ANGKOR HOSPITAL FOR CHILDREN: TREATMENT, EDUCATION AND PREVENTION
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Cameroon

Poverty Statistics

- **Percentage of Cambodians who live on less than the $1.25 World Bank poverty line**
  - In Cambodia: 1 in 20
  - In developed nations: 1 in 120

- **Poverty rate in Siem Reap**
  - 51.8%

- **% of children under 5 who are stunted or too short for their age**
  - Rural areas: 64 in 1000
  - Cities: 13 in 1000

- **% of children who are malnourished**
  - Rural areas: 40%
  -Cities: 11%
The need for Pediatric care in Northern Cambodia is palpable. Although the medical care on offer has certainly improved and the statistics show a more stable situation for children living in the region, the demand for free and high-quality pediatric care continues to rise.

In 1999, one in five Cambodian children died before their fifth birthday, while today that ratio has improved to an average of one in 20. This is still, however, a distance from one in 120 found in developed nations. And the rate is much higher still in Cambodia’s rural provinces, where the infant mortality rate reaches 64 deaths per 1,000 live births.

Most people outside Cambodia know Siem Reap for its UNESCO World Heritage Angkor Wat temple complexes visited by millions every year, for its expensive hotels, and not for its status as the third-poorest province in Cambodia.

According to the UNDP, almost one-third of Cambodians live on less than $1.25 a day, which the World Bank considers the poverty benchmark.

Siem Reap is also largely rural and it’s here that the most significant health issues arise from poverty and lack of education, poor nutrition, lack of sanitation and hygiene, and lack of clean drinking water or an ability to purify what exists.

In 2010, 40 percent of children in Cambodia under five were considered too short for their age, stunted by malnutrition. Wasting, a sign of acute malnutrition, is less common but still affects 11 percent of children, according to the Cambodian National Institute of Statistics.

These figures are even more acute among rural populations. According to the UNDP, almost one-third of Cambodians live on less than $1.25 a day, which the World Bank considers the poverty benchmark. This means that since population census figures show 1.2 million children under 14 live in Siem Reap Province, of those, more than 360,000 live in poverty.

Clearly, most people cannot even begin to pay the estimated US$90 a year that the WHO estimates Cambodians spend on healthcare. Research shows that the most common reason for impoverishment in Cambodia remains emergency medical care. Angkor Hospital for Children is committed to addressing this challenge, paying the cost of transport home if that is a hardship.

Current health care expenditures by the Cambodian government amount to approximately $28 per person annually. This compares to a government spend of USD1,000 in the UK and USD2,650 in Germany.
Angkor hospital for Children has offered free and comprehensive health care services since 1999. Last year, the hospital provided 157,300 treatments to sick children at a cost to AHC of US$23 a child, compared to US$1,853 per patient in the United States. The budget for AHC medical care, education and community programs is US$4.5 million for 2012.

Since 2010, AHC also has operated a Satellite Clinic in Sot Nikum district of Siem Reap province. This is an effort to reach still more children in need and work with the local rural hospital to better meet local demand for medical care. This facility allows children from the region, 35 kilometers from Siem Reap town, to be treated at the same standard of care and not to have to make the expensive trip to AHC.

Currently, 49 doctors and 149 nurses work at the hospital, including three surgeons. All doctors were trained in-house at AHC, following completion of their medical school coursework. Dr. Bill Housworth, AHC’s executive director, is one of only two foreign doctors at AHC, while among the nurses there are also only two foreign staff.

The hospital provides what many view as the best pediatric care in Cambodia. Many of the standard practices are routine in western hospitals but certainly not in a pediatric facility in Cambodia.

At AHC, all patients receive respectful, equal and ethical treatment; there is 24-hour nursing care and patient/family education; here there is consistent and open discussion of medical care with patients and their families; children who have been critically injured or
are suffering a fatal disease are not sent home to die and palliative care is provided; children with chronic diseases are treated and followed even after they leave the hospital.

The medical staff is spread among units that range from Inpatient, ICU/Emergency Care, the Low Acuity Unit, Outpatient Department, the Satellite Clinic, Homecare, Ophthalmology, Dental Care, Physical Therapy, Capacity Building, Medical Education and the External Program. Truly, a family looking for good medical care for a child can find services to meet almost any need at AHC.

