

Laos Friends Hospital for Children (LFHC) in Luang Prabang, Laos

<https://www.fwab.org/laos>

Background information

(This information helps WFPI tele-readers understand the facility they are communicating with and adapt their opinions accordingly)

1. Could you provide a brief history of the facility? How does it fit into the national health system? Is it private, MoH or other?

May 2015: LFHC is the first full-service pediatric hospital in northern Laos and will eventually include: inpatient & outpatient departments, 24 beds, emergency room, intensive care unit, operation theater, laboratory, pharmacy, radiology, lecture rooms & library to teach pediatric medicine to the future leaders of the hospital, kitchen & laundry for families visiting the hospital, and a vegetable garden to teach families how to prepare nutritious meals.

As of mid-May 2015, LFHC is currently operating a growing outpatient clinic seeing up to 100 patients per weekday (which would include approximately 5-10 ultrasounds and 5-10 radiographs per day). Any patient requiring inpatient care would be transferred immediately next door to the adjacent Provincial Hospital which has its own radiology department. This Provincial Hospital department is staffed by approximately 6 radiographers who perform both the radiographs and ultrasounds. The ultrasounds are interpreted by the radiographer with an example image(s) often printed and sent with the patient including an interpretative handwritten note, while the xrays are sent back with the patient to be interpreted by the ordering MD. These radiographers have no specific pediatric radiology training, and there is no onsite radiologist at this hospital. Subspecialty pediatric care is available in the capital of Vientiane, 340 km and several hours by vehicle away, the transportation cost of which is prohibitive for many families in the region (despite government-provided health care for children under the age of 5).

Update Nov 2015:

Hospital is rapidly growing: + Currently operate in outpatient and inpatient setting with approximately 5 Laotian MD's seeing approximately 30-70 patients a day with the performance of approximately 2-10 radiological exams (combined radiographs and ultrasounds) per day

+ November 2015 is the scheduled opening of the ER

+ January 2016 is the scheduled opening of the ICU and operating room theater

• Continue to expand radiological services + Site visits for sonographers + Continuing support of PACS

2. What are the facility's future plans for meeting imaging needs?

May 2015: The hospital does not have a radiologist hired yet to interpret the images for a newly installed US and portable radiography unit. The hospital administration is interested in remote telereading through the WFPI, at least until they are able to hire a radiologist.

3. How many pediatric beds, what is the patient load?

May 2015: LFCH is seeing up to 100 patients per day in the outpatient setting. Within a year (possibly 6-8 months) the inpatient unit will open which will eventually include a NICU.

4. Pediatric imaging services: what equipment is in place? Are the systems digital?

May 2015: LFCH has a newly installed US and portable radiography unit.

The US machine is not DICOM compatible, and images are being stored locally as jpegs (cine images are essentially not possible for remote review). It's a donated, low end portable unit with adult-sized curved and linear probes.

+ no color Doppler capability

+ no pediatric probe (this has since been purchased) + not DICOM compatible (this has since been upgraded)

- Planned upgrade in future

The radiography unit is purchased, low-end portable and digital (with DICOM compatibility) and being stored locally as well.

- Future plan would include purchase of a larger permanent unit, and this would then become the portable/inpatient unit

Purchased - Carestream CR reader with a QC monitor and printer

+ QC monitor was the highest resolution monitor onsite, and was used to review radiographs (the lower resolution ultrasounds are reviewed on the screen at the point of care or on the storage PC).

+ Printer used to send patient images to the adjacent government Provincial Hospital

REGARDING CT and MRI - notes from LFHC Director:

The CT scan at the provincial hospital has not worked in 2 years. LFHC does not have one. There is no MRI in Luang Prabang that LFHC knows of. The patients would have to go to capital (13 hours by road) where there is a CT and MRI but they would have to pay. The likelihood of getting one is low. So this is only suggested if there is a possibility of high yield and ability to do something with the results.

5. Staffing: what imaging teams are in place? Current services offered/specialities covered/gaps in coverage? Future training options? Particular constraints?

May 2015: The hospital does not have a radiologist hired yet to interpret the images for a newly installed US and portable radiography unit. The hospital administration is interested in remote telereading through the WFPI, at least until they are able to hire a radiologist – planned in the future.

Hospital has difficulty in finding trained medical personnel in Laos and is under legal restrictions regarding the number of non-native hospital staff members.

+ RAD-AID is training a staff nurse identified for training, who is responsible for performing radiographs and ultrasounds. See below

+ LFCH hired second radiology technologist who began Aug 2015

Regarding the nurse identified to perform ultrasounds and radiographs: completed one week of dedicated training with a sonographer, and has begun training in performing radiographs. His English is good, but there is a language barrier, superimposed on the challenges of starting an ultrasound service after a week of introductory training. At the completion of one week, the RAD-AID team felt he was best at performing abdominal ultrasound, grey-scale testicular ultrasound (the machine does not have color), soft tissue masses, and kidney/bladder. RAD-AID had a pediatric radiology technologist onsite to assist until June 26th, 2015. The hospital has future training needs for the onsite radiology tech.

6. Is patient care fee-based, state-supported, NGO-supported, other?

The hospital was set up by Friends Without a Border <https://www.fwab.org/laos>, volunteer recruitment via this channel. Care is provided to the children free of charge.

7. How robust is the infrastructure? Power? Internet – bandwidth speed? Server reliability? Is equipment maintenance assured?

Power is available 75-99% of the time, and is considered by the hospital to be “sometimes stable”. Internet access is considered available with infrequent to occasional interruptions using cable, T1 or other high-speed shared access line, and mobile broadband access with 3G/4G networks. Maximal internet bandwidth is 14 Mbps. Landline telephone is available continuously, and the hospital is able to communicate via skype as well. The equipment maintenance program is in development. UPS are not currently available with intermittent surges in power, and no source of back-up power. The ultrasound and radiography units do not have a back-up unit in place (the patient would then need to transfer next door to the Provincial Hospital for imaging needs).

Legal caveat

The WFPI only gives advice via its tele-reporting work. We offer medical colleagues working at the patient's bedside an opinion which he/she can use (or not) as he/she thinks fit. The legal responsibility for the patient remains with the onsite colleague.