

REPORT

Of

Mobile Health Care

**For Dental, E.N.T, Eye Diseases, Expectant Mothers
and Pediatric Services in the Remote Areas of:**

**Tonpheung, Huixay and Pha-Udom Districts
Bokeo Province, Lao PDR.**

October 02-10, 2011

**Prime Minister's Office (PMO)
National Science Council (NSC)
And**

Bokeo and Oudomxay Provincial Hospitals

In Cooperation with

**Lao Rehabilitation Foundation (LRF)
And**

Fred Hollows Foundation (FHF)



**The Fred Hollows
Foundation**

- Refer to MOU between Prime Minister’s Office NSC and LRF signed June 20th, 2011.
 - Refer to the agreement letter of LRF July 1st, 2011 which agrees to provide funds for mobile health care in remote area of Bokeo province.
 - Refer to the agreement letter of Bokeo Provincial Public Health Department No.456 / PoH of July 21st, 2011 approving the project.
 - Refer to the information letter of Prime Minister’s Office, NSC No. 987/11/NSC. of August 26th, 2011.
 - Refer to the agreement letter of Oudomxay Provincial Hospital No. 1184/PoH of September 30th, 2011.
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I. MISSION ABSTRACT

Name: “Mobile Health Care for Dental, E.N.T, Eye Diseases, Expectant Mothers and Pediatric Services in the Remote Areas of Tonpheung, Huixay and Pha-Udom Districts Bokeo Province, Lao PDR.”

Oversight: Prime Minister’s Office National Science Council (*PMONSC*) was responsible for obtaining Lao PDR’s governmental official approvals and informing the Ministry of Health (MoH) and the Ministry of Foreign Affairs (MoFA). The mission was conducted by LRF and its US team in collaboration with Bokeo and Oudomxay Provincial Public Health Departments who staffed the Lao Team and collaborated with district hospitals and officials to ensure the success of the mission.

Location: The districts of: Tonpheung, Huixay and Pha-Udom in Bokeo Province.

Preliminary Budget: A preliminary budget was estimated at: 53,002.00 USD.

Anticipated Funding:

Lao Rehabilitation Foundation to provide:	47,405.00 USD.
Fred Hollows Foundation to provide:	5,597.00 USD.

Actual Cost: The actual cost of this mission was: **75,224.00 USD.**

Actual Funding:

Lao Rehabilitation Foundation and its team provided:	66,395.00 USD.
Fred Hollows Foundation provided:	8,829.00 USD.

Dates: October 02-10, 2011.

Objective: To decrease the prevalence of blindness, deafness, cavitas dentis and the maternal-infant mortality rate and broaden the coverage of healthcare services for people in remote areas, ethnic minority groups and the urban poor.

Methods: The team provided service to all patients without regards to gender, age, ethnicity or religion. Services were free of charge for all patients, providing services in five main areas: the examination and treatment of ENT, dental, eye diseases, expectant mothers, pediatric, and internal medicine. The Lao team from Bokeo and Oudomxay provincial hospitals joined by doctors and nurses from local district hospitals worked together with U.S experts in Tonpheung, Huixay and Pha-Udom of Bokeo province. All cases were registered by local staff. Examination and diagnosis was performed by U.S. and Lao specialists with manual and automated equipment. Treatment was provided with good medicine and proper operating procedures.

Results: A total of **5,478** patients (F 2,711) were recorded, examined and treated, covering 4.2% of the total population of 130,927 of the three districts of Bokeo province. (Tonpheung, Huixay and Pha-Udom). Cases included: 1,360 ENT cases (24.78%), 1,563 dental cases (28.48%), 1,018 eye cases (18.55%), 391 expectant mother cases (7.12%), 782 pediatric cases (14.25%), and 174 general adult internal medicine cases (3.17%). In addition, 190 primary school children were screened for vision, dental and general health, (3.64%). (See separate pediatric report).

A total of 205 eye surgeries were performed, including 159 cataract surgeries and 46 Pterygium and eyelid surgeries.

Conclusion: Many of the diseases encountered during this mission were treatable. The number of incidences of blindness, deafness and cavitas dentis is extremely high in these remote areas and will continue to go untreated without the intervention of mobile healthcare teams.

