



## Lodwar County and Referral Hospital, Turkana, Kenya

Date: January 12, 2017	Prepared by: Emma Kiriungi
<b>I. Demographic Information</b>	
1. City & Province: Lodwar, Turkana, Kenya	
2. Organization: Real Medicine Foundation ( <a href="http://www.realmedicinefoundation.org">www.realmedicinefoundation.org</a> ) Medical Mission International ( <a href="http://www.mminternational.org.uk">www.mminternational.org.uk</a> )	
3. Project Title: Lodwar District Hospital Support (new name: Lodwar County & Referral Hospital, LCRH), Health Systems Strengthening in Turkana, Kenya	
4. Reporting Period: October 1, 2016 – December 31, 2016	
5. Project Location (region & city/town/village):	
<ul style="list-style-type: none"> <li>• Location: Lodwar County &amp; Referral Hospital (formerly Lodwar District Hospital), Lodwar, Turkana, Rift Valley Province, Kenya – 1,000 km from the capital city, Nairobi</li> <li>• Area coverage: 750 km<sup>2</sup></li> <li>• Geographical characteristics: Arid area characterized by scarcity and poor infrastructure (lack of quality roads, electricity, and other social amenities)</li> <li>• Means of transportation: Mainly trekking, with a few buses only on the main road that joins other parts of the country</li> <li>• Lifestyle: Nomadic, moving from one place to another</li> <li>• Dependency: Few animals - cows and goats; dependent on relief aid by WFP (World Food Programme), Kenya Red Cross, and other agencies</li> </ul>	
6. Target Population:	
Over 900,000 residents of the Turkana region	
<p>Even though Lodwar County &amp; Referral Hospital (formerly Lodwar District Hospital) officially only covers Turkana Central, in practice the district hospitals in Turkana North and South are not functional; hence the patients from those areas also come to Lodwar for referral care.</p> <p>Lodwar County &amp; Referral Hospital (LCRH) is the only functional hospital in the entire Turkana region. It is categorized as a level 4 facility, which ideally should serve a population of 100,000, with limited human resources, personnel, and medical supplies. Yet currently, Lodwar County &amp; Referral Hospital (formerly Lodwar District Hospital) is functioning as a referral facility for all of the Turkana region's 90 health centers and dispensaries, as well as many in the neighboring countries of Uganda and South Sudan. This increases Lodwar County &amp; Referral Hospital's catchment population to almost 1 million people.</p>	
<b>II. Project Information</b>	
7. Project Goal:	
Enable Lodwar County & Referral Hospital (formerly Lodwar District Hospital) to fulfill its role of providing referral health care for the Turkana region.	
8. Project Objectives:	

- Rehabilitate the infrastructure of Lodwar County & Referral Hospital (formerly Lodwar District Hospital), beginning with the Pediatric ward and proceeding to Male and Female wards, the Outpatient department, Operating Theatre, and Physiotherapy department.
- Rehabilitate the equipment set at Lodwar County & Referral Hospital (formerly Lodwar District Hospital), beginning with the Pediatric ward and proceeding to Male and Female wards, Outpatient department, Operating Theatre, MCH, Dental, Orthopedic, Maternity, Casualty, and Physiotherapy departments.
- Provide regularity of supplies: basic medical devices, disposables, and pharmaceuticals, complementing the items from Kenya Medical Supplies (KEMSA).
- Provide equipment maintenance and spare parts management.
- Organize on-site clinical training, beginning with general equipment use and care, and pediatric emergency care.
- Provide outreach campaigns.

9. Summary of RMF/MMI-sponsored activities carried out during the reporting period under each project objective (note any changes from original plans):

### **Medical Equipment**

During this quarter, RMF continued its strong support of Lodwar County & Referral Hospital (LCRH) by supplying the hospital's departments with needed medical equipment. Departments that received new equipment include the Maternity ward, Pediatric ward, Occupational Therapy ward, and Physiotherapy department.

