

Chenla Children's Healthcare Assessment Report 2026



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Executive Summary

Chenla Children's Healthcare represents an innovative and sustainable model for strengthening lifesaving pediatric and neonatal care in Cambodia's underserved provinces affected by poverty and disease. Established in 2016 within the Kratie Provincial Referral Hospital, and initially supported by three key foundational partners, Chenla integrates NGO-supported pediatric services directly into the public healthcare system, providing life-saving care with quality and compassion in rural Cambodia. Its partnership model with provincial health departments has expanded to Mondulkiri and Stung Treng, and now includes Ratanakiri, with plans for other provinces.

Context

Despite major gains in reducing national child mortality, Cambodia's rural provinces have child mortality rates multiple times higher than in Phnom Penh. This is driven by limited access to care, inadequate human resources and infrastructure, and low-quality health care. With a vision of equitable, high quality pediatric care for all, Chenla created a model to revitalize public sector pediatric services through a sustainable capacity-strengthening partnership with the Ministry of Health and provincial departments of health.

Chenla's Model and Mission

Chenla's mission is to ensure that all Cambodian children have access to quality, compassionate, and affordable healthcare within their own provinces.



The Chenla model combines integration with the public sector, high clinical standards, and capacity strengthening of medical professionals and support staff in a highly cost effective, efficient framework.

Chenla operates inside provincial referral hospitals, using existing infrastructure, labs, and administrative systems while co-funding staff and supplies. Low provider-to-patient ratios, continuous patient monitoring, 12-hour shifts, and a culture of safety and respect result in exceptional care quality. On-the-job training and mentoring is an essential component of the positive, proactive culture of Chenla, which empowers Cambodian medical teams. Importantly, shared costs with hospitals and Health Equity Fund (HEF) reimbursements make care affordable for families and fiscally sustainable for the current health system.

Key Results

Since 2017, Chenla has transformed pediatric care in eastern Cambodia through:

- ✦ Reduced child mortality: Kratie Province has seen the largest drop in infant and under-five deaths of any province in Cambodia. In Mondulkiri, neonatal deaths have fallen dramatically since Chenla's partnership began.
- ✦ Improved access and utilization: Chenla now serves over 30,000 pediatric inpatients and outpatients annually, with increasing volumes at all sites.
- ✦ Expanded scope: Chenla operates three provincial sites, with 98 staff (21 physicians, 50 nurses), and provides NICU, PICU, ER, and outreach services reaching an additional 19,000+ people in remote villages.
- ✦ Enhanced trust in public hospitals: Community confidence and referrals have risen, reversing trends toward private sector dependence.
- ✦ System strengthening: Provincial hospitals report higher revenues, improved quality rankings, and strengthened collaboration with maternity and laboratory services.



Strengths and Challenges

Chenla's core strengths lie in its dedicated local staff, its partnership ethos, and its consistent quality of care. The model has proven that rural hospitals can deliver international standard care if properly supported. However, long term sustainability depends on integrating Chenla's staffing model and standards into provincial health budgets. Challenges include limited revenue from current hospital fee structures and the need for standardized operating procedures across sites to support expansion.



Opportunities and Alignment

Chenla's approach directly supports the Ministry of Health's Universal Health Coverage Roadmap (2024– 2035) and national priorities for improving maternal, newborn, and child health. The model aligns with Cambodia's Hospital Accreditation Standards (CHAS) and offers a practical path toward quality improvement and rural health equity. Provincial health directors and MOH leadership have endorsed Chenla's model as a national example for replication in other border and rural provinces.



Key Recommendations

1 Develop and document organizational policies and procedures for human resources, clinical care, and quality assurance.

2 Form joint implementation teams at each hospital to advance CHAS and the National Quality Monitoring Tool.

3 Leverage Chenla expertise for hospital-wide quality improvement and committee participation (QI, IPC).

4 Expand professional development and ensure equitable training for all Chenla and government staff.

5 Strengthen community outreach and neonatal resuscitation training in collaboration with provincial health departments.

6 Integrate Chenla staff and operational costs into provincial health budgets in a stepwise fashion to ensure long-term sustainability.



Conclusion

Chenla has proven that high-quality public sector pediatric care can save lives and strengthen the health system in Cambodia's rural provinces. Its model is cost-efficient, replicable, and fully aligned with national reform goals.

As Cambodia advances toward Universal Health Coverage, Chenla stands as a proven framework for transforming provincial hospitals into centers of excellence for children's health and for bridging the remaining gaps in rural healthcare equity. Chenla's conceptual framework should be applicable in other low-middle income countries as well.



Context

In the 21st century, Cambodia has begun to overcome its recent past and overall has experienced rapid economic growth, significant poverty reduction, and improvements in infrastructure and social services in urban areas. Leaving behind its reputation as a place marked by instability and the lingering impacts of war, the country attracted foreign investment that developed key sectors such as garment manufacturing, tourism, and construction. These developments contributed to impressive sustained GDP growth of 7% annually from 2010 to 2019 (World Bank). Since then, shocks to the global economy caused by the COVID-19 pandemic, the war in Ukraine, and a rebalancing of global trade have slowed Cambodia's growth and contributed to inflation and price increases that are estimated to erase some of this progress. In 2025, large reductions in overseas development assistance (USAID) put pressure on Cambodia's nascent public health sector because key health initiatives have historically been supported by this aid.

Cambodia's healthcare system had to be rebuilt from the ashes of the Khmer Rouge and has grown in both size and capability in the last two decades. Between 2014 and 2022, Cambodia achieved its Sustainable Development Goal to reduce child mortality overall, marking an important milestone. However, large discrepancies remain in rural areas where these goals have not been met. During the same period, the country introduced health coverage for poor and near-poor households through the Health Equity Fund (HEF), which was rolled out to all provinces by 2015 and ensures free health care at public sector facilities for those who qualify. By January 2021, one-fifth of Cambodians were covered by the Health Equity Fund insurance scheme for the poor (ILO, 2024). The quality, scope and safety of the health care delivered at these facilities however remains very limited.