The most common ailments treated at the hospital include pneumonia, malnutrition, dehydration, diarrheal illness, HIV/AIDS, dengue fever, malaria and other tropical illness. The AHC surgical team performed an average of over five major surgeries a day last year and these range from hernias to open heart surgery.

The hospital emphasizes teamwork, says chief pediatrician, Dr. Ngeh Pises, among all levels and departments of the hospital.

Part of the problem with medical care in Cambodia is lack of government resources invested in hospitals and medical staff. Doctors’ salaries can be as low as $100 a month. At Angkor Hospital, salaries are higher.

Although the majority of clinical care at AHC is provided by the Cambodian staff, there is still sometimes a need for an overseas medical team with specialty skills and these have come to AHC from the United States, the UK, Singapore Australia and elsewhere.

“We want to play a role in healthcare in Cambodia,” says AHC director Bill Housworth. “What we are developing here is to be shared with the rest of Cambodia.”
The outpatient department is really the heart of AHC, the pulsing center around which much of the rest of the hospital revolves. An average of 450 patients each day reach the waiting room, where they take a number from the nurses and then patiently wait their turn. Despite waits of up to three hours for nurse triage and then again to see a doctor, patients still make the trip from their homes, many hours distant, for the quality of medical care offered here.

The OPD, lined with rows of wooden benches, on any one day is filled with caregivers and their children sitting quietly. The grassy play area behind the OPD features a much-loved and colorful slide, a swing set and a gazebo – all permanently filled with happy children and their families. A shed, also within view of the OPD, spills children bent happily over tables drawing and playing games with a play therapist while they wait for appointments or siblings in treatment.

Family education happens twice daily in the main waiting area for all caregivers keen to learn. Typically, topics covered range from nutrition, hygiene and oral rehydration to water preparation and sanitation. Nurses also provide information on dengue, malaria, parasites, malnutrition and breast feeding.

At meal times, the waiting room and grassy areas turn into al fresco dining as families purchase fruits and cooked meals from the many vendors outside the hospital gates or consume foods brought from home while rice is provided free of cost to the poorest families. Hot meals can be prepared in an outdoor cooking area by caregivers.

Seven doctors and 11 nurses handle the OPD crowd, which never really seems as chaotic as it might. The team works from 6:30 am, when the first patients are triaged and a decision is then made whether nurses can treat them in the OPD or to ask them to stay for a doctor consult and possible hospital stay. Each triage session takes between 10 and 15 minutes and careful evaluation of each patient and his or her needs is made.

The nurses can then provide basic medications when necessary: Amoxicillin, Cipro, both medications for pneumonia and pharyngitis. There is an oral rehydration room for children with acute diarrhea, and education for the parents on how to prepare and give the life-saving rehydration salts.

Time and resources are always short in the hospital and the OPD is where careful decisions must be made. Doctors and nurses must weigh illness against the number of beds available in the hospital, the doctors’ time against how many patients are waiting to be seen on any one day. Children who need obvious emergency care, of course, are directed quickly to the Emergency/ICU department where they are triaged and admitted immediately.
Once it is determined that a doctor should be seen, patients and caregivers are sent to an OPD consulting room for examination, vaccines and nebulizers. Illnesses treated range most commonly from pneumonia and malnutrition to tuberculosis. The doctors also see patients with chronic illnesses such as heart disease, HIV, epilepsy for follow-up care. Where clearly necessary, doctors refer patients to surgical teams. Ahead of either surgical or other care, patients are sent for blood tests, X-rays and ultrasounds. All of which can be done in the hospital, again free of charge.

Mondays are the busiest, packed with up to 600 patients who have held their need over the weekend. Many have traveled the distance on Sunday to be among first to be seen. The hospital gate is always open and guards turn away no one in need of care.

Every day at 5 pm nurses stop taking patients. All will have been triaged, but children who still have not managed to see a doctor, must join those who have been asked to stay for a specialty consult the next day and settle in for the night.