II. INTRODUCTION

1. Bokeo Province

Bokeo Province is one of the 4 Northern provinces of the Lao PDR, and is dominated by mountainous terrain covering 85% of the land with an abundance of forests consisting of five districts and 291 villages of which 94 (32.3%) are considered poor. 38 of these villages have no access to clean water.

Bokeo is located within to the infamous “Golden Triangle” (the three-bordered intersection of Lao PDR, Myanmar and Thailand) and borderline with China.

Bokeo has 5 districts with a total population of 158,683 (Female: 79,516). The province is home to a large number of ethnic minorities: Khmu, Yao, Akha, Leu, Hmong and others, each having their own lifestyle, identity, culture, traditions, customs and language. Many poor people live in remote areas where the struggling economy is mainly agricultural and farming.

Map of Laos and Bokeo Province:



The public health system is extremely underdeveloped. There is only one provincial hospital, one military hospital, five district hospitals and 31 healthcare centers providing service to the entire population. The challenge of proper healthcare is exasperated by the remoteness of villages and by the public health system’s limited access to medical doctors and diagnostic equipment.

Tonpheung, Huixay (BanDan) and Pha-Udom Districts, Bokeo Province:

Tonpheung, Huixay and Pha-Udom districts are located in Bokeo province on the bank of the Mekong River bordering Oudomxay, LuangNamtha and Xayabury provinces and Thailand. The population is 130,927. The public health system includes three district hospitals and twenty three healthcare centers. These districts, in particular, have extremely limited access to healthcare in general and

particularly regarding impaired vision, E.N.T., dental, expectant mothers and pediatric services. These facilities offer primary treatment only and must often refer patients to healthcare centers in other parts of the country.

Population and Public Health in Tonpheung, Huixay and Pha-Udom districts:

District	Population	Hospital	Health Center
Tonpheung	27,009	1	7
Huixay	64,560	1	10
Pha-Udom	39,358	1	6
TOTAL	130,927	3	23

Human resource of Tonpheung, Huixay and Pha-Udom districts hospital:

District	Staff	Specialist	M.D.	Dentist	ENT doctor	Eye doctor	Pediatric doctor
Tonpheung	32	0	2	1	0	0	0
Huixay	8	0	1	0	0	0	0
Pha-Udom	21	0	1	0	0	0	0
TOTAL	61	0	4	1	0	0	0

2. Statement of Healthcare Plan in Remote Area for Dental, ENT and Eye Care.

Cavitas dentitis, deafness, visual disability and blindness are critical public health problems. These diseases create significant pain, irreversible damage and innumerable hardships for the concerned persons, both physically and mentally. Poor healthcare contributes to the stagnation of economic development and social affairs of the country. This is especially true in the northern provinces of Laos, such as Bokeo province.

Unfortunately, many patients have not yet received treatment in this highly remote area. Accessing healthcare services include these major barriers:

- The limitation of government funds allocated to eye, ENT and dental health care in remote area.
- The limitation of education and medical instruments for eye, ENT, dental expectant mother and pediatric care on a district level.
- Limited awareness of the availability of primary eye, ENT, dental, expectant mother and pediatric care.
- The continued practice of traditional medicine.
- Distance and limited accessibility to hospitals.
- Villagers cannot afford to travel to provincial hospitals.

Beginning in 2008 and in cooperation with Oudomxay hospital, the Lao Rehabilitation Foundation (LRF) has conducted several missions in the remote areas of four Northern provinces of Laos. These included Phongsaly, Luang Namtha, Oudomxay and Bokeo provinces, and in February of 2010, a successful plastic mission already took place in Bokeo province, at the provincial hospital. In June 2011, LRF started examination of expectant mothers by ultrasound (Pha-Udom and Tonpheung districts). These missions offered dental, E.N.T and eye care, as well as obstetric and pediatric services. The outcome of the missions was highly successful, treating over 10,000 patients who otherwise could not afford healthcare.

Many of the diseases encountered in remote area are treatable and preventable. Cataract is the main cause of blindness, otitis media the main cause of deafness, and cavitas dentis the main cause of dental disease. Addressing these healthcare issues in a timely manner directly contributes to the prevention of diseases and to the recovery of patients.