Improvement in major health indicators demonstrates Cambodia's increasing ability to provide essential services; however, a closer look shows that large critical gaps remain. Despite increases in insurance coverage, three out of five adult women report major challenges accessing health care, which can be due to lack of time, transportation, or means to pay (CDHS). The most recent demographic and health survey shows persistent stunting and wasting, indicating chronic undernutrition. In rural areas, a quarter of children under five are stunted.



Geographically, development progress has been centered around Phnom Penh and the central and southern regions, while far-flung provinces to Cambodia's north and east have the highest poverty rates (World Bank), and maternal, infant, and under-5 mortality (CDHS). Access to improved water and sanitation also lags in the northeast, with open defecation and unsafe disposal of children's stools still common in Ratanakiri, Mondulkiri, and Stung Treng. Additionally, Ratanakiri stands out for having by far the lowest rates of educational attainment and the lowest functional literacy rates among adults (CDHS).

Infant and under-5 mortality provides a good example of uneven progress. The national rates dropped significantly between 2014 and 2022 (CDHS). This historic success is attributed to strong leadership and coordination by the Sub-Technical Working Group for Maternal and Child Health and the Early Essential Newborn Care (EENC) Coordination Committee, midwifery training programs, and cash incentives that greatly increased facility-based delivery (WHO 2025). However, infant mortality in the northeast is still more than double what the 2014 rate was in Phnom Penh (Table 1). In 2022, infant mortality ranged from 5 deaths per 100,000 live births in Phnom Penh, to 42 per 100,000 live births in Preah Vihear and Stung Treng provinces. Greater focus on quality of care is needed to help rural provinces catch up and further reduce maternal mortality (currently 154 deaths per 100,000 live births) (WHO, 2025).

	Infant Mortality		Under-5 Mortality	
	2014	2021 - 2022	2014	2021 - 2024
PHNOM PENH	17	5.2	23.2	5.2
KRATIE	60.8	12.2	79.9	14.0
RATANAKIRI + MONDULKIRI	72.2	36.9	81.0	42.3
PREAH VIHEAR + STUNG TRENG	70.0	42.0	78.8	27.5

Table 1. Infant and Under-5 mortality rates in select provinces from the Cambodia Demographic and Health Surveys, 2014 and 2021-2022



Cambodia lacks vital registration data, but a verbal autopsy study of neonatal deaths in two provinces found prematurity, congenital abnormalities, birth asphyxia, and infections to be the most common causes of death; several babies died at home or were not treated by a skilled provider (Suzuki et al 2021). Among young children, malnutrition, malaria, dengue hemorrhagic fever, respiratory illness, and diarrhea are common. Increasingly, zoonotic threats like H5N1 bird flu and degraded water quality in the Mekong are potentially life-threatening health concerns.

Since the appointment of the new leadership team at the Ministry of Health (MOH) in 2023, significant strides have been made to strengthen maternal and child health systems. A National Committee on Maternal and Child Health, chaired by Her Excellency Professor Im Sethikar, Secretary of State, was established to provide strategic oversight and support. This included advancing Cambodia's Maternal and Perinatal Death Surveillance and Response (MPDSR) system, a data-driven framework aimed at identifying preventable deaths and improving care quality. The committee has conducted strategic reviews and capacity-building workshops to enhance MPDSR implementation nationwide, linking data to actionable interventions.

Although Cambodian Ministry of Health (MOH) aims to reduce remaining gaps in health access and insurance coverage, social protection spending lags behind neighboring countries at only 2% of GDP versus 12% of average ILO countries (Karamba, Tong, and Salcher). Cambodia's high and rising use of private sector health care is linked to high out-of-pocket health expenditure compared with the Asia Pacific region—60% of total health expenditure is out-of-pocket. The recent Cambodia Socio Economic Survey found that 84 percent of people who had recently sought health care went to the private sector first, and this was no different between rural and urban populations. Even the rural poor are choosing to spend money on private sector care over public sector services, which for lower income Cambodians means incurring expenses they cannot afford and most often receiving sub-optimal non-standardized care. In one survey, workers reported spending, on average, about \$150 USD in the last 6 months on health services for their dependents (ILO) while the average per capita annual income remains approximately \$700 in the eastern provinces. Trust in what should be trustworthy care is clearly lacking.