Cooking facilities are used by families of hospitalized patients and those waiting to see doctors alike. Filtered water is always on hand. Families who must wait until the next day receive mats and mosquito nets for the night in the OPD.

Although in reality patients come from all over Cambodia for AHC care, the majority are from Northwest Cambodia.

Patients often must make significant sacrifice in order even to get to the hospital, borrowing the between $10 and $30 taxi fare from local lenders who charge as much as 10 percent monthly interest. Most patients are from rural areas with no buses, no public transport options.

Many of the parents arriving have already visited their local health center and often a private clinic. “We didn’t trust the care,” is a constant refrain. “They gave medicine but the child didn’t get better,” is another.

Part of the problem in Cambodia is that the health system is broken. Doctors in government hospitals receive low pay, are poorly trained and their private clinics, which generate significant fees, usually take precedence over any hospital care.

In government hospitals there often is no emergency care, there is no chronic care, there exists little equipment and only staff irregularly. Private clinics push medicines and expensive tests to inflate bills people just can’t pay.
A day’s visit in the OPD shows clearly the space and staffing challenges the medical team faces, challenges that require constant juggling and sometimes a painful decision to send patients to another hospital – something that happens up to 15 times a day for lack of hospital beds and space at AHC. This is one of the unit’s biggest challenges, says Mr. Pin Prasith, the OPD unit manager who has been with the hospital for 13 years. It is exceptionally hard to tell patients who need hospitalization and want to be at AHC that they can’t stay for lack of space.

Additional staff and larger consulting rooms are urgently needed. Plans are underway to carve out precious new space for the Outpatient Department by the year’s end.

It is exceptionally hard to tell patients who need hospitalization and want to be at AHC that they can’t stay for lack of space.
The IPD Unit Manager, Seng Phearom, also has been at AHC since the beginning and like his OPD colleague, Mr. Pin Prasith, was educated at the government nursing school in Battambang. When he first arrived at AHC there were only five beds, and staff, he says, had to work hard to save and reuse any supplies.

The IPD now boasts a much more modern facility with close to 50 beds, including 10 in the Low Acuity Unit, which represents the transition between the regular ward and home. This unit allows for family education ahead of discharge for patients with chronic disease.

Three social workers are available to talk to families about care and provide education on nutrition and medication to ease the transition home and make sure the patient doesn’t return quickly. Three years ago, the main hospital ward was renovated to create one large, clean and bright space that allows staff to monitor patients easily and move quickly among beds – including when patient families smoke despite warnings not to do so.

And there are other improvements in conditions. While in the past supplies were short, although no one has the luxury of being wasteful, they are no longer reused. Hospital hygiene and infection control is also much better.

Like elsewhere in the hospital, adequate space is the ward’s biggest challenge. Seng Phearom worries staff must push doctors to discharge too quickly to make room for new patients in critical need of a bed. The situation is particularly challenging during Dengue or other epidemics.

Family health education is a central part of the Inpatient ward activities. Nurses estimate that about 20 percent of patients are repeat visitors and although some of these return with new ailments, some do so with the same condition.
Sometimes, this is because the rural, poor and uneducated patient population often just has not understood the medical staff instructions or the issues at home are fundamentally the same: lack of clean water, sanitation, poor nutrition – all rooted in poverty.

Of the 40 inpatients on any one day, about ten are usually babies. Neonatology is an area of particular focus for the hospital. This is where staff recognizes particular need. Because of the challenging birthing conditions for many mothers, the lack of trained staff and lack of care during pregnancy, infant mortality is high – although this is improving.
The emergency room of AHC is open 24 hours a day, seven days a week. Families with children in need of urgent care can always find treatment. Usually, there are between five and eight beds occupied in the ICU, which includes a four-room isolation unit. Although the numbers are adequate, there aren’t always enough beds to address need.

