

**LAO PEOPLE'S DEMOCRATIC REPUBLIC**  
**PEACE INDEPENDENCE DEMOCRACY UNITY PROSPERITY**

# **REPORT OF MOBILE HEALTH CARE**

**For Dental, Ear, Nose and Throat, Eye, Internal Medicine,  
Expectant Mothers and Pediatric Services  
in the Remote Areas of**

**Hatsayfong District, Vientiane Capital  
La and Namor Districts, Oudomxay Province  
Lao PDR.**

**15-22 October 2012**

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**Supported by:  
Lao Rehabilitation Foundation, Inc. USA**



## ABSTRACT

**Title:** Mobile Health Care for Dental, ENT, Eye, Internal Medicine, Expectant Mothers and Pediatric Service in the Remote Areas of Hatsayfong District, Vientiane Capital, La and Namor Districts, Oudomxay Province, Lao PDR”.

**Support Donor:** Lao Rehabilitation Foundation, Inc.

**Anticipated Budget:** The anticipated budget for this mission was 50,959.00 USD.

**Actual Budget:** The actual budget for this mission was 57,523.00 USD.

**Actual Budget Funding:**

- The Lao Rehabilitation Foundation provided: 53,029.00 USD.
- The Fred Hollows Foundation provided: 4,494.00 USD.

**Partners:**

- Vientiane Capital Public Health Department.
- Oudomxay Provincial Public Health Department, Provincial Hospital and Eye Unit.

**Team work:**

- Experts from USA joined the Oudomxay provincial team and local staffs.

**Sites and Duration:** For 8 days in 3 districts:

- Hatsayfong district, Vientiane Capital: 15 October 2012.
- La district, Oudomxay Province: 17-18 October 2012.
- Namor district, Oudomxay Province: 19-22 October 2012.

**Objective:**

- Decrease the prevalence of blindness, deafness, dental cavities, pediatric diseases and maternal-infant mortality rate.
- Broaden the coverage of healthcare services for people in remote areas, ethnic minority groups and the urban poor.
- Improve health care service at district level.

**Activities and Methods:**

A team of health care professionals delivered mobile health care services in six main areas: ENT, dental, eye, Internal medicine, expectant mothers and pediatric services. All services included experts and nurse assistants to examine patients by manual and automated equipment. Treatment and procedures were provided with excellent medicine and equipment.

**Results:** A total of 3,359 patients (Female: 1,873) were recorded, examined and treated in 3 district Hospitals. This included: E.N.T. 505 cases (F 223), dental: 723 cases (F 492), eye: 434 cases (F 207), (performed cataract surgery 68 cases), expectant mothers: 150 cases, pediatric: 740 cases (F 324), internal medicine: 553 (F 348), and children in primary school 254 (F 129).

**Conclusion:** This important mission helped the treatment and prevention of health problems for many Lao poor people. Many of the diseases encountered are treatable and preventable. The number of incidences of blindness, deafness, dental cavities, pediatric infection and expectant mother problematic issues is extremely high in these remote areas and will continue to go untreated without the intervention of a mobile healthcare team.

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# PART I INTRODUCTION

## **I. BACKGROUND INFORMATION**

### **1. STATEMENT OF THE MISSION**

The health care in rural area is a major problem for the Ministry and Department of Health, especially regarding E.N.T, dental, eye, expectant mother and pediatric services. Many patients have not yet received treatment in highly remote areas such as in the Northern Provinces of Laos. Accessing healthcare services include the following major barriers:

- Limitation of government funds allocated to eye, ENT, dental, obstetric and pediatric care in remote area.
- Limitation of education and medical instruments for eye, ENT, dental, obstetric and pediatric care on a district level.
- Distance and limited accessibility to hospitals.
- Travel to provincial hospitals is unaffordable for many villagers.
- Limited patient awareness of the availability of primary eye, ENT, dental, obstetric and pediatric care.
- Continued practice of traditional medicine.