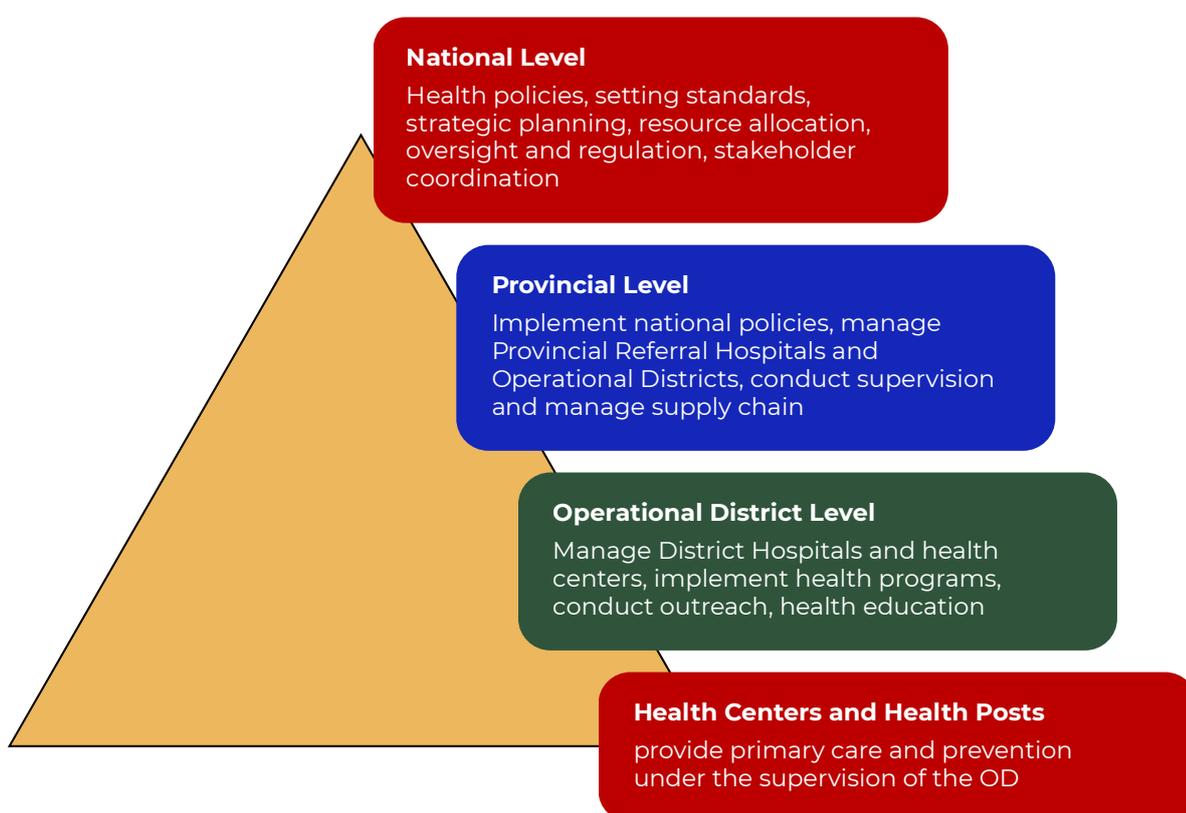


Cambodia's Healthcare System

Cambodia's healthcare system, under the management of the MOH, provides primary, secondary and tertiary care at public facilities (Figure 1). Private clinics and hospitals operate alongside these, often managed and run by government providers in order to supplement their incomes and make a living wage. The public system still aims to be the backbone of healthcare in rural areas and provides free services to the poor via Cambodia's national Health Equity Fund (HEF). Key challenges in the public sector are understaffing, low pay and poor quality oversight. These factors have led to most public providers also having a private practice. High use of private sector services indicates lack of confidence in the public sector and often desperation for quality care. In a survey of workers covered by the National Social Security Fund, more than half reported discrimination by health professionals (ILO).

Rapidly growing in urban areas, the private sector offers services ranging from general practice to specialized care, but most often refers high risk / most in need cases to the public sector even at late stages of disease processes have developed. Despite the development of minimum licensing standards and the initiation of training for private providers, regulation and quality control very much remain ongoing challenges. Implementation of these standards began in 2025, but consistent enforcement and oversight are still evolving. The removal of USAID funds will assuredly further delay implementation.

Figure 1: Structure of the Cambodian health system



Progress Toward a Robust Healthcare System

A series of MOH strategic initiatives, policy developments, and institutional reforms have laid the foundation for a more resilient and equitable health system. In 2015, the Ministry of Health drafted the Law on the Administration of Health Services to establish legal structures for licensing, monitoring, and evaluating healthcare providers. Building on this momentum, in 2019, the Concept Note and Road Map to Establish the Cambodian National Healthcare System was developed and presented to the Quality Improvement Working Group and was officially endorsed in 2020. Another major milestone was achieved in 2022 with the approval of the Cambodian Hospital Accreditation Standards (CHAS). These standards enabled the Quality Monitoring and Enhancement Program (QMEP) to advance from Level 1 to Level 2, forming the technical foundation for a national healthcare accreditation system. This upgrade reflects Cambodia's growing capacity to monitor, evaluate, and improve healthcare service delivery.



Thus, the Cambodia MOH has been on a journey to improve quality, oversight and accountability, particularly in the public sector where in Cambodia many believe the future lies, similar to Singapore, Canada, or Australia. The MOH is now, however, seeking to integrate the private sector into quality monitoring and accreditation system and has formed a technical working group in 2024 to provide oversight of the private sector.

In 2023, under the leadership of the newly appointed Minister of Health, Cambodia launched a comprehensive reform agenda to further enhance healthcare quality and achieve Universal Health Coverage (UHC). The Minister introduced nine strategic directions and three national priorities to guide the sector's development.



Three National Priorities:

1 Strengthening health center services by improving infrastructure, equipping facilities with modern medical tools, and enhancing staff capacity through training.

2 Upgrading hospital services at all levels, including emergency and surgical care, and enforcing regulatory oversight of private clinics, particularly those offering plastic surgery.

3 Institutional capacity building, through continuous leadership training aligned with national policy goals, and reinforcing healthcare services to meet global UHC standards.

Along with these priorities, the Universal Health Coverage Road Map 2024–2035 is a comprehensive national strategy aimed at ensuring that all Cambodians have access to quality health services without financial hardship. It aligns with the Royal Government of Cambodia’s broader development goals and the Pentagonal Strategy, which prioritizes human capital development and social protection.

Key components include 1) training healthcare professionals to align with National Quality Enhancement Monitoring (NQEM) focus areas; 2) establishing the Cambodian Healthcare Accreditation Commission; 3) Reviewing and revising national accreditation standards; and 4) Seeking recognition from international accreditation bodies. Not included is aligning salaries closer to but not on top of market rates.



History of Chenla Children's Healthcare

For over eight years, Chenla Children's Healthcare has served children from birth to 14 years of age in eastern Cambodia where rates of poverty are highest. Headquartered in rural Kratie Province, about five hours by car from Phnom Penh on the Mekong River, Chenla serves as the pediatric department within Kratie Provincial Referral Hospital. Since April 2022, Chenla also provides comprehensive pediatric care at the Mondulkiri Provincial Referral Hospital and in July 2023, Chenla began providing Neonatal ICU and emergency neonatal care in Stung Treng Provincial Referral Hospital. Work in Ratanakiri began in 2026.