- The Maternity ward received ambu bags and glucometer strips. Glucometer strips, in particular, were needed to confirm mothers' glucose levels before conducting emergency cesarean sections.
- The Pediatric ward received ambu bags and face masks.
- The Operating Theatre received minor cesarean sets.
- The Occupational Therapy ward received cervical collars, a hammer massager, an Energy King massager, and a powerful massager.
- And lastly, the Physiotherapy department received orthopedic casting tape: 3", 4", and 5". They also received elastic shoulder supports.

### **Medical Supplies**

Continuing its emphasis on pediatric support, RMF purchased comprehensive medical supplies for the Pediatric ward. Emergency drugs that are never supplied by KEMSA have continued to be supplied by RMF/MMI for the pediatric patients. Drugs including Floxapen, Zinnat, phenobarbital, fluconazole, Darrow's solution, adrenaline, flucloxacillin, phenytoin, mannitol, Fortum, and Ventolin respirator solution were purchased. Before these drugs were provided by RMF/MMI, patients were asked to purchase them from local clinics, and many patients could not afford to do so. The constant supply of these essential drugs and many others have gone a long way in benefitting the pediatric patients and ensuring that the Pediatric ward continues to register low mortality numbers.

### **Non-Pharmaceutical Supplies**

As always, to support the entire hospital, RMF continues to purchase non-pharmaceutical supplies. Non-pharmaceuticals purchased include glucometer strips, gauze rolls, strapping adhesives, granular gauges, gloves, surgical spirit, examination gloves, crepe bandages, and paraffin gauze, among other essential non-pharmaceuticals. These non-pharmaceuticals are not only important in the day-to-day running of the hospital, but also in the case of emergencies with urgent needs, such as traffic accidents, and when the hospital is in a crisis because of many patients needing care at the same time, when large amounts of non-pharmaceuticals are required.

### **Livelihood Project**

Food insecurity and undernutrition are increasingly recognized as central factors affecting the health and livelihood of people living with HIV (PLHIV) in poor settings. Inadequate nutrition has been identified as the main health concern in the care of PLHIV in Kenya, as it compromises the efficacy of antiretroviral therapy (ART) and further weakens the immune system. The prevalence of malnutrition in Kenya is high. According to the 2008-2009 KDHS, 35% of Kenyan children are stunted (14% severely stunted), 7% are wasted (2% severely wasted), and 16% are underweight (3.6% severely underweight). A low body mass index (BMI) of <18.5 is also common among women.

According to the 2014 Kenyan national guidelines on HIV, evidence has shown important links between improved HIV/AIDS outcomes and nutrition. Adequate nutrition is necessary to maintain the immune system, manage opportunistic infections, optimize response to medical treatment, and sustain healthy levels of physical activity, thus supporting optimal quality of life for people living with HIV. Good nutrition may contribute to slowing the progression of the disease, and nutrition interventions can help optimize the benefits of antiretroviral drugs (ARVs), as well as

increase compliance with treatment regimens, both of which are essential to prolonging the lives of people living with HIV/AIDS and preventing the transmission of HIV from mother to child.

According to the 2014 Kenya HIV county profile, the national average for HIV prevalence is 6.04%, while in Turkana County, the prevalence is 7.6%. HIV prevalence among women is also higher than among men in Turkana, at approximately 10.8% vs. 6.5%. The estimated new infections among adults 15 years and above in Turkana is 2,997, the 4<sup>th</sup> highest in Kenya. The total number of adults living with HIV in Turkana County is approximately 39,043, while approximately only 20% of the HIV-positive adults are on ART.

Due to this alarming situation, RMF has initiated a greenhouse farming project for food-insecure and vulnerable families and HIV-positive community members and their families. The project will target 150 households, primarily those of HIV-positive women and mothers of childbearing age who seek treatment at Lodwar County & Referral Hospital. This project aims to improve the nutritional status of HIV-affected families by providing farming supplies, training, crop storage facilities, and assistance with the marketing and transportation of crops. In offering this support, it is RMF's goal to provide vulnerable women and families with long-term food security and skills, improving their nutritional status and overall health and lowering mothers' chances of passing the disease on to their children.