The healthcare of expectant mothers and children is a priority for the ministry of public health and provincial public health in Laos and is not much available at district level despite occasional support from one organization which provides vaccination, vitamin A, and parasite medication. In La and Namor districts of Oudomxay province, beginning in June 2012 the healthcare of expectant mothers and children is partially provided by The Global Alliance for Vaccines and Immunization (GAVI) with funding for some medical equipment to examine and follow up patients. Because of limited education, mothers are incapable of recognizing symptoms of children's diseases and often reach out too late to access proper treatment.

Beginning in 2008, in cooperation with Oudomxay Hospital, the Lao Rehabilitation Foundation, funded several missions for ENT, eye and dental care in the remote areas of four Northern provinces of Laos, including Phongsaly, Luang Namtha, Oudomxay and Bokeo provinces. Starting in 2010, LRF extended its support to include pediatric, internal medicine and expectant mother services. The outcome of these missions has been highly successful, treating over 23,000 patients who otherwise could not have afforded healthcare.

This healthcare mission was important and necessary for the continued success of preventive healthcare to decrease the maternal, infant and child mortality rate in remote area. This mission was a partnership between the Oudomxay Provincial Public Health Dept., Vientiane Capital Public Health Department in cooperation with the Lao Rehabilitation Foundation (LRF) and the Fred Hollows Foundation (FHF).

## **II. TITLE OF THE MISSION**

"Mobile Health Care for Dental, E.N.T., Eye, Internal Medicine, Expectant Mothers and Pediatric Services in the Remote Areas of Hatsayfong District, Vientiane Capital, La and Namor Districts, Oudomxay Province, Lao PDR".

## **III. OBJECTIVE**

- Decrease the prevalence of blindness, deafness, dental cavities and the maternal-infant mortality rate.
- Broaden the coverage of health services for people in remote areas, ethnic minority groups and the urban poor.

- Human resource development for Lao doctors and staff and appropriation of medical instrument to district hospitals.

#### **IV. TARGET**

- Service all patients free of charge, with no regard to gender, age, ethnicity or religion for ENT, dental, eye, internal medicine, expectant mothers and pediatric health care. Provide service to a total target of 3,500 patients in 3 districts.

#### **V. LOCATION AND DURATION**

8 days (October 15-22, 2012) in the three districts of:

- Hatsayfong district, Vientiane Capital: October 15, 2012
- La district, Oudomxay province: October 17-18, 2012
- Namor district, Oudomxay province: October 19-22, 2012

#### **VI. SUPPORT DONOR, TEAMWORK AND PARTNERS**

##### **1. Support Donor**

- Mainly provided by: Lao Rehabilitation Foundation
- Some support provided by: Fred Hollows Foundation

##### **LAO REHABILITATION FOUNDATION (LRF):**



The Lao Rehabilitation Foundation, Inc. (LRF) headquartered in Napa, California, USA, is a non-profit, non-religious, non-political organization. Activities are conducted by its President, Dr. Luc Janssens. LRF maintains an office at the Department of Public Health in Vientiane, and in Oudomxay, Laos. The purpose of LRF is to provide medical services to Laotian citizens, with a greater focus on children. The foundation recognizes that the best guarantee for sound health is adequate nutrition, access to clean water, basic hygiene, decent shelter, education and reasonable access to medical facilities. The Foundation has conducted several missions in the remote areas of Laos providing medical services and clean water to the poor. The Foundation has also provided mobile medical equipment for dental, E.N.T and eye care. LRF is working in partnership with National Science Council (NSC) Government's Office, under a MOU signed June 20<sup>th</sup>, 2011.

##### **FRED HOLLOWES FOUNDATION (FHF):**



**The Fred Hollows  
Foundation**

The Fred Hollows Foundation (FHF) headquartered in Sydney, Australia, is a non-profit, non-government organization. FHF maintains an office in Oudomxay province. The Foundation aims to reduce avoidable blindness in Lao PDR. FHF signed a MOU with the Ministry of Health of Lao PDR on Sept, 2008 for a duration of 3 years. The agreement was extended for 2 years (2011-2013). Activities include research, human resource development, infrastructure development, disease control, and the strengthening of advocacy partnerships for 4 Northern provinces of Laos (Phongsaly, LuangNamtha, Oudomxay and Bokeo).