Dr. Bill Housworth shared a short story from when he visited the town of Anlong Veng back in 2009, leading to the formation of Chenla Children's Healthcare.

"I visited Anlong Veng with some professionals from Angkor Hospital for Children back when it was still surrounded by jungle. I wanted to go there because I knew that the community had many exKhmer Rouge people in it and because it was the town that former French captive Francois Bizot was brought to and wrote about in his book "The Gate". It was a transformative trip for me because it was a place where one could feel history and all of its complexities still being alive. The horrific history was on display through the poverty and extremely poor health outcomes in the area. But that certainly was not the entirety of the story. What struck me the most was the desire of many individuals in the community to do the hard work themselves to greatly improve their lives.

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The experience transformed my belief about NGO work that our role in assistance should be one of sensitively but quickly and strongly providing the resources needed that are not being provided through the government or local system. To remain committed. And also to stay out of the way - so to speak. When we formed Chenla in 2016 this became our ethos: to provide what is needed urgently in places affected by severe poverty, but also to keep stepping back as the local system takes hold. We always plan for this, but our plan remains flexible on the ground in difficult places. Some even still surrounded by jungle."



Chenla Children's Healthcare was born from a fervent belief in the capability and resilience of Cambodians and a vision to strengthen the Cambodian public healthcare system to provide acute, chronic and emergency care for neonates and children in rural provinces. Chenla was established through the initiative and leadership of Dr. Bill Housworth, a former director of Angkor Hospital for Children (2008-2015), and his wife Dr. Lori Housworth, who built and ran the sexual abuse clinic at AHC during the same period.

Their deep understanding of Cambodia's culture and healthcare context, combined with their commitment to listening to and empowering local professionals, laid the foundation for a model of care that is locally driven and internationally respected. To do this, Chenla funded facility upgrades in three provincial referral hospitals and adapted evidence-based management, healthcare delivery, and monitoring and evaluation practices to fit its unique NGO and public healthcare mixed model.

Because Chenla's founders had experience with the charity hospital model that operates parallel to the national health system, they saw an opportunity to innovate by integrating their new organization within the system. Several considerations led to the design of Chenla's mixed NGO and public health care model.

Chenla wanted to enhance the range of services and quality of care that is available in the highest need provinces, improve the skills of physicians and nurses, increase trust in the public sector, and minimize out of pocket costs that burden low-income families while charging a reasonable fee for those who can pay.



Importantly, the Chenla model would be fully integrated with public sector health services, reducing the risk of donor dependence that weakens the overall health system by siphoning talent and taking over the responsibility for higher level care. Therefore, Chenla envisioned a sustainable model that uses outside funding to establish essential components of neonatal and pediatric care and strengthens the public system to maintain services that are high quality and safe. Working at the provincial referral hospital level made sense because these facilities represent the highest level of care available in each province. They are essentially the last stop for severely ill or injured patients and families in rural areas.



In Kratie province, Chenla operates as a semi-autonomous children's hospital embedded in Kratie Provincial Hospital. The pediatric ward of KPH is fully managed by Chenla but remains within the government system. Public healthcare providers work alongside Chenla providers, and the facility uses the public healthcare fee structure.

Nurses and doctors who work at Chenla are empowered to provide high quality care in a team-based setting where hierarchy is de-emphasized, and regular community outreach helps to build trust and keep a finger on the pulse of the surrounding communities. The Mondulkiri and Stung Treng sites have adapted this model in their context. All local revenue is collected by the public hospital itself thereby strengthening the overall hospital.





Report Objectives

The overall objective of this assessment is to understand and document Chenla's unique operating model and ethos. Within this objective we will describe how the Chenla model aligns with the national direction and strategy for Cambodia's public healthcare system, explore strengths and challenges with Chenla's operations, and we will quantify the impact this model has had on health facilities and the overall health system since 2018. A secondary objective is to chart a long-term path for sustainability, meaning services can be provided at Chenla sites with the quality standards set by the public healthcare system.

Assessment Methods

We used desk review to examine Chenla's financial model, volume of services and treatment outcomes, and alignment with the Cambodia Ministry of Health. Documents reviewed include official MOH strategies and reports, Chenla Children's Healthcare annual and quarterly reports, and service provision data and expenditure data from Chenla and the Kratie Provincial Referral Hospital. Data on HEF payments and patient payments was collected from KPH official monthly reports.

To learn about Chenla's leadership, management, and role in the local health system, an inductive qualitative approach was used. The assessment team reviewed documents and conducted key informant interviews during field visits to each Chenla site. Interviews were conducted with provincial officials, hospital officials, Chenla staff (administrators, doctors, nurses, cleaning staff, drivers), staff of the government sites who work with Chenla (laboratory staff, maternity ward staff, doctors and nurses employed by the hospital and who are assigned to pediatrics, i.e. they work at Chenla). In Kratie and Mondulkiri, the assessment team was also able to visit a district hospital, and in Kratie and Stung Treng the team interviewed community members at a market near the PRH.





	Kratie	Mondulkiri	Stung Treng
Stakeholders			
Provincial Officials	1	2	6
Hospital Administration	3	1	1
Shared Services Staff	2	1	-
Chenla staff			
Managers	2	-	-
Doctors	3	2	1
Nurses	4	1	2
Support Staff	2	-	-
Community Level			
Local Health Facility	1	1	-
Community Members	12	3	5

Table 2: Interviews conducted

The Chenla Model

Mission

Chenla Children's Healthcare set out to fill a critical gap in lifesaving pediatric services in rural Cambodia. By 2016, Phnom Penh and Siem Reap already had excellent children's hospitals. However, outside of these areas there was little hope for babies born prematurely or children with severe acute illnesses. The public healthcare system in several provinces lacked the resources, equipment and staff to save premature infants and treat severe childhood illness, leading to high rates of infant, under-5, and child mortality. Chenla's founding team wanted to ensure that all Cambodian children could access a hospital capable of treating the main causes of neonatal and childhood death, and for children in need of specialized care, stabilizing and safely transporting them to Phnom Penh.



