (note any changes from original plans): Direct Relief International procured a Matachana High Pressure Steam Sterilizer, Model 1006 E-1, from Premium International (Pvt) Ltd, Sri Lanka. This equipment was procured directly and delivered to the Operating Theater at the Tangalle Hospital.	
<u>Background:</u> On December 26, 2004, a major earthquake off the west coast of Northern Sumatra measuring 9.0 on the Richter scale triggered a massive tsunami. According to official estimates, Sri Lanka suffered more than 31,000 confirmed fatalities; 23,000 injured had to receive medical treatment. Approximately 13% of makeshift shelters along the coast were washed away – 69,000 houses were completely destroyed, and 43,000 homes were damaged. The number of homeless was estimated at over 500,000; every 12 th island inhabitant required assistance. The catastrophe left a swath of destruction and hit the extremely poor areas along the southern coast. Even before this catastrophe, the basic facilities as well as public and private infrastructures in the rural areas of the south region were very underdeveloped. Hospitals, schools and other public facilities were either destroyed or damaged. Tangalle is a medium-sized town in the district of Hambantota, in the south of Sri Lanka. Hambantota district is one of the areas worst affected by the tsunami. While the official death toll claims 4,500 were killed, survivors claim that this figure is a gross underestimate and that no one will ever know the real number of lives lost. Over one third of the 533,000-strong population lives below the poverty line. The district records one of the country's highest suicide rates, mainly due to endemic poverty. The average monthly income is less than \$30 for more than 75% of the families.	
<u>Objective 1:</u> To provide safe and sterile surgery and deliveries, and to attend to seriously traumatized patients to save their lives without jeopardizing them. Tangalle Hospital – due to lack of funds – was a facility in extremely poor condition and severely under-equipped, even before the tsunami. The dilapidated buildings and structures suffered a further blow with the arrival of the tsunami, which destroyed what was remaining. Starting in January 2005 and due to a private initiative, this hospital was completely renovated and upgraded – including a fully equipped Operating Theater and a 3-bed-ICU. A high-pressure sterilizer was not available at that time. Without this equipment, performance of any surgeries was impossible, and patients needing such surgeries as	

well as emergency care had to be transferred to hospitals about 50km away. Many of the patients needing urgent care succumbed to their injuries during this transfer.

The donation of the autoclave by DRI completed the upgrade of the brand-new Operating Theater in April 2007. The medical staff started being able to attend to all emergencies as well as perform surgeries, routine and emergency, under sterile conditions – thereby saving the patients and preventing infections of the surgical wounds as well as cross infections, reducing the unnecessary usage of antibiotics and thus avoiding drug resistance.

Dr. K.H.R. Karunaratne, the former Head Surgeon of the Base Hospital at Diyatalawa, was assigned as the Head Surgeon of the Tangalle Base Hospital in June 2006. Under his guidance, the new Operating Theater was completed and opened in October 2006. Because of the autoclave, surgeries in both theaters are now conducted safely. No surgical wound infection has occurred up to now.

Objective 2: All wounds to be dressed with sterile dressings, thus preventing any introduction of infection.

The autoclave was fully installed by the beginning of April 2007. A demonstration of its functions for the surgical and nursing staff took place at Tangalle Hospital on April 18th by Premium personnel. 17 test runs were completed, every run was recorded. The demonstration was supervised by Dr. Karunaratne and his second in staff, Dr. Chamal Sanjeewa, who is also the Medical Consultant of RMF's clinic in Yayawatta, Seenimodara.

The autoclave is now operated and maintained by a total of 10 Nursing Officers, Mrs. A.G. Sunethra being the one in charge. The equipment is run twice per day. Each process takes 45 minutes. The entire hospital is now provided with sterile instruments and dressings. Thus, patient treatment takes place according to up-to-date medical and hygiene standards, and surgeries and deliveries are performed under sterile conditions.

Objective 3: To improve and upgrade the medical and surgical care at Tangalle Hospital.

Tangalle Hospital is now considered a 'Type A' Base Hospital. A massive increase of admissions, new doctors, and nurses has taken, and is taking place. Patients have new confidence and are using the hospital in unprecedented numbers. The autoclave, the essential equipment and heart of the hospital, makes the whole hospital function on an unprecedented level, seeing record numbers of patients, and saving innumerable lives.

The number of patients seeking medical and surgical care, as well as admissions and surgeries is still increasing steadily. (Please see attached Clinical & Surgical Data).