## 2. Teamwork

The team of 29 people included:

### 2.1 Lao Team (22)

From Oudomxay Hospital (11):

– Ophthalmologist	01 (Head of Lao Team)
– Dentist	01
– Pediatrician	01
– Ophthalmic nurses	03
– Nurse assistants	05

From LuangPrabang (1):

– Ophthalmologist	01
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From Phongsaly (1):

– Ophthalmologist	01
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Local Staff (9):

– Medical doctor	01
– Nurse assistants	07
– Staff assistants	01

### 2.2 USA team (6)

– President of LRF	01 (Head of US Team)
– Dentist	01
– Pediatrician	01
– Radiologist	01
– Internal medicine specialist	01
– Lao coordinator	01

### 2.3 Fred Hollows (1)

– Assistant	01
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(Detail on attached files)

## 3. Partners

- Vientiane Capital Public Health Department
- Oudomxay Provincial Public Health Department, Provincial Hospital and Eye Unit.

## **PART II METHODOLOGY**

### **I. PREPARATION**

- Cooperated in partnership with the provincial and district hospitals.
- Wrote a proposal to inform local authorities of the purpose, planned activities and got agreement from Vientiane Capital Public Health Department, Oudomxay Public Health (PoH), Oudomxay Governor Office, Ministry of Health (MoH) and Ministry of Foreign Affairs (MoFA).
- Appointed patients by advertising and by informing them from district hospitals to villages.
- Prepared budget, equipment, supplies, medicine, and assembled a team.

### **II. ACTIVITIES PERFORMED**

Provided mobile health care services in 3 districts hospitals (Hatsayfong district of Vientiane Capital, La and Namor districts of Oudomxay province). Registration of cases was completed by local staff. Examination and diagnosis was performed with manual or automated equipment. Patients were treated with medicine or surgical procedures. Services were provided in 6 main areas of health care as follows:

#### **1. Examination and treatment of E.N.T diseases:**

The ENT team (1 ENT doctor from Luang Namtha Hospital assisted by 1 ENT nurse) performed the following activities:

- Screen with audio tests.
- Treat otitis media.
- Remove foreign body from ENT
- Treat ENT infections.

#### **2. Examination and treatment of dental diseases:**

The dental team (2 dentists, 1 from Oudomxay and 1 from USA assisted by 3 dental nurses) performed the following activities:

- Tooth extractions.
- Treatment of cavities.
- Calciferous cleaning.
- Application of fluoride varnish.
- Health education for children at primary school and distribution of toothbrushes and toothpaste.

#### **3. Examination and treatment of eye diseases:**

The eye team (3 ophthalmologists assisted by 2 ophthalmic nurses), performed the following activities:

- Vision test by E-Chart or Snellen Chart.
- Diagnosis with medicinal treatment for some eye diseases.
- Refractive service with donation of glasses.
- Eye disease surgery when needed.
- Cataract surgery with implant IOL.
- Health education of primary eye care and post-operative procedures.

4. **Examination of expectant mothers:**

Obstetric Team (1 radiologist from USA assisted by 1 OB nurse and local doctors) performed the following activities:

- General examination.
- Examination of fetus by Echography.
- Health education and advice for follow up hospital visits.

5. **Examination of infants and children:**

Pediatric team (2 pediatricians, 1 from USA and 1 from Oudomxay hospital, assisted by 1 nurse) performed the following activities:

- General pediatric examination.
- Diagnosis of infectious disease and medicinal treatment.
- Health education.

6. **Examination of adult for internal medicine diseases**

Internal medicine team (1 internal medicine specialist from USA and 1 assisting nurse) performed the following activities:

- General adult examination.
- Glycemia test and examination of internal organs by ultrasound echography.
- Diagnosis of diseases and medicinal treatment.
- Health education.

7. **Dental screening of children at primary schools**

A team of USA with local assistant nurses performed the following activities at two primary schools, Hmong and mixed ethnicities (Hmong, Khmou, Lao Houi) schools:

- Visual acuity test
- Ear examination
- Dental examination
- Lungs and heart examination
- Dental care education
- Donation of toothbrushes and toothpaste
- Fluoride varnish application

8. **Rehabilitation Activities Performed**

Referred cases to Oudomxay provincial hospital for treatment supported by LRF.