The premise of Chenla is that all children and families deserve high quality, respectful, person-centered care. By delivering this care as a part of the public system and within communities, Chenla will meet immediate healthcare needs, build trust and confidence in the health system, strengthen the skills of providers, and permanently improve healthcare quality.

After visiting a few sites, Chenla's founders decided to start in Kratie province because specialized pediatric and neonatal care was not available and the provincial health department was excited to work with Chenla. In June 2017, the following Five Key Aims were developed in consultation with the Ministry of Health.



Chenla's Five Key Aims

Developed in consultation with the Ministry of Health

1 Provide high quality holistic healthcare in Kratie

2 Link healthcare with educational outreach to remote towns and vilages

3 Establish a stabilization and referral center for children needing high-level care (heart surgery, cancer treatment, extensive ICU services)

4 Improve medical standards in the region by training local personnel in high quality care

5 Obtain a portion of funding from local and regional sources from the beginning



Chenla staff describe a unifying mission to provide the best patient care in their setting. When asked what differentiates Chenla from other facilities and services, key themes were: 1) a focus on cleanliness to make the facilities inviting and for infection prevention and control; 2) respectful and sensitive treatment of patients and their families; 3) commitment and dedication to timely 24/7 care; 4) and continuous learning.

As Chenla expands beyond Kratie, the heart of Chenla's mission and its original five aims are extended to provide lifesaving pediatric care in Cambodia's underserved rural provinces. Chenla strengthens hospital-based care by influencing the public healthcare system from within.



Developing the Chenla Model

The concept for the Chenla model came from the idea that to effectively treat most pediatric patients, it may not be necessary or wise to build and run expensive stand-alone children's hospitals in rural Cambodia. The existing provincial referral hospitals are intended to serve as the tertiary hospital for each province.

A separate pediatric facility would risk diminishing their role by encouraging local residents to use services outside of the public sector, diverting talented providers and making appropriate investment to strengthen the public sector less likely. However, Kratie Provincial Referral Hospital's pediatric ward was under resourced, its staff and leadership overstretched and lacking the vision and equipment needed to fulfill their lifesaving role.

Dr. Bill Housworth and his team began developing what would become a stable, long-term partnership with the Kratie Provincial Health Department, the governor of Kratie, and the director of Kratie Provincial Hospital. KPH agreed that Chenla would manage the pediatric section of the hospital, bringing in more equipment and supplies, establishing a NICU and pediatric ICU, supporting staff training, and hiring some additional medical staff to supplement the hospital's 8 nurses and 2 doctors assigned to pediatrics as well as additional cleaning and administrative staff. Chenla would be allowed to set standards and policies for pediatric care, such as low provider-to-patient ratios, a different shift schedule, and continuous patient monitoring.

In return, the hospital director and PHD pledged to cover all the costs they normally would incur for the pediatric ward: provider salaries, utilities, basic drugs and medical supplies, and use of the laboratory, imaging department, and hospital administration services.

Even before launching services at KPH, Chenla conducted outreach clinics in communities around Kratie starting in December 2016 in conjunction with the PHD and hospital. Thus, when Chenla began supporting inpatient care at KPH in May 2017, people were aware that Chenla had come to Kratie. In the first year of operations the caseload increased dramatically as people brought their sick children to KPH, and the vision for Chenla Children's Healthcare became a reality. At the same time, a new model for partnership and capacity strengthening was born.