The number of incidents of blindness, deafness and cavitas dentis is extremely high in these remote areas and will continue to increase without the intervention of a mobile healthcare service team.

3. Statement of Healthcare Plan in Remote Area for Expectant Mothers & Children.

The healthcare of expectant mothers and children is a priority for the ministry of public health and provincial public health in Laos.

In 2010, Bokeo province had a total population of 158,683 with a 2.79% pregnancy rate. 2.58% were children under one year old, and 13.32%, children 1-5 years old.

- Increase population rate:	1.8% per year
- Maternal mortality rate:	762/100,000
- Infant under 1 year old mortality rate:	42/1,000
- Child 1-5 years old mortality rate:	97.6/1,000
- Pregnancy under medical control rate:	55.66%

The above data shows that both, maternal mortality and child mortality are high in Bokeo province, despite support from an organization that provides care for expectant mothers and their children. Their services include vaccine injections, vitamin A, and parasite medication. However, with limited access to health care and limited education, mothers are unable to diagnose diseases and provide proper treatment. Specialists and diagnostic equipment are also severely limited.

This proposed healthcare plan is important and necessary for the continued success of preventive healthcare to decrease mortality rate of maternal, infant and child in remote area. This program is a cooperation of Prime Minister's Office National Science Council, Oudomxay Hospital, Bokeo Hospital, with the Lao Rehabilitation Foundation (LRF) and the Fred Hollows Foundation (FHF).

LAO REHABILITATION FOUNDATION (LRF):

Headquartered in California, USA, Lao Rehabilitation Foundation, Inc. (LRF) 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, 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 to the poor. The Foundation has also provided mobile medical equipment for dental, E.N.T and eye care. LRF is operating under a MOU with the Prime Minister's Office, National Science Council (PMO-NSC)

FRED HOLLOWES FOUNDATION (FHF):

The Fred Hollows Foundation (FHF) headquartered in Sydney, Australia, is a non-profit, non-government organization. FHF maintains an office at the Oudomkham Hotel in Oudomxay province. The project goal is to reduce avoidable blindness in Lao PDR. FHF is operating under a MOU with the Ministry of Health of Lao PDR (MOH) 15th September 2008. Activities include research, human resource development, infrastructure development, disease control, and the strengthening of advocacy partnerships.

4. Location and Duration

Healthcare was provided during nine days (October 2-10, 2011) in the three districts of Tonpheung, Huixay (BanDan) and Pha-Udom in Bokeo province.

Date	Location
October 2-3-4, 2011	Tonpheung District (District hospital)
October 4, 2011	Tonpheung District (Pediatrics in primary school – Lao Loum))
October 5-6-7, 2011	Huixay (BanDan) District (District hospital)
October 8-9-10, 2011	Pha-Udom District (District hospital)
October 10, 2011	Pha-Udom District (Pediatrics in two primary schools - Hmong and Khmou)

5. Team Work

52 people included:

5.1 Lao Team (44)

From Oudomxay Hospital (10):

- Ophthalmologist 01 (Head of Lao team)
- Dentist 01
- ENT 01
- Ophthalmic nurses 02
- Nurse assistants 05

From Bokeo Hospital (04):

- Pediatrician 01
- Dentist/ENT 01
- Obstetrician (ultrasound) 01
- Ophthalmic nurse 01



Local Staff (30):

- Nurse assistants (Tonpheung district) 09
- Nurse assistants (Huixay district) 08
- Nurse assistants (Pha-Udom district) 13

5.2 U.S. Team (08)

- President of LRF 01 (Head of US team)
- Ophthalmologist 01
- Radiologist 01
- Pediatrician 01
- Internal Medicine 01
- Ophthalmic nurse 01
- Lao coordinator 01
- Translator 01



6. Instruments and Medicine

This mission was performed using quality manual and automated equipment intended for mobile healthcare and effective medicines for treatment. This included:

1. Instruments and medicine for ENT service.
2. Instruments and medicine for dental service.
3. Instruments and medicine for eye service.
4. Instruments and medicine for expectant mothers.
5. Instruments and medicine for pediatric services.