One day in Emergency tells the story of the hospital and its patient population:

- A young girl just out of surgery for a bowel obstruction.
- Another with trouble breathing because of a congenital heart defect. She is just one of 3,000 children on the hospital’s list of those in need of heart surgery. Like the others, she will die without the surgery yet only 100 children a year will receive the operation as AHC has only one surgical theatre. This little girl, like many others, will make many visits to the ICU ahead of any definitive answer to her disease.
- A girl brought by ambulance from the Satellite Clinic in a coma, suffering from meningitis. Doctors were monitoring her breathing and heart rate, worried she would not pull through, but we are happy to report that she did.
- A four-month-old baby with malnutrition and vitamin B deficiency treated with a simple thiamin injection, which radically improved his condition.
- A premature baby with pneumonia brought into the hospital from a regional government health center
- A dengue case, also from the Satellite Clinic.

Still, like all areas of AHC, space, equipment and staffing is tight, says Simm Chhomrath, who has been at the hospital since its founding and runs the ER to squeeze the most out of what is available.

Seeing the patients in the ICU helps tell the AHC story and shows how closely the various medical teams at the hospital must and do work together in order to maximize the limited resources available while providing the best possible care.

This, of course, is something we take for granted in a Western hospital but in Cambodia is still relatively unique and something that AHC works to impart to government hospitals.
Angkor has three surgeons among its 49 doctors. All are general surgeons, but are developing expertise in more specialized surgical care from the teams of visiting doctors, through the hospital’s Medical Education program and their own study.

The line outside the surgical consulting rooms is long each day, filled with patients and their families who have been referred by OPD doctors. Among them is Srey Mom, who has made the trip from Phnom Penh with her two-and-a-half year old son, who needs surgical care.

She has chosen to make the six-hour bus journey because she believes the quality of medical support her son will receive at AHC is better than any she could find in Phnom Penh.

Sar Vuthy, the hospital’s surgical director, also has been at the hospital since the beginning. After completing his medical studies at the University of Health Sciences in Phnom Penh in 1993, he went to work at a government hospital in Siem Reap, before joining AHC 13 years ago.

The biggest challenge, he says, is space. And this is particularly true on a day the recovery room is under renovation and the patients must rest on gurneys in the corridors. Still, there is a quiet and respectful care despite the lack of adequate passageways. Patients and doctors alike accommodate to the changed circumstances.

The hospital relies on about 10 specialty teams a year who come from Singapore, Australia and the United States, largely. These doctors come to operate or consult on particularly difficult cases.

Some of the health challenges the visiting teams have addressed included necrosis, enlarged colons, bone deformities, chronic limping from septic arthritis, and there have been surgeries to correct other deformities in children.

In general, Vuthy says, the health challenges that AHC sees among its pediatric population are typical of poverty and come with lack of pregnancy check-ups, inadequate nutrition, lack of hygiene and minimal education.
Research has been developed as an important part of the hospital only in the last few years, and only once the hospital was established enough for this not to interfere with clinical care. Dr. Varun Kumar, who has been at AHC since 2005, is de facto coordinator of research.

The topics of research in which AHC engages revolve around work relevant to the patient population, Kumar says. Most relate to infectious disease identification, epidemiology and cure. This sits within AHC’s vision, Kumar points out, of having impact beyond the walls of the hospital. Among the ongoing research topics are a diarrhea study looking at which antibiotics are most effective, as well as the epidemiological work behind this.

Another topic of research is a study of eye infections and adequate descriptions of these. Kumar explains that there is generally little research related to medical problems within the Cambodian patient population and so doctors must extrapolate from research elsewhere.

A study of the not uncommon thiamine or vitamin B1 deficiency, also known as beriberi, considers what a standard health facility in Cambodia ought to be looking for in the way of symptoms to make an adequate diagnosis without the expensive testing that isn’t available. This also covers when and how to treat.

Studies elsewhere have shown that injections of B1 given to infants dramatically decrease mortality, and AHC is working to develop hard data on this for Cambodian health authorities, as well as for their own purposes.

Other studies include one on fever, looking for causes, on paratoid gland infections, HIV misclassification, bone and joint infections and typhoid fever.
Respiratory, speech, neurological and orthopedic therapy are the services provided by the Physiotherapy Department at AHC. The staff of four, managed by Khut Rany, sees about 15 children per day. Sometimes patients come to the PT room but usually therapists visit the hospital wards as just one part of a treatment schedule.