9. **District Hospital Development Activities Performed**

Training of local staff in the use of donated ultrasound equipment to examine fetus and internal organs. Additional medical equipment and medicine was donated for ENT, dental, expectant mother and pediatric care to Hatsayfong, La and Namor district hospitals.

*(List of donated equipment on attach file).*



## PART III RESULTS

A total of 3,359 cases (female: 1,873 or 56%) were treated free of charge for all patients with no regard to gender, age, ethnicity or religion as follows:

No	Treatment	Number of patients examined and treated				Total
		Hatsayfong district	La district	Namor district	Huixang village	
1	E.N.T	0	198	307	0	505
2	Dental	23	251	449	0	723
3	Eye	0	228	206	0	434
4	Pregnancy	48	41	59	2	150
5	Infant and Child	9	211	442	78	740
6	Adult (internal medicine)	59	196	238	60	553
7	Children at Primary School	0	0	92	162	254
<b>Grand total</b>		<b>139</b>	<b>1,125</b>	<b>1,793</b>	<b>302</b>	<b>3,359</b>

### 1. ENT Results:

505 (F 223) patients were examined and treated as follows:

- Otitis media (Chronic) 206
- Tonsillitis/ Pharyngitis: 58
- Neuro sensorial hearing loss: 56
- Rhinitis: 34
- Sinusitis: 31
- Ear wax occlusion 27
- Otitis external: 22
- Otitis media (Acute) 19
- Goiter: 6
- Other: 46

### 2. Dental Results

723 (F 492) patients were examined and treated as follows:

- Cavitas dentitis with extraction: 491
- Repair teeth: 232

### 3. Eye Results

434 (F 207) patients were examined and treated in the two districts of La and Namor. Vision tests with diagnostic examinations were also provided. Surgery was provided for 99 patients. Eye cases included:

- Cataract surgery 68 cases
- Pterygium excision, eyelid correction: 31 cases.

82 refractive services were performed and 38 pairs of glasses were distributed for refractive error (myopia and hyperopia).

#### **4. Obstetric Results:**

150 pregnant patients were examined by Echography in the 3 districts of Hatsayfong, La and Namor. 7 cases (4.6%) were declared problematic:

– Anencephaly	1
– Placenta praevia	1
– Breech presentation	3
– Twin	1
– Intrauterine growth restriction	2

All problematic cases were advised to follow up at the provincial hospital. The anencephaly case was referred to Oudomxay hospital for induced labor, with the support of LRF.

#### **5. Pediatric Results:**

740 (F324) children or infants were examined. The main diseases were:

– Pharyngitis:	273
– Cold fever:	139
– Diarrhea:	66
– Skin infection:	58
– Pneumonia:	46
– Parasitose:	46
– Otitis media:	44
– Other infection:	20
– Gastritis:	20
– Dengue fever:	12
– Anemia (Thalasemia):	04
– Malnutrition:	04
– Coronary heart disease (CHD):	04
– Hernia:	02
– Other:	02

#### **6. Examination of adult for internal medicine disease**

1,184 patients were registered, because of insufficient time only 553 (F348) patients were examined. The main diseases were:

– Gastritis	144
– Back pain	124
– Cough	55
– Headache	52
– HTA	48
– Other infection	30
– Anemia	18
– Arthritis	17
– Fever	14
– Pneumonia	8
– Other	43

## **7. Primary School Screening Results:**

254 children (F 129) were screened at two primary schools in Houn district (1 school Hmong and 1 school mixed ethnicities, Hmong, Khmou and Lao Houi). Findings are as follows:

- 1 child had a vision problem (corneal scar)
- 17.5% of children had otitis media acute or chronic
- 49% of children had severe dental caries
- All children received fluoride varnish application

## **8. Rehabilitation Activities Results:**

3 cases were referred to Oudomxay provincial hospital for treatment as follows:

- Child with arm fracture: 02
- Expectant mother (anencephaly): 01

## **9. District Hospital Development Activities Results:**

Training for local staff was provided as follows:

- How to use ultrasound machine for local doctors of La and Namor districts.
- How to perform complex procedures for local dentist of Hatsayfong district.
- How to use donated equipment for ENT, dental, expectant mother, pediatric care, electricity autoclave and some medical equipments at Hatsayfong, La and Namor district hospitals.