(Details on attaches files)

III. GOAL AND PURPOSE

- Decrease the prevalence of blindness, deafness, cavitas dentis and the maternal-infant mortality rate.
- Broaden the coverage of health services for people in remote areas, ethnic minority groups and the urban poor.
- Service all patients who need ENT, dental, and eye care with no regard to gender, age, ethnicity and religion.
- Provide care for expectant mothers and their children with no regard to gender, age, ethnicity and religion.
- Service all patients free of charge.
- Provide service to a total target of 4,190 patients as follows:

No	Treatment	Target No. Patient			
		Tonpheung district	Huixay district	Pha-Udom district	Total
1	Dental	500	400	400	1,300
2	E.N.T	400	300	300	1,000
3	Eye	250	250	150	650
4	Pregnancy	150	120	100	370
5	Infant and child	400	300	300	1,000
	Grand total	1,650	1,330	1,210	4,190

- Provide cataract surgery to 80 cases, other eye surgeries to 40 cases and improve vision by providing glasses to 40 cases.
- Screening vision, dental and ENT for 600 children in primary schools.

IV. METHODOLOGY

1. Preparation

- We cooperated in partnership with PMONSC and with the provincial and district hospitals.
- We informed local authorities of the purpose, planned activities and obtained approval of our proposal from PMONSC and MoFA, and informed the MoH.
- We appointed patients by advertising and by informing them from district hospitals to villages.
- We prepared a budget, equipment, medicine and supplies, and assembled a Lao and US team.

2. Activities Performed

The team used modern manual and automated equipment to examine and treat the patients in five categories:

2.1 Examination and Treatment of E.N.T Diseases:

The ENT team (1 otolaryngologist and 1 ENT nurse) performed the following activities:

- Audiology tests
- Treatment of otitis media
- Removal of foreign body from E.N.T.
- Treatment of nose infections
- Treatment of tonsillitis



E.N.T patients are examined and treated by Dr. Ounkham Mongdangkay ENT doctor

2.2 Examination and Treatment of Dental Diseases:

The dental team (2 dentists and 3 dental nurses) performed the following activities:

- Tooth extractions
- Treatment of cavities
- Calciferous cleaning



Dental patients are examined and treated.



Tooth extraction and calciferous cleaning by Dr. Sonnaly Thongsavat, dentist.

2.3 Examination and Treatment of Eye Diseases:

The eye team (3 ophthalmologist and 4 ophthalmic nurses), performed the following activities:

- Vision test by E-Chart or Snellen Chart.
- Diagnosis with medicinal treatment of eye diseases
- Eye disease surgery when needed
- Cataract surgery with IOL implant
- Refractive service with donated glasses to improve vision for patients with myopia and hyperopia



Eye examined with digital slit lamp By Dr. Russell.



Dr. Luc Janssens is teaching Lao ophthalmologists how to use digital slit lamp to examine eye patients



Eye examined, IOL power calculated by A-B scan.



Cataract surgery by Dr. Russell and Dr. Houmphan using SICS technique.

– Primary eye care health education and post-operative procedures



Cataract post-surgery 1st day at Huixay (Bandan) district hospital.

2.4 Examination of Expectant Mothers:

Obstetrics Team (2 echography doctors and 1 OB nurse) performed the following activities:

- General examination
- Examination of the fetus by echography
- Health education including advice for follow up hospital visits, particularly for cases deemed problematic



Expectant mother examined with ultrasound machine by Dr. Vananh.



Dr. Vananh is teaching Lao radiologist and local staff proper ultrasound scanning techniques.

2.5 Examination and Treatment of Infant and Child:

Pediatric team (2 pediatricians and 2 assisting nurses) performed the following activities:

- General pediatric examination
- Examination for infectious diseases and provide medicinal treatment
- Health education



Child examined and treated by Dr. Siobhan, pediatrician.



Child examined, treated and advised how to take medicine by Dr. Chansouk, pediatrician.