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

- The hospital continues to record high a number of patient visits with a low number of mortality cases due to the availability of emergency drugs (which are usually very costly, but now are given to patients for free). This has been constant since RMF's partnership with the hospital began in 2011.
- The Pediatric ward benefitted by receiving equipment such as reservoir bags, face masks, and drugs.
- The Operating Theatre benefitted by receiving equipment such as minor cesarean sets.
- The Maternity ward benefitted by receiving glucometer strips and ambu bags.
- The Occupational Therapy ward benefitted by receiving cervical collars, a hammer massager, Energy King massager, and a powerful massager.
- The Physiotherapy department benefitted by receiving equipment such as orthopedic casting tape: 3", 4", and 5". They also received elastic shoulder supports.
- Pediatric patients continued to receive medical treatment and supplies for free. Emergency drugs that are not supplied by KEMSA and that patients would otherwise have to purchase are provided free of charge.
- The hospital also remains clean, and nosocomial infections are being prevented as much as possible with the constant provision of cleaning supplies and disinfectants from RMF.
- Hospital stays for patients are minimal due to the availability of emergency drugs. Patients are attended to and discharged quickly.
- Traffic accidents and other emergencies are handled efficiently with RMF/MMI's constant provision of non-pharmaceutical supplies for the entire hospital.
- All wards continue to benefit from the free supply of non-pharmaceuticals purchased by RMF.
- The sterilizer that was purchased for the Operating Theatre last year continues to be used by the entire hospital. Equipment can now be sterilized after procedures, thus preventing patient infection.
- Our livelihood program has begun, with the aim to eradicate malnutrition among HIV clients at Lodwar County & Referral Hospital (formerly Lodwar District Hospital).

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

Patients continue to access quality health care in a clean, friendly environment conducive to healing. Real Medicine Foundation's approach of being needs-oriented and working with flexibility has brought change to Lodwar County & Referral Hospital (formerly Lodwar District Hospital) as a whole. The hospital continues to remain clean and hygienic; nosocomial infections are kept as low as possible.

The entire hospital staff and local community have benefited from the project. The hospital staff, i.e. the medical officers, nurses, and support staff, have profited by working in better conditions, in terms of infrastructure and medical supplies. The pediatric patients continue to benefit from our program by receiving free emergency medical treatment when admitted.

Availability of supplies has also consistently motivated the hospital staff in serving the Turkana people/patients, making it much easier for them to do their work effectively. The community has benefited tremendously in the sense that drugs and non-pharmaceuticals are available. The locals no longer have to buy (or do without) costly drugs, syringes, gauze rolls, cotton wool, and emergency drugs, as these are supplied by RMF for the inpatient units at the hospital.

Not only have the Pediatric ward and Male and Female wards benefited from the project, but the Operating Theatre has also been improved by RMF's support. Patients with fractures coming to the hospital from Lodwar and neighboring communities can now be attended to by the surgeon without further referral, since all the equipment has been supplied by RMF.

Consistent availability of medical supplies in the Pediatric ward has also enabled patients to be treated and discharged at no cost. The hospital staff continues to be very motivated thanks to the continued support they get from RMF/MMI.

Availability of food from greenhouse farming will not only eradicate malnutrition among HIV clients at Lodwar County & Referral Hospital (formerly Lodwar District Hospital), but will also help improve clients' drugs adherence, health status, CD4 count, viral load, and overall wellbeing.