## PART IV BUDGET AND EXPENDITURE

The total projected budget of **50,959 USD** (fifty thousand nine hundred and fifty nine USD) was to be provided mainly by Lao Rehabilitation Foundation with some support from Fred Hollows Foundation for eye care.

The total actual expenditure increased to **57,523.00 USD** (Fifty seven thousand five hundred and twenty three USD) as unbudgeted additional medical equipment was requested by and provided to the 3 district hospitals. The actual budget included:

– Instruments and equipment	\$24,091.00
– Transportation of equipment from USA	\$1,000.00
– Medicine (drugs) from USA	\$6,000.00
– Medicine (drugs) from Laos	\$6,522.00
– Transportation and accommodation of USA team	\$11,745.00
– Transportation, food and accommodation of Lao team	\$1,675.00
– Preparation of the mission	\$556.00
– Rental of vehicles and fuel	\$1,316.00
– Toothpaste, toothbrushes and educational materials	\$300
– Medicine and supplies for eye service	\$4,494.00

**Note:** Medicine and supplies for the eye service part of this mission was provided by Fred Hollows Foundation. Some medicine and supplies were donated by volunteer doctors.

Some eye medicine and supplies was provided by Lao Rehabilitation Foundation.  
(Details on attached files).

## **PART V**

# **ACCOMPLISHMENTS, WEAKNESSES AND RECOMMENDATIONS**

### **I. Accomplishments:**

- Good cooperation with government office at provincial level, the Oudomxay provincial public health and Oudomxay provincial hospital to make medical personnel available to join the team of this mission.
- US experts provided education and hands-on experience to Lao doctors and medical equipment resources have been improved at 3 district hospitals.
- We educated the local staff on examination and treatment techniques for ENT, dental, pediatric and obstetric health issues.
- Poor patients who otherwise would not have access to healthcare in remote areas have received treatment.
- We contributed to the prevention of ear and dental diseases; we restored or improved visual ability and helped decreasing infant and maternal mortality.
- We provided an assessment of needs for the dental health care of children at primary schools in Namor district of Oudomxay province.

### **II. Weaknesses:**

- It took an excessive amount of time to receive approval documents from the Ministry of Health which delayed and complicated the preparation of the mission.
- With only one internal medicine expert on the team and lack of time, only 47% of the 1,184 patients registered for internal medicine could be examined and treated.

### **III. Recommendations:**

- Add more internal medicine and radiology specialists on the team.
- Allow more time for activities.

**PART VI**  
**NEXT MISSION PLANNING**  
(under consideration)

**ACTIVITIES:**

1. Hyperthyroid (goiter) surgery, cleft lip/cleft palate and neck surgery.
2. Treat cataract, the leading cause of blindness by IOL surgery in addition to pterygium and eyelid surgeries and treat the leading cause of visual impairment by refractive service.
3. Provide treatment and prevention of otitis media, the main cause of deafness.
4. Provide treatment of dental cavities by fillings and prevention by calciferous cleaning and fluoride varnish application in schools.
5. Provide examination of pregnant women by echography.
6. Provide prevention and treatment of infectious disease in children.
7. Provide examination of adult internal medicine.
8. Provide professional development opportunities for Lao doctors and staff and medical instrument to district hospitals.
9. Screen primary schools children for general health, and particularly for eye, dental and ENT care.
10. Provide clean water access to a village to be selected.

**LOCATION:**

- At Setthathirat hospital, Vientiane Capital.
- In Houn district, Oudomxay province.
- In Pakbeng district, Oudomxay province.

**DURATION:**

- February 2013, with an estimate budget of \$50,000.

President of Lao Rehabilitation  
Foundation (LRF)



Dr. Luc Janssens

Presenter



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