Dr. Siobhan is taking care of children



2.6 Examination and Treatment of Adults, Internal Medicine:

Internal medicine team (1 internist and 1 translator) provided the following activities:

- General examination
- Examination of internal organs by echography
- Diagnosis and medical treatment
- Severe cases were referred to provincial hospital for treatment



*Adult examined and treated by Dr. Mark J Liponis
Specialist, internal medicine*

2.7 Screening of Children at Primary School

A team of 1 pediatrician, 1 internist, 1 ophthalmologist and 3 assistant nurses performed the following activities at three primary schools:

- Visual acuity test
- Weight and height measurements
- General examination
- Dental examination
- Dental care education
- Donated toothbrushes and toothpaste
- Fluoride varnish application



*Student examined at primary school (Tonpheung district)
by Dr. Mark J Liponis*



*Application of fluoride varnish at primary
school (Pha-Udom district)
by Dr. Luc Janssens, President of LRF*



*Student examined at primary school
(Pha-Udom district) by Dr. Siobhan*



Dr. Luc Janssens donated toothbrushes and toothpaste to children at primary school (Hmong and Kmou primary schools) Received by director of primary school in Pha-Udom district.

2.8 Other Activities Performed:

Medical equipment and medicine was donated for ENT, dental, and pediatric needs to Topheung, Huxai and Pha-Udom district hospitals. Dental equipment was donated to Bokeo provincial hospital. *(List of donated equipment on attach file).*



Dr. Luc Janssens donated medical equipment and medicine to Pha-Udom district hospital. Received by Dr. Bounleuam, Deputy Director of Pha-Udom District Hospital.

Lao Rehabilitation Foundation also provided funds to treat a monk at Bokeo provincial hospital from Topheung district who had contacted typhoid fever *(several other cases of infectious diseases were found in the 3 districts and transferred to Bokeo provincial hospital).*

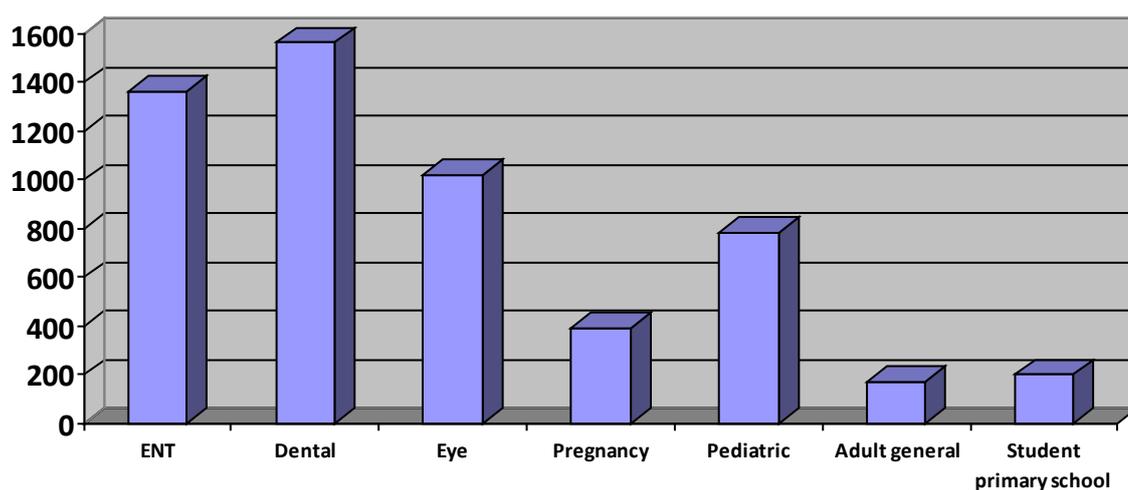


Dr. Luc Janssens with a 13 year old monk with typhoid fever at Bokeo provincial hospital.

V. RESULTS

A total of **5,478** cases were treated free of charge for all patients with no regard to gender, age, ethnicity or religion. (Female: 2,711 or 49.4%). Services included:

No	Treatment	Number of patient had examined and treated			
		Tonpheung district	Huixay district	Pha-Udom district	Total
1	E.N.T	275	408	677	1,360
2	Dental	451	601	511	1,563
3	Eye	315	364	339	1,018
4	Pregnancy	47	85	259	391
5	Infant and Child	103	307	372	782
6	Adult General	17	19	138	174
7	Children at Primary School	90	0	100	190
	Grand total	1,298	1,784	2,396	5,478



Patients travelling by tractor to get healthcare.



Patients waiting to be examined.