The story of patients needing PT is much the same as in other departments of AHC. Children do not receive adequate care when needed and skeleto-muscular problems go untreated until the problems are severe. Orthopedic problems such as scoliosis, club foot and torticollis, when treated early in a child’s life, can be mitigated. But left untreated, especially through a child’s growing years, the results can be devastating to overall health.

The small PT team works with doctors and nurses within the hospital and travels with the Home Care team to treat children in their rural villages. Once a week, a therapist goes to the Satellite Clinic to manage cases there.

This unit is one of many within the hospital working to make lives better for impoverished children, helping them to build a productive future for themselves and their own families. Although in a country such as Cambodia where good care is hard to come by and physical therapy might be considered a luxury, for some children it is the difference between a future and none at all, with the risk of being trafficked as a beggar to Phnom Penh or Bangkok to exploit the child’s deformity.
AHC has a list of 3,000 children regionally who need heart surgery – either open or closed procedures to correct rheumatic or congenital defects. Angkor Hospital can achieve only 100 in a year, using its one operating theatre.

Dr. Ngeth Pises is responsible for the hospital’s heart program, which began with visiting teams of doctors from Singapore, Australia and the United States performing the operations. Now, Angkor Hospital surgeons are increasingly capable of performing the surgeries themselves.

In 2011, 82 heart surgeries were performed with a 99 percent success rate, including 19 open-heart procedures.

In order to meet demand, there is a need to build a dedicated operating theatre that would allow the hospital to provide the free surgery to many more children, who will die without. The entire family of a pediatric heart patient in Cambodia suffers hardship – both emotional and economic. The constant trips to the hospital with a sick child mean a family is unable to work consistently and has significant travel costs that often eat into any meager savings or assets.

At the same time, as a free pediatric hospital, AHC must constantly weigh the expense of a procedure against the number of children who will benefit. While a closed-heart surgery costs $800, an open-heart surgery costs the hospital $3,200, which represents a fraction of the cost in a developed world context but is significant in terms of the hospital’s budget.
OPHTHALMOLOGY

Dr. Phara Khavv with great care and a steady hand, leans over a six-year-old boy who recently managed to put a bamboo stick through his eye. The doctor removes the sutures, all nine of them, across the boy’s cornea, deftly performing the procedure with the benefit of a brand-new scope.

The new ophthalmology room is impressively fitted and opened only in March 2012. The purpose-built facility allows Dr. Phara to see between 60 and 70 cases a day. Infection control is rigorously enforced, as it is in the rest of the hospital.

Dr. Phara is the only ophthalmologist at AHC, but he is supported by a staff of three, including nurses and a rotating hospital anesthesiologist who helps with both minor procedures and the more complicated surgeries in the new ophthalmology operating theatre. As part of his daily routine, Dr. Phara performs 100 minor procedures and 40-50 major surgeries every month.

Among the main complaints the doctor treats are dropsy, cataracts, eye squints, droopy eyelids and traumas, most of which are caused by sticks, wild birds, agriculture accidents. Children and their families come from as far as southern Cambodia for Ophthalmology care since AHC’s unit has developed a reputation as perhaps the best free pediatric eye care center in the country.

Beyond the daily treatments and procedures, the department hosts clinics at health centers. Nurses screen patients for eye problems and teach the community medical staff what to look for as well as how to test for visual acuity.

At the same time, the eye care staff holds clinics for primary school children and shows teachers how to screen for eye problems. In all, 1,000 students a month are screened over nine months of the year. The clinics have boosted the number of AHC ophthalmology patients dramatically. More children have received needed treatment as rural populations have learned where to get effective help for their children in case of eye trauma or other problems.