At this time, an Emergency Care Unit is set up, personnel is hired. The next step will be the implementation of an Intensive Care Unit. This will further increase the kind and amount of surgeries possible.

Objective 3: To provide sustainability.

Dr. Karunaratne: "My main aim is to consolidate what we have already. With what we have at present, we can serve almost 90-95% of the population needs. The sustainability is what is necessary. This is mainly human resources and commitment. I have managed to get a helper (person, who attends to cleaning, supporting the other staff and depositing of trash) to the theatre through a private company for one year. This has made a very big impact on the day-to-day running of the theatre. I am trying to get additional helpers to the wards. As I had mentioned earlier, I would like to have 2 health supervisors for at least one year who would look after the cleanliness of the wards and the whole hospital."

"Our Minister of Health visited the hospital last month to discuss the hospital's main shortcomings. He promised to provide additional nurses and doctors in the upcoming months. In addition to the 10 nurses we could add 3 months ago, 20 new nurses have arrived. We also have 6 additional doctors. They work in the OPD and on the wards. We have a permanent Physician (for 4 years) and a visiting Physician (for 6 months) now. The number of consultants remains the same as before."

10. Results and/or accomplishments achieved during this reporting period:

The autoclave provides sterile equipment and linen to the operating theaters and the entire hospital. The number of patients and surgeries per day keeps increasing. Please see attachments (Surgical & Clinical Data, 5 photo reports) We are starting the ER. The room is just being tiled and the fitting is being done. This service is the most needed and urgent for this hospital right now. Here, we will be able to resuscitate trauma victims immediately. This will have a major impact on the trauma management as well as the management of medical emergencies.

An additional smaller autoclave was provided by the government. Our sterilization section is now complete.

11. Impact this project has on the community (who is benefiting and how):

There is a continuous increase of patients coming to this hospital. The confidence patients have in this hospital keeps growing. The autoclave has made the entire hospital, i.e. the operating theater, the labor room, the surgical wards and also the pediatric ward function under safe conditions. The patients are safe to be operated on and deliveries are conducted under sterile conditions, thus preventing undue infections and unnecessary deaths and suffering. A massive increase of admissions, new doctors, and nurses has taken, and is taking place. The autoclave, the essential equipment and heart of the hospital, allows the whole hospital to function on an unprecedented level, seeing record numbers of patients, and saving innumerable lives. The impact this donation has now already and will have in the future is immeasurable.

12. Number of direct project beneficiaries/number served (for example, average number treated per day or month per health condition). (Please see attached graphics "Surgical and Clinical Data")

For the month of May 2007, OPD attendance was 10,979 – more than 350 patients/day. The number of admissions to the wards for May was 2,248. Most of the admissions were referrals from the rural hospitals. (For the break-down of surgeries performed per month as well as patients treated, please see attached graphics.) In June, OPD attendance was 11,482, the number of admissions 1,623.

For the months of May and June, about 570 patients have been treated at Tangalle Hospital per day.

13. Number of indirect project beneficiaries (geographic coverage): *(Please see attachment MOH Divisions. The population count is taken annually.)*

Tangalle Base Hospital not only serves the city of Tangalle, but also drains patients from the adjoining villages such as Walasmulla, Beliatta, Runna, and Weeracatiya. There are six MOH divisions around Tangalle. The population of those divisions is as follows: Tangalle (78,714), Ambalantota & Runna (68,088), Angunakola Palassa (45,179), Beliatta (61,556), Weerakatiya & Walasmulla (84,212), and Katuwana (66,269). Patients from the rural hospitals in Walasmulla, Beliatta and Ambalantota are now referred to the Base Hospital Tangalle for better and advanced care. Referrals to other base hospitals in Matara and Hambantota have significantly decreased.

14. If applicable, please list the medical services provided:

- Internal Medicine
- Surgery
- Obstetrics/Gynecology
- Pediatrics
- Simple Pediatric Surgery, i.e. hernias, appendectomies, closed fractures
- Neonatology
- Anesthesiology
- Urology
- Urologic Surgeries, i.e. removal of stones from renal pelvis, ureters and bladder
- Orthopedics
- Orthopedic Surgery i.e. closed fractures, POP application, compound fractures. Any fractures needing internal fixation are sent to a specialized Orthopedic Unit.
- Dentistry
- Outpatient clinics
- Once the ER is in operation, we will be starting the ICU

A Medical Superintendent has replaced the DMO (District Medical Officer). He will be at the hospital for the next 4 years.