5.1 ENT Results:

1,360 patients were examined and treated in the three districts of Tonpheung, Huixay and Pha-Udom. ENT cases included:

- Acute and chronic otitis 745 cases
- Otitis Medium 169 cases
- Tonsillitis 134 cases
- Rhinitis 123 cases
- Nose polyps/sinusitis 16 cases
- Removal of foreign objects/others 173 cases

5.2 Dental Results:

1,563 patients were examined and treated in the three districts of Tonpheung, Huixay and Pha-Udom. Dental cases included:

- Tooth extraction 1,473 cases
- Filling of cavities 281 cases
- Calciferous cleaning 204 cases

5.3 Eye Results:

1,018 patients were examined and treated in the three districts of Tonpheung, Huixay and Pha-Udom. Vision tests with diagnostic examinations were also provided. Surgery was provided for 205 patients. Eye cases included:

- Cataract surgery 159 cases
- Pterygium excision 28 cases
- Eyelid correction 14 cases
- Charazion incision 4 cases

59 refractive services were performed and 36 pairs of glasses were distributed for refractive error (myopia and hyperopia).

5.4 Obstetric Results:

391 pregnant patients were examined in the 3 districts of Tonpheung, Huixay and Pha-Udom. 12 cases were declared problematic:

- Breach presentation 03 cases
- Twins 06 cases
- Placenta previa 02 cases
- Fetal demise 01 case

All problematic cases were advised to follow up at the provincial hospital.

5.5 Pediatric Results:

782 children or infants were examined and treated in the 3 districts of Tonpheung, Huixay and Pha-Udom. The main diseases were:

- Cold fever 297 cases
- Tonsillitis 172 cases
- Pneumonia 164 cases
- Diarrhea 55 cases
- Parasites 48 cases
- Other 46 cases

5.6 Adult Internal Medicine Results:

174 patients were examined and treated in the 3 districts of Tonpheung, Huixay and Pha-Udom. Diagnosis and treatment was provided when possible. Advice was given in all cases. Some cases were referred to the provincial hospital. The main complaints were:

- Abdominal pain 69 cases
- Back pain 42 cases
- Pulmonary 35 cases
- Infections and other 28 cases

5.7 Primary School Screening Results:

190 children were screened at three primary schools. In Tonpheung (1 school, 90 children, Lao Loum) and Pha-Udom (2 schools, 50 children, Hmong – 50 children, Khmou). Findings are as follows:

- All children had normal vision acuity exams.
- The majority of school children, regardless of which school they came from, had very low weights, heights, weight/height ratios, and BMIs compared with global averages based on most recent World Health Organization growth curve data.
- Children from the Tonpheung School had a much higher prevalence of severe dental caries: 33.8 % with Grade 4 disease compared with 4% in those attending the Khmong Pha-Udom school and 6% attending the Khmou Pha-Udom School.



A 6 year old child with dental cavities, at primary school

- Tonpheung School was also the only school that had a store located on school grounds. Children were seen purchasing candy and sweetened drinks from this store throughout the school day. We also noticed that candy wrappers and empty drink containers littered the schoolyard, in contrast to the other school campuses that were relatively free of litter.
- There was an association between the caries severity index and a child's growth, with children from the Tonpheung Elementary School having not only the highest prevalence of severe caries, but also the poorest growth indicators, as measured by Wt/Ht ratio SDs, BMI SDs, and Wt. SDs.

VI. DISCUSSION

The main cause of deafness is otitis media, acute and chronic. (55% of ENT cases). Otitis media in children and teenagers will often evolve to mastoiditis if not treated. This situation could easily be improved with education and access to basic medical equipment for ENT care at district hospital level.

Cavities are the main cause of dental disease. More than 95% of all dental cases we have seen were caused by dental decay. Extraction was performed in most cases. We have observed that the majority of the patients we have seen have a great need for dental prosthesis which our mobile team is not equipped to provide. Education and oral hygiene remain the most important factors to reduce the occurrence of dental disease.

We are concerned with the number of problematic cases of expectant mothers. (3.4% of all patients we have seen). In fact, the main cause of infant mortality is breech and transverse presentations in pregnancy. These cases should be followed up at the provincial hospital, but for the majority of people, distance, lack of funds and limited accessibility to the hospital make this option unavailable.