As in other AHC departments, the focus is on the quality of care and the compassionate attitude of staff toward patients – something that is not always a given in Cambodia.
DOCTORS TRAINED AT AHC: 66
OUTSIDE DOCTORS, NURSES AND HEALTH CENTER STAFF TRAINED BY AHC: >5,000
% OF STAFF THAT IS CAMBODIAN: 98.5%

AVERAGE NUMBER OF CHILDREN SEEN DAILY IN THE OUTPATIENT DEPARTMENT: 460
AVERAGE NUMBER OF CHILDREN ADMITTED EACH MONTH: 290

NUMBER OF CHILDREN WHO VISIT THE EMERGENCY ROOM ON AVERAGE EACH MONTH (INCLUDING SATELLITE CLINIC): 1,400
MONTHLY AVERAGE OF CHILDREN REQUIRING INTENSIVE CARE: 60
NUMBER OF MAJOR SURGERIES DAILY (INCLUDING OPHTHALMOLOGY): 7

HOSPITAL CAPACITY

BEDS IN INPATIENT DEPARTMENT: 30
ADDITIONAL EMERGENCY BEDS: +10
ICU/ER BEDS: UP TO 15
SATELLITE CLINIC BEDS: 20

MOST COMMON AILMENTS:
PNEUMONIA
MALNUTRITION
THIAMIN DEFICIENCY
DIARRHEAL ILLNESS
HIV/AIDS
DENGUE FEVER
MALARIA
SEPSIS
NUMBER OF TREATMENTS GIVEN SINCE DOORS OPENED: >1 MILLION

NURSING STAFF: 149
DOCTORS: 49
SUPPORT STAFF: 130

NUMBER OF TREATMENTS GIVEN IN 2011: 157,400

HOSPITAL BUDGET FOR 2012: US$4.5 MILLION

PERCENTAGE OF DONATIONS USED TO CARE FOR CHILD: 93 PERCENT

AMOUNT SPENT ON MEDICAL EDUCATION AND COMMUNITY EDUCATION 2012: $1 MILLION

COST OF HEART SURGERY: US$800-3,200
NUMBER OF HEART SURGERY PATIENTS TO DATE: 300

CHILDREN IN NEED OF HEART SURGERY
>3,000

AVERAGE COST OF TREATMENT TO AHC PER CHILD:
OUTPATIENT US$3
INPATIENT US$253
INTENSIVE CARE UNIT US$356

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Many of the health challenges that AHC staff see derive from poverty and lack of education. Improving knowledge of nutrition, sanitation, hygiene and water purification can go a long way toward improving the health and lifespan of the entire pediatric population. One startling statistic: a full 17% of deaths in children under five are from acute respiratory infection, which of course is highly treatable.

Thus, faced with the staggering number of children falling ill and dying from preventable ailments and widespread malnutrition, AHC in 2001 introduced CBHEP as a comprehensive program to address prevalent health issues in the community.

The program, with a budget this year of close to US$200,000, represents another aspect of the hospital’s extension into the community to provide training and education.

The stated objective of the Capacity Building program of 21 staff is then, “to improve access to healthcare for families and their children in order to reduce mortality and morbidity.”

The program works largely in Sot Nikum district, where the Satellite Clinic is located and where CB has worked with 16 of the 23 health centers – each for four years - to deepen local knowledge related to health. Each health center works with up to 13 villages.

Among CB’s achievements:
- Promoted good health practices among 277 villages in the province
- Helped to train and educate more than 200,000 villagers
- Recruited, trained and mobilized 10,64 Village Health Providers and Village Health Supervisors
- Provided medical training to 157 health center staff
- Made structural improvements in 18 rural health centers

THE CBHEP’S Springboard project is a four year, four phase program structured in three complementary projects: Health Center project, Health Education project and Community Health Development project – each with its own objective.

- The Health Center project focuses on improving the standard of care at rural health centers through training and education of government healthcare providers
- Health Education assesses health care needs of the community and then provides targeted knowledge focused on disease prevention and good health practices
- Community Health Development focuses on strengthening the existing health network at the village level through providing ongoing training for Village Health Volunteers
The clinic opened its doors on the grounds of the Sot Nikum referral hospital in Siem Reap province two years ago with a goal of reaching more children and, at the same time, working with a government hospital to augment the quality of care offered there.

This particularly poor, rural area was chosen since it seemed to be sending many children the 35 kilometers to AHC at significant cost to parents. There was a particular interest in providing support on neonatal issues and newborn care. The small hospitals and rural health centers had little equipment or expertise to handle problems that arise during a delivery or shortly thereafter such as birth asphyxiation, neonatal infections or jaundice.