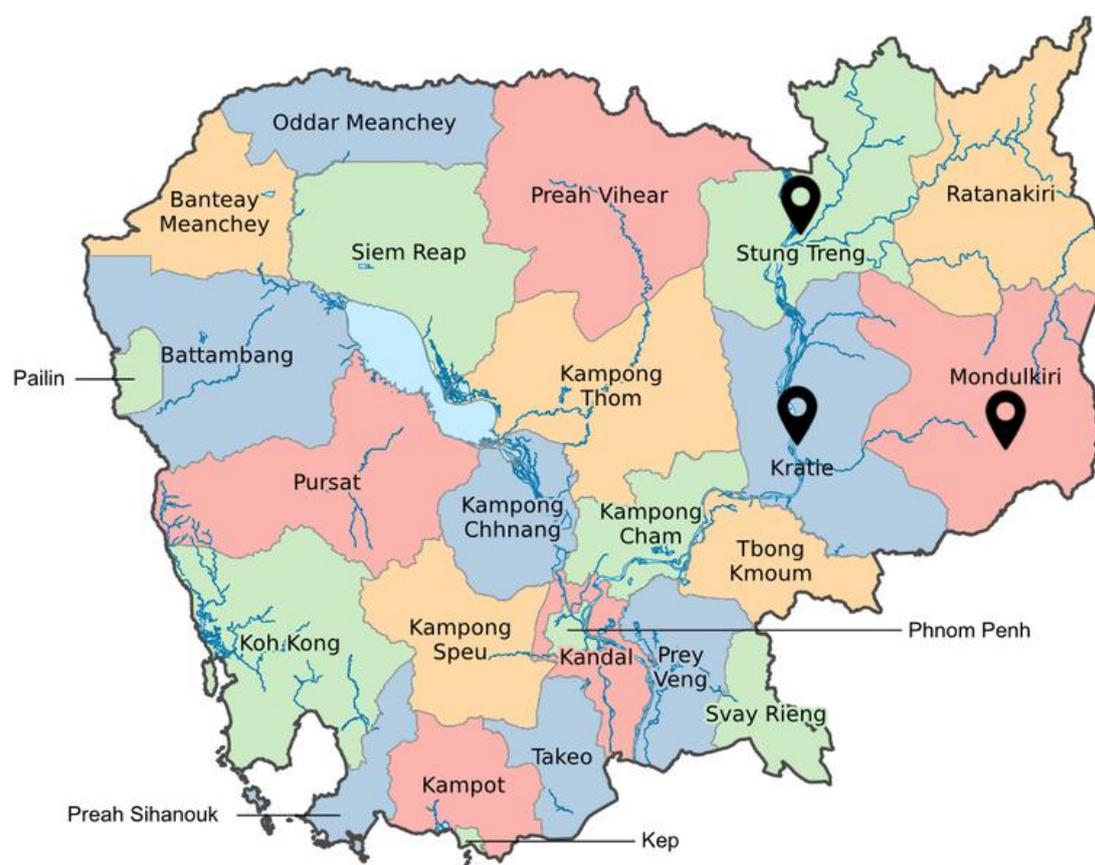


Expansion to other provinces

Chenla now operates in three provinces with great need for high quality pediatric healthcare: Kratie, Mondulkiri, and Stung Treng. After a few years of services in Kratie proved the concept, Chenla began to think about scaling up to other provinces that lacked crucial neonatal and pediatric services. From the beginning, Chenla collected data on each patient's place of residence and found that a significant number of patients were traveling to Kratie from neighboring provinces, reflecting the lack of adequate pediatric care. Chenla leadership made visits to Mondulkiri and Stung Treng to connect with the provincial health department and further assess the infrastructure and human resources available to deliver neonatal, infant, and pediatric services.

Mondulkiri was a good candidate for a second site because the needs there reflected those of KPH five years before. The provincial referral hospital was under resourced and had a high infant mortality rate, and there were no well-equipped facilities within reasonable distance to refer neonates or severely ill pediatric patients. Further, the Provincial Health Department supported the idea, and the PHD Director and Provincial Referral Hospital Director were motivated to become active partners and agreed to implement Chenla's technical model and cost sharing.

Figure 3: Map of Chenla operations





About three hours from Kratie by car, the provincial capital of Mondulakiri is nestled in the hill country of Eastern Cambodia, bordering Vietnam. The province has difficult terrain with dense forests and steep hills separating people from services. Several ethnic groups live in Mondulakiri and neighboring Ratanakiri. The Chenla partnership with the Mondulakiri Provincial Health Department and Provincial Referral Hospital formally began in 2021.

The PHD director was motivated to reduce Mondulakiri's high infant and child mortality rates, recognizing that local services were inadequate and there was no alternative, being seven hours from Phnom Penh over bumpy roads. The partnership with Chenla has dramatically influenced the infant mortality rate there according to the PHD Director, who described the difference as night and day. To increase community confidence and service utilization, the PHD has also supported community outreach with Chenla four times per year.

“Before Chenla, small babies under 2 kg died here. Now there are virtually no newborn deaths in Mondulakiri PRH. Thanks to Chenla, we have equipment, training, and adequate supplies to save these babies.”

PHD Director, Mondulakiri Province

Stung Treng is the site that most recently started implementing the Chenla model for neonatal care. Going back to 2018, Chenla had explored working in Stung Treng because the need was painfully apparent. At the time, the PHD and Hospital Director could not find an appropriate space for Chenla to operate within the provincial referral hospital. Directly north of Kratie on the Mekong river, Stung Treng borders Lao PDR and the PRH is a five-hour drive to the nearest tertiary hospital with a NICU, in Siem Reap and about two hours to Kratie. Prior to 2022, there were no specialized neonatal services available in Stung Treng province. Chenla has not expanded to manage the pediatric ward or provide pediatric outpatient services but plans to do so as soon as a building can be renovated.

Chenla seeks to replicate its pediatric care model in other provinces with the greatest need such as Ratanakiri and beyond.



Current scope of services and facilities

Across the three provinces, Chenla has 98 paid staff, including administrative and cleaning staff. Of these, 21 are physicians and 50 are nurses. Chenla Children's Healthcare maintains nurse-to-patient ratios of 1:5 to 1:6 in both the inpatient and neonatal units, and 1:1 to 1:2 in the ICU. Unlike most public hospitals in Cambodia that operate on a 24-hour shift model, Chenla applies a 12-hour working shift system, enhancing staff attentiveness and patient care quality. Chenla uses the hospital laboratory, imaging department, and administrative staff for patient registration and insurance billing; these staff are paid a modest amount from Chenla on top of their government salary but are not counted here as staff.

	Kratie	Mondulkiri	Stung Treng
Beds			
Total	51	33	14
ER	2	2	1
Inpatient	21	18	-
ICU	11	3	-
NICU	17	10*	5
SCUBU	-	-	8
Staff (FTE)			
Physicians	12	4	3
Nurses	30	13	7

Table 3: Chenla capacity and medical staff by site

*In Mondulkiri, the NICU is combined with the special care baby unit (SCUBU)



Chenla treats approximately 30,000 pediatric inpatients and outpatients per year, not counting community outreach. The number of patients has been growing in Kratie since 2022, after the COVID-19 pandemic waned (Figure 4). Patient volume is also growing steadily in Mondulkiri and at the smaller Stung Treng site, where Chenla currently treats neonates only. With these two new sites, the number of neonates treated doubled between 2022 and 2024 (Figure 5). The top diagnoses among Chenla patients in 2024 were dengue, diarrhea, pneumonia, other respiratory illnesses including bronchitis, tonsillitis, and asthma, and anemia.