12. Number served/number of direct project beneficiaries (for example, average number treated per day or month and if possible, per health condition):

- **31,418** outpatients (**8,686** being pediatric outpatients) were treated at Lodwar County & Referral Hospital (formerly Lodwar District Hospital) in the fourth quarter of 2016.
- **1,294** inpatients (**795** pediatric inpatients) were treated in Q4 2016, and
- **423** occupational therapy patients were treated at Lodwar County & Referral Hospital (formerly Lodwar District Hospital) in the fourth quarter of 2016.

Please refer to the morbidity and mortality tables in **Appendix A**.

13. Number of indirect project beneficiaries (geographic coverage):

Lodwar County & Referral Hospital (formerly Lodwar District Hospital) is now the county referral hospital for the Turkana region, whose current population exceeds 1 million people. Lodwar County & Referral Hospital is the only functional hospital in the area with the capacity to support referral cases. RMF's support through the supply of emergency drugs, medical equipment, non-pharmaceuticals, and the now complete infrastructure repairs of the inpatient unit has enabled Lodwar County & Referral Hospital to provide all these services. It is a referral center for these 7 sub-counties (and also continues receiving patients from Uganda, Ethiopia, and South Sudan):

1. Turkana South
2. Turkana North
3. Turkana Central
4. Turkana East
5. Turkana West
6. Loima
7. Kibish

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

- Curative: treatment of illness, diagnosis (lab investigations, x-rays), management and follow-up review with a medical doctor and/or clinical officer
- Preventive: promotion of good health education, such as safe water, safe motherhood, HIV prevention, and school health programs
- Rehabilitative: occupational therapy and physiotherapy
- Eye clinic
- Dental services

15. Please list the five most common health problems observed within your region.

1. Malaria
2. Gastroenteritis
3. Anemia
4. Pneumonia
5. Severe Acute Malnutrition

16. Notable project challenges and obstacles:

- Unavailability of proper roads and public transportation to enable locals to bring sick patients to the hospital in time; patients have to walk long distances—frequently for days—to get to the hospital. Many sick patients do not arrive at Lodwar County & Referral Hospital (formerly Lodwar District Hospital) in time, which reduces their chances of survival.

17. If applicable, plans for next reporting period:

- 1) Continuous support of the Pediatric ward in terms of medicines, medical supplies, non-pharmaceutical supplies, and equipment maintenance
- 2) Provision of medical equipment for the Operating Theatre
- 3) Provision of medical equipment and supplies for the Pediatric ward
- 4) Provision of medical supplies, specifically non-pharmaceuticals, for the entire hospital
- 5) Support of HIV clients through the livelihood project

18. If applicable, summary of RMF/MMI-sponsored medical supply distribution and use:

Provision of medicines, medical supplies (for the Inpatient Pediatric ward) and non-pharmaceuticals for the entire hospital, both inpatient and outpatient units. Priority is given to the Pediatric ward in terms of distribution and use.

19. Success story(s) highlighting project impact:

### Success Story 1

**Name:** Precious Eyanae

**Age:** 14 months old

**Sex:** Female

**Origin:** Nakwamekwi

#### History:

Precious was admitted with complaints of diarrhea, severe wasting, loss of appetite, headache, and fever. She had a temperature of 38.6 degrees. This was the third time Precious was admitted with these symptoms. She was born at home and taken to the hospital for immunizations. According to the hospital records, Precious got all the immunizations as recommended by the MOH. Her parents were tested for HIV and turned out HIV-negative. Precious is the youngest child in a family of five children. She has a history of malnutrition at 6 months and malaria.

**Diagnosis:** Malnutrition with Acute G.E.

#### Treatment

- Vitamin A 100,000 IU
- Folic acid 5 mg od
- Multivitamin 5 ml 5/7
- Zinc tablets

#### Management of Malnutrition:

Therapeutic milk F-75 130 ml/kg for 3 days without any food. After stabilization, give F-100 until the baby is stable, i.e. able to feed on her own.