These are routinely handled in the West with no adverse consequences to the child but in a Cambodian poverty context, they can cause unnecessary complications. Nearly a quarter of the Satellite emergency cases last year related to neonates.

AHC established Cambodia’s first public-private partnership with a local government hospital, adding a pediatric component and working specifically to improve the quality of the lab, the pharmacy and the X-ray department.

It was thought modeling a good quality of care might also lead to broad improvement elsewhere in the public unit. Sot Nikum coordinates with 23 regional health centers as a so-called referral hospital.

The Satellite Clinic last year saw more than 1,000 patients a month, with close to 100 of these hospitalized monthly in the 20-bed facility.

“We want to provide the same quality of care as at AHC,” says Helen Catton, the British nurse who runs the Satellite Clinic. “But we want to do that in partnership with the government.”

Beyond bringing the AHC staff to the Satellite clinic on a rotation, time has been invested in training the X-ray, lab and pharmacy staff. When the Satellite first opened, Catton explains. The staff wasn’t present and the X-Ray room was mostly locked. Staff would simply register in the morning and then disappear for the day.
A system of incentives and training offered by the Satellite, however, has turned that around. “Now the lab woman comes on her bicycle at night to do tests for us,” Catton says.

A relationship also has been formed with the delivery room of the hospital and an emergency button installed to summon Satellite staff in the event of an emergency. Of the 20-30 deliveries a month at the hospital, the Satellite treats about seven of the newborns as well as others from health centers. Health problems can now be treated effectively.

Once again, work here is not limited to the clinic. Staff provides mobile education and clinical work at regional health centers, including in three locations that are over 80 kilometers away. In all, the Satellite serves a population of about 300,000.

Since the work is less pressured than at AHC, the Satellite has become an excellent teaching facility. Dr. Lori Housworth and some of the senior doctors from the main hospital take turns working here with the residents. In an environment where doctors must rely mostly on strong clinical and patient skills rather than expensive tests and equipment, the quieter atmosphere of the Satellite is a perfect spot for learning.

Finally, its smaller size allows the Satellite to be at the front end of the implementation of new programs and protocols. The satellite launched its Neonatal program in February, creating a separate area for babies. AHC will follow suit by the year’s end, drawing from the experience gained in Sot Nikum.

Likewise, following a recent medical review, new protocols aimed at reducing mortality (and in particular baby mortality) were developed and these are already being implemented at the Satellite. Once fully tested they will be expanded to AHC.
EXTERNAL PROGRAM

Seven nurses work with the AHC External Program, the objectives of which are to improve the quality of medical and nursing care broadly in Cambodia. Under this program, doctors and nurses are loaned to government hospitals and health centers on a rotating schedule.

Beyond working directly with staff and patients to build the quality of care, the doctors provide training in clinical guidelines and help introduce these to public hospitals.

Part of the challenge of working with government hospitals in Cambodia, however, is that salaries are very low. Additionally, there is not enough equipment or staff.

Still, the AHC staff work hard to try to improve the care on offer, despite the critical challenges: “We want to see an improved medical situation for all Cambodians,” says Naro Kong, the External Project consultation manager.

If while working in a government hospital, AHC staff sees a critically ill child, they do sometimes transfer that patient to AHC, where they will receive better treatment but this is not a long-term solution. “We want to keep people closer to home so they don’t have to spend money on transport, sell a rice field, a cow or whatever they own in order to raise money to get here,” she says.

As with all aspects of AHC, there are many facets to the External Program, which also is working with the Cambodian Health Ministry on its nursing protocols, and to support the development of a code of ethics and a nursing conference in Phnom Penh.

“We want to keep people closer to home so they don’t have to spend money on transport, sell a rice field, a cow or whatever they own in order to raise money to get here,” Naro Kong says.
Certainly, one of the many aspects of the hospital that differentiate it from other NGO hospitals in Cambodia is the priority placed on medical education.

AHC is not only a provider of quality medical care, it is the premier teaching facility for pediatrics in northern Cambodia. Through the AHC Medical Education program, AHC doctors participate in a three-year residency program following completion of their own classroom training at medical school.