Figure 4: *Chenla patients by site 2018-2024*

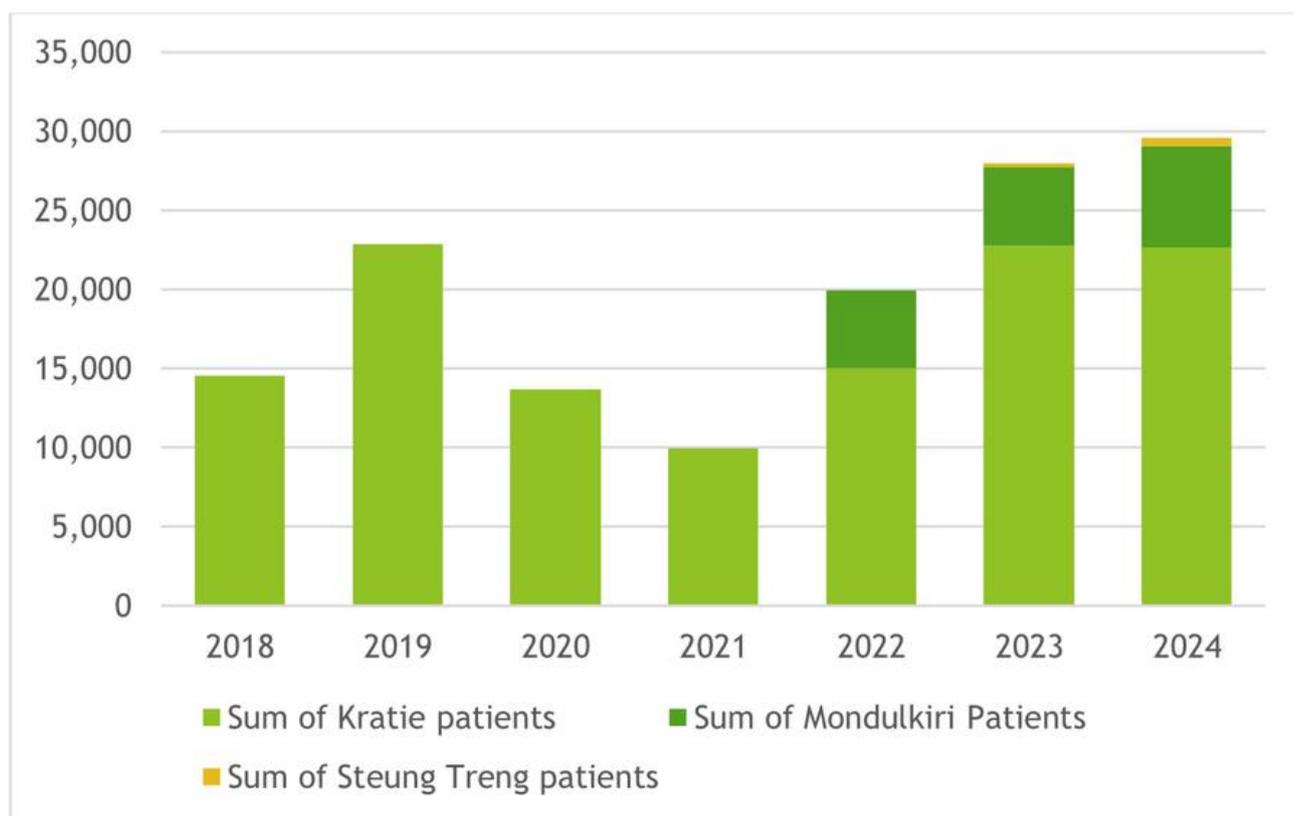
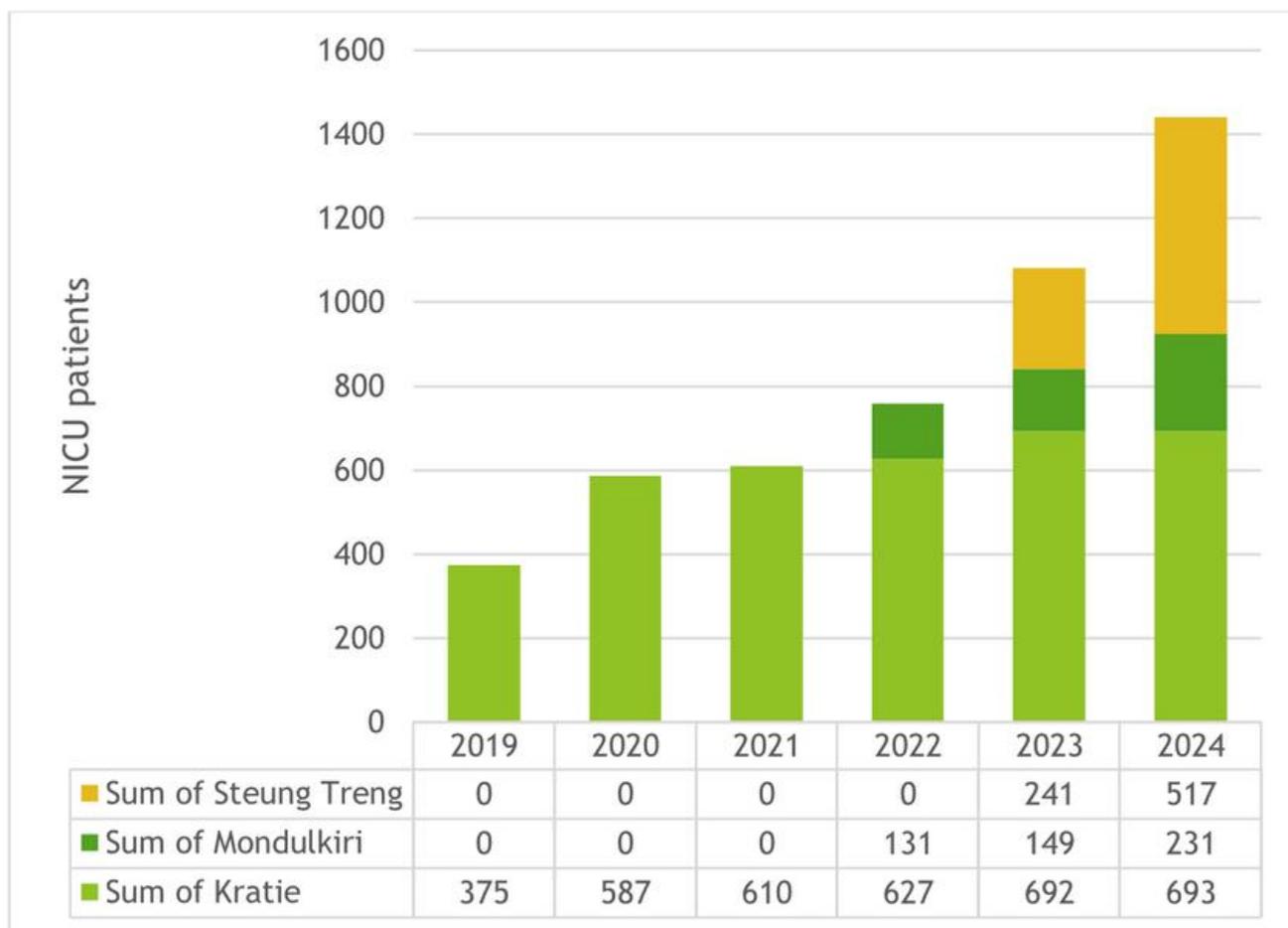