Precious on admission



Precious on discharge

## Success Story 2

**Name:** Benard Akai

**Age:** 2 years and 5 months

**Sex:** Male

**Origin:** Nabutee

### History:

Benard was admitted through the Outpatient department (OPD) with complaints of fever, diarrhea, joint pain, abdominal pain, and wasting. He is a CCC client. This was the second time he was admitted with these symptoms. The first time, Benard was admitted with moderate acute malnutrition (MAM) and enrolled in the outpatient program (OTP), but he defaulted due to an unwilling caregiver. This was a follow-up visit. Benard is currently on ARVs. He was born in the hospital weighing 2.3 kg (underweight), and according to the hospital records, he got all of the immunizations recommended by the MOH. Benard is the firstborn and only child in his family; his mother died during delivery and currently his grandmother is taking care of him.

**Diagnosis:** Malaria/ISS with Severe Acute Malnutrition (SAM)

- Blood slide (for malaria), positive
- Malnutrition, Severe Acute Malnutrition (SAM)
- HIV-positive

### Treatment:

- Artesunate 3 mg/kg
- HAART
- Multivitamins

### MANAGEMENT OF MALNUTRITION:

Therapeutic milks: F-100 and F-75 and Plumpy'Nut RUTF (ready-to-use therapeutic food). Benard also received a high dose of Vitamin A on admission (50,000 IU to 200,000 IU depending on age) and was given zinc for management of diarrhea. He should be started on ARV drug treatment as soon as possible after stabilization of metabolic complications.



*Benard on admission*



*Benard on the day of discharge*

### III. Financial Information

21. Detailed summary of expenditures within each budget category as presented in your funded proposal (file attachment is fine). Please note any changes from plans.

Sent separately

## APPENDIX A

### LODWAR DISTRICT HOSPITAL: Q4 2016

#### TOTAL OUTPATIENT SERVICES: OCTOBER–DECEMBER 2016

No.	GENERAL	OCTOBER	NOVEMBER	DECEMBER	TOTAL
1	<b>GENERAL OUTPATIENT (FILTER CLINICS)</b>				<b>QUARTER (3 MONTHS)</b>
	Over 5 Years, Male	798	1,064	901	<b>2,763</b>
	Over 5 Years, Female	898	1,242	1,099	<b>3,239</b>
	Children Under 5 Years, Male	360	501	489	<b>1,350</b>
	Children Under 5 Years, Female	364	454	516	<b>1,334</b>
	<b>TOTAL</b>	<b>2,420</b>	<b>3,261</b>	<b>3,005</b>	<b>8,686</b>
2	<b>CASUALTY</b>	2,634	2,620	3,124	<b>8,378</b>
3	<b><u>SPECIALITY CLINICS</u></b>				
	Eye Clinic	401	350	435	<b>1,186</b>
	ENT Clinic	35	26	15	<b>76</b>
	STI	5	1	3	<b>9</b>
	MOPC, SOPC, POPC	243	302	210	<b>755</b>
4	<b><u>MCH, FP CLIENTS</u></b>				
	CW Attendance	3,329	2,934	2,012	<b>8,275</b>
	ANC Attendance	513	647	702	<b>1,862</b>
	FP Attendance	360	497	630	<b>1,487</b>

5	<b>DENTAL CLINIC</b>	234	302	168	<b>704</b>
	<b>GRAND TOTAL</b>	<b>10,174</b>	<b>10,940</b>	<b>10,304</b>	<b>31,418</b>

#### INPATIENT MORBIDITY & MORTALITY: PEDIATRIC WARD OCTOBER–DECEMBER 2016

	<b>DISEASE</b>	<b>ALIVE</b>	<b>DEAD</b>
1	MALARIA	169	5
2	DIARRHEA	72	4
3	HIV	8	3
4	TUBERCULOSIS	4	1
5	INSECT BITES	15	0
6	SNAKE BITES	5	4
7	FRACTURE	14	0
8	SEVERE ACUTE MALNUTRITION	81	7
9	ANAEMIA	78	14
10	BURNS	9	1
11	MENINGITIS	3	0
12	SEPTICAEMIA	16	5
13	GASTROENTERITIS	116	11
14	INTESTINAL OBSTRUCTION	3	0
15	NEONATAL SEPSIS	12	3
16	SEPTIC SCROTUM	0	0
17	FEBRILE CONVULSION	24	2
18	POISONING	2	0
19	PNEUMONIA	133	21
20	SOFT TISSUE INJURY	0	0
21	DEHYDRATION	30	7
22	KALA AZAR	1	1
23	RTI	5	0