In 2012, AHC recruited 11 new doctors fresh out of medical school instead of the usual five recruits in previous years. The purpose of this expanded class is to ensure that AHC is able to have an increasingly positive impact on the pediatric healthcare challenges in Cambodia by sending many of these doctors back to their home communities after training.

Thus, AHC must offer these junior doctors a growing educational experience that focuses on real pediatric health issues and a more direct experience with the government healthcare system. The Cambodia Demographic and Health Survey shows that some main challenges the government, NGO and private healthcare providers face include quality healthcare access for the rural poor, neonatal care, nutritional issues and many others unique to rural communities.

Also under AHC Medical Education, there are ongoing classes and seminars open to both doctors and nurses that ensure they sustain best practices in pediatric medicine. The up to three hours of training weekly covers topics that range from new medical information to cases or techniques discussed in medical journals. There are also lectures on hospital research.

Finally, visiting doctors from abroad offer lectures on new techniques that are appropriate for the hospital.

Beyond the in-house medical training, the residency program and the programs for doctors and nurses from other hospitals, fellowships are available to all AHC staff. Every year, several doctors and nurses are sent abroad to further their own knowledge in their field or build expertise in a specific facet of medicine.
Vibol Duong, medical education coordinator, explains that the strong medical education program at AHC has grown from the hospital's vision of working to improve the government health system.

He says that while Western medical schools are linked to hospitals, where much of the teaching happens, this has not been the case in Cambodia so the need for in-hospital training is acute.

Staff professional development includes CPN – Certified Pediatric Nurse – training. This entails 450 classroom hours and two full years of pediatric nursing.

Dr. Neou Leakhena coordinates the medical education for doctors and emphasizes the importance of the hospital as a role model for education and continuing education. All staff, she says, participates in both teaching and learning – something that aids medical development.

As well as coordinating medical education, like all doctors in the hospital, Dr. Leakhena is a clinician, with a specialty she has developed herself in neonatal care. As one of only two female doctors at the hospital, she is also developing a second specialty in adolescent female disease. “I’m teaching myself so I can then teach others,” she says, true to the AHC spirit.

A clear sign of the importance of the education program for doctors and nurses at AHC is that most might earn significantly more in other hospitals and private clinics yet choose to stay.
HIV / HOMECARE / SOCIAL WORK

At AHC, the HIV/Homecare program is a direct extension of the hospital work, reinforcing the treatment that children receive while patients. Homecare serves the many children who are living with chronic disease, which requires frequent and consistent medical support.

The Homecare team, which includes physiotherapists and social workers, makes sure patients are taking prescribed medications, that the conditions at home are right for recovery, that difficult situations that might lead to illness or injury in the first place are resolved.

Homecare operates with seven nurses, two doctors, three social workers and the team of four physiotherapists. They often travel together to visit patient homes. Additionally, once a week a social worker will visit the Satellite clinic and make trips into the community. In all, over 250 homecare visits are made each month.

There are 605 HIV-positive children on AHCs patient lists and the hospital is the largest facility outside of Phnom Penh providing lifesaving antiretroviral HIV therapy to children.

For these patients and others with chronic disease living outside Siem Reap province, regular travel to and from the hospital is physically or economically impossible. The team thus travels to rural communities to assess and treat a child.

On one visit, a social worker visited a 16-year-old boy with epilepsy who previously had not been taking his medicine but showed on this visit that he was now doing so; the social worker went to check on a family with two young children with epilepsy to find that they had moved from their straw shack to a home further away. The quandary then was how to find them and make sure the children were medicated appropriately to stop seizures. Closer to Siem Reap, a team visited a young single mother who had brought her severely malnourished child to the hospital some months earlier. AHC staff had found her a better place to live and a job and she was receiving regular baskets of nourishing food from AHC for her baby, who had clearly recovered and was thriving.

Another child visited, a boy with cerebral palsy, had been left at the hospital by his mother and AHC had placed him with a foster family. The nurse, social worker and physical therapist all had work to do to make sure his care was adequate in his new home and they left satisfied that this was the case.

A big part of the Homecare program is work with young HIV patients, who receive ARTs from the hospital. Staff works hard to make sure the medications are taken properly and nutrition is adequate to keep them healthy.