Figure 5: Neonates Treated at Chenla Facilities



Kratie Province

At Kratie Provincial Hospital, Chenla is housed in a new 51-bed pediatric facility committed to delivering high-quality healthcare services to children from Kratie and neighboring provinces, including Stung Treng, Tbong Khmum, Mondulkiri, and Ratanakiri.

Established in 2016 with 35 beds in one of the hospital's existing buildings, Chenla has grown significantly in Kratie and opened its new building in 2025. This new facility of approximately 14x40 square meters was designed to integrate seamlessly into the hospital campus and be located close to the maternity ward. With a strong foundation that can accommodate future expansion, it now serves as the dedicated pediatric department providing a range of high quality and safe pediatric services through its outpatient department, 21-bed inpatient unit, 11-bed Intensive Care Unit (ICU), 2-bed emergency unit, and 17-bed neonatal unit.

In 2025, the Kratie outpatient department has had an average of 62 patients per day. The bed occupancy rate is 84% over the past 12 months, but exceeds 90% during the rainy season, which often coincides with increases in dengue fever. In August 2024, the KPH site was over capacity. When patients surpass the number of beds, Chenla puts mattresses on the floor and provides care to every child in need.



These services are delivered in a child-friendly environment that also provides a supportive and well-equipped workspace, something staff frequently highlight as a key factor in their job satisfaction. The facility was designed to be bright and spacious, child friendly with art and cartoon characters painted on the walls, and to have dedicated space for standard precautions for infection prevention and control, supply storage, good ventilation, and air conditioning. While the new pediatric section at KPH is more spacious and better equipped for optimal patient care than other departments, the building blends in with the rest of the hospital.

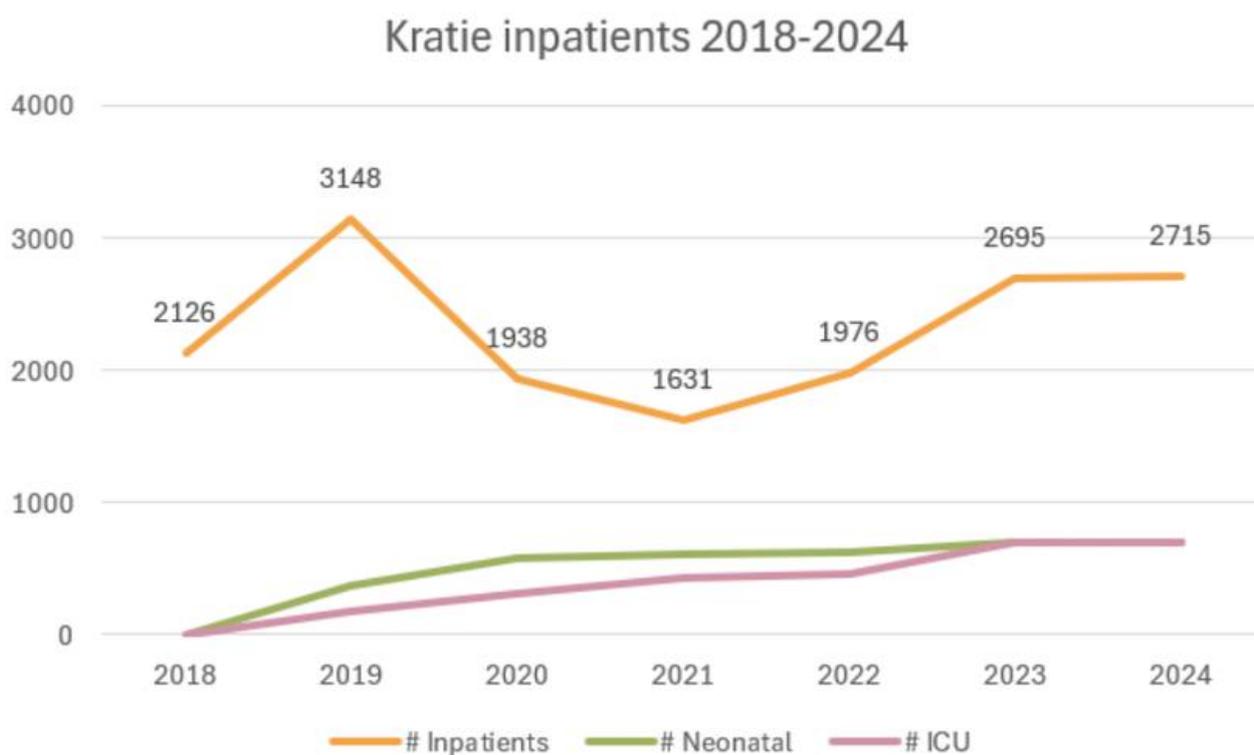