#### INPATIENT MORBIDITY & MORTALITY: FEMALE WARD OCTOBER–DECEMBER 2016

	<b>DISEASE</b>	<b>ALIVE</b>	<b>DEAD</b>
1	MALARIA	61	4
2	PNEUMONIA	24	2
3	TUBERCULOSIS	14	6
4	FRACTURE	4	0
5	CERVICAL PROLAPSE	4	0
6	GASTROENTERITIS	21	5
7	ECTOPIC PREGNANCY	4	1
8	HEPATITIS	0	0
9	HIV	9	3
10	HERNIA PROLAPSE	2	0
11	SEPTIC WOUND	2	0
12	SNAKE BITES	6	0
13	INSECT BITES	9	3
14	DISORDERED UTERINE BLEEDING	5	0
15	ACUTE ABDOMEN	1	0
16	PREMATURE RUPTURE OF THE MEMBRANE	2	0
17	DERMATITIS	0	0
18	MENINGITIS	2	0
19	CUT WOUNDS	1	0
20	HYDATID CYST	4	0



21	PEPTIC ULCER DISEASE	23	3
22	ASCITIS	2	0
23	LOWER ABDOMINAL PAIN	4	2
24	OSTEOMYELITIS	6	0

#### INPATIENT MORBIDITY & MORTALITY: MALE WARD OCTOBER–DECEMBER 2016

	DISEASE	ALIVE	DEAD
1	MALARIA	67	4
2	PNEUMONIA	28	3
3	TUBERCULOSIS	39	10
4	FRACTURE	19	1
5	DIARRHEA	12	5
6	GUNSHOT	2	0
7	HYPERTENSION	3	1
8	CONGESTIVE CARDIAC FAILURE	1	0
9	ANEMIA	27	6
10	TYPHOID	3	1
11	INSECT BITES	12	1
12	PLEURAL EFFUSION	3	0
13	KALA AZAR	0	0
14	PSYCHOSIS	6	2
15	PEPTIC ULCER DISEASE	9	1
16	SOFT TISSUE INJURY	1	0
17	MENINGITIS	1	0
18	SNAKE BITES	2	0
19	ACUTE ABDOMEN	5	0
20	BENIGN PROSTATIC HYPERPLASIA	10	4
21	HIV	18	6
22	HEAD INJURY	4	2
23	CELLULITIS	7	0
24	CUT WOUNDS	6	0
25	ALCOHOLIC INTOXICATION	1	0
26	CANCER	4	2
27	URINE RETENTION	3	1
28	HERNIA	0	0
29	HYPOGLYCEMIA	3	1

#### OCCUPATIONAL THERAPY: OCTOBER–DECEMBER 2016

	DIAGNOSIS	TOTAL
1	Cerebral Palsy	82
2	Delayed Developmental Milestones	126
3	Hemiplegic	32
4	Congenital Malformation	6
5	Down Syndrome	10
6	Fracture	2
7	Speech Disorder	14
8	Microcephalus	21
9	Newborn Screening	41
10	Learning Disorder	6
11	Static Nerve Injury	1
12	Failure to Thrive Syndrome	1

13	Phobias	22
14	Mental Retardation	13
15	Hydrocephalus	6
16	Osteogenesis Imperfecta	0
17	Burns	5
18	Rheumatoid Arthritis	7
19	CTEV	18
20	Erb's Palsy	5