Cold fever is the most common pediatric disease. 43% of all cases we have seen were diagnosed as such. Our mission can only provide medicine and health education. Hospital follow up is difficult. Without treatment, cold fever can evolve to severe pneumonia which will often be fatal.

More than 60% of the children at primary school have poor dental hygiene and many cavities. The main cause of cavities is excessive sugar and poor dental hygiene. We recommend consultation with teachers by the public health department on how to develop a prevention program in schools.

VII. BUDGET AND EXPENDITURE

The projected cost of **53,002.00 USD** (Fifty three thousand and two USD) was to be provided mainly by Lao Rehabilitation Foundation with 10.5% support from Fred Hollows Foundation for eye care.

The total actual cost increased greatly to **75,224.00 USD** (Seventy five thousand two hundred and twenty four USD) as we exceeded our patient target by 1,288 (31%) and provided more medicine, medical equipment and supplies than originally planned.

The actual cost included:

– Medical equipment	\$14,861.00
– Transportation of equipment from USA (FedEx)	\$1,800.00
– Medicine brought from USA	\$21,822.00
– Medicine purchased in Laos	\$7,838.00
– Additional medicine purchased at Bokeo Hospital	\$808.00
– Transportation and accommodation of US Team	\$12,380.00
– Per diem and accommodation of Lao team	\$4,098.00
– Preparation of the mission	\$740.00
– Rental of vehicles and fuel	\$1,618.00
– Toothpaste and toothbrushes for children	\$430.00
– Funds for treatment of referred patients	\$624.00
– Medicine/supplies for eye service provided by FHF	\$8,829.00

- Notes:**
1. Medicine/supplies for eye service were provided by FHF and LRF.
 2. Trans-Pacific flights were individually arranged by US team members.

VIII. CONCLUSION AND RECOMMENDATIONS

This mobile health care mission in remote area at 3 district hospitals of Bokeo province during October 2-10, 2011 served 5,478 patients. This number was higher than our original projections. Ethnic minorities and urban poor were treated for ENT, dental, obstetric or pediatric care with no regard to gender, age, ethnicity and religion. All services and medicine to patients were provided by US specialists in partnership with Bokeo and Oudomxay hospital medical professionals. Patients were treated free of charge. The mission was funded at 88.7% by Lao Rehabilitation Foundation and its US team.

Accomplishments:

- We treated impoverished patients who otherwise would not have received help.
- We helped prevent cavitas dentitis, deafness, and infant and maternal mortality in Bokeo province.
- We improved health care for expecting mothers in all phases of pregnancy in remote areas.
- We educated the local staff on examination and treatment techniques for ENT, dental and pediatric health issues.
- We provided education and hands-on experience to Lao doctors who worked together with the team of US doctors.
- We provided assessment of needs for health care of children at primary schools in two districts of Bokeo province.

- We provided support with basic medical equipment and medicine to 3 district hospitals and for Bokeo provincial hospital.

Weaknesses:

- We did not have sufficient time to fully cover the needs of all patients.
- We did not have time to examine all children at primary schools as planned.
- Access by road was difficult and transportation of the team and equipment took considerable amount of time to Pha-Udom district.
- We think that cooperation between the Prime Minister's Office National Science Council and the Ministry of Health should be improved.
- The total expenditure was higher than originally budgeted. (Increased number of patients, cataract surgeries and need for additional medicine.)
- Given the decreasing value of the US dollar and rising inflation, budget for per diem and accommodation of the Lao team should be revised upward for further missions.

Unfortunately, many patients have not yet received treatment in this highly remote area. Accessing healthcare services include the following major barriers:

- Limited medical expertise and access to modern medical equipment at district hospital level.
- Lack of government funds allocated to ENT, dental, obstetric and pediatric healthcare in remote areas.
- Lack of education and medical equipment for ENT and dental care at district level.
- Limited awareness of the availability of primary ENT and dental care.
- Distance and limited accessibility to the hospitals for poor people.

In conclusion, a mobile healthcare program is necessary for the continued success of preventive healthcare in remote areas.

IX. LOCATION FOR NEXT MISSION IN REMOTE AREA IN FEBRUARY 2012

(Sites under consideration)

- Nga district (Oudomxay)
- Beng district (Oudomxay)
- Houn district (Oudomxay)

Director of Bokeo Provincial Public Health Department

Presented by:



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