Since April, there has been a significant increase in staff: The number of Nursing Officers is now 83 (compared to 53 in March), 3 of them Senior Nursing Officers. 54 Medical Officers are now working at the hospital, and 6 Medical Consultants – 2 of them Visiting Physicians, 1 Pediatrician, 1 Consultant Surgeon, 1 Gynecologist and 1 Consultant Psychiatrist. There are 3 Anesthesiologists working in shifts making it possible to conduct Emergency Surgeries around the clock.

3 Medical Officers are currently doing an internship.

15. Please list the five most common health problems observed within your region, beginning with the most common:

- Upper Respiratory Tract Infections
- Upper GI disorders
- Renal Colics
- Coronary Heart Disease
- Bronchial Asthma

There has been an increase in health problems in Hambantota District's general population, which seems to be linked to the recent economic slump in the area.

16. If applicable, number of referrals to hospital: *Please see attached "Surgical and Clinical Data"*

The number of referrals to Tangalle Hospital has significantly increased, creating a surge in OPD attendance and admissions. Most of these cases are referred by the surrounding medical facilities and the general practitioners in the area. The cases are seen by the OPD doctors and directed to specialized care at the hospital as needed.

The adjacent villages have very limited medical facilities. These facilities are usually manned by one doctor, MBBS and one or two nurses, expected to treat minor ailments only.

The outward referrals from Tangalle Hospital have significantly decreased since more and more specialized care is available at the hospital itself. There were only 4 outward referrals for the month of May, 5 for June. These outbound cases were referred for specialized treatment or for investigations.

17. Notable project challenges and obstacles:

The project challenges and obstacles remained the same:

- The number of patients attending the Outpatient Clinics and the OPD keeps multiplying (*please see attached "Surgical and Clinical data"*). Although a significant number of new staff has been hired, a shortage of staff still persists.
- Ward and environmental cleanliness and hygiene as well as proper waste disposal remain an issue. We managed to get a helper (person, who attends to cleaning, supporting the other staff and depositing of trash) to the theatre through a private company for one year. We are trying to get additional helpers to the wards. We would like to have 2 health supervisors for at least one year who would look after the cleanliness of the wards and the whole hospital.

18. If applicable, plans for next reporting period:

We expect to see a further substantial increase in patients, admissions and surgical procedures. An ER is implemented right now. New nurses, especially ICU and ER nurses are trained. An Intensive Care Unit is planned for the next reporting period. A residents' program is also being under way.

The Health Authorities hope to hand over the Hospital's Cleaning Sector to the Private Sector.

The UNICEF building (Maternity, Pediatrics, Obstetrics and Gynecology Surgery, (Premature)/Newborn Care Unit) is coming up fast.

19. If applicable, summary of DRI-sponsored medical supply distribution and use: N/A

20. Success stories or project-related anecdotes: **Dr. Karunaratne:**

"We had a case of a blunt injury to the abdomen. Conducting a laparotomy, we encountered a ruptured spleen with 2.6L of blood in the cavity. A splenectomy was performed. The patient had no complications at all at discharge. He was then managed on the ward.

There was also a case of ileocecal intussusception which presented late. The patient had 35cm of gangrenous bowel which was resected and anastomosed (not with staplers). He, too, was managed on the ward and made an uneventful recovery.

A 10-year-old child was brought to us with an injury to the skull . A tile from a third floor roof had fallen on her head. She showed profuse bleeding from the wound . She was successfully resuscitated and sent to the neurosurgical unit at Karapitiya which is about 75km from Tangalle. She made a recovery but was left with a weakness of the right leg and paralysis of the right arm. At present she is undergoing physiotherapy.

On June 27, 2007, the life of a 36-year-old severely hemorrhaging mother of 3 young boys was saved by an emergency TAH (total abdominal hysterectomy). Without the operating theatre and autoclave at Tangalle Hospital, she would have died.

All of the above mentioned patients went home without any infections. This is solely due to the sterile equipment and the sterile dressings that were made available to us thanks to the autoclave provided by DRI. The number of surgeries carried out in the months of May and June 2007 will speak for itself."

21. Photos of project activities (file attachment is fine): *Please see 5 photo report attachments.*

22. What recommendations do you have for how Direct Relief International can further assist your organization and/or project?

Presently, there is adequate equipment for the ICU. On our wish list are a ACCOMA 9000 series anesthetic ventilator for the second operating room, 3 multimode monitors for the ER, and 3 Defibrillators for the ER and the wards.

III. Financial Information

23. Detailed summary of expenditures within each budget category (file attachment is fine). Please note any changes from plans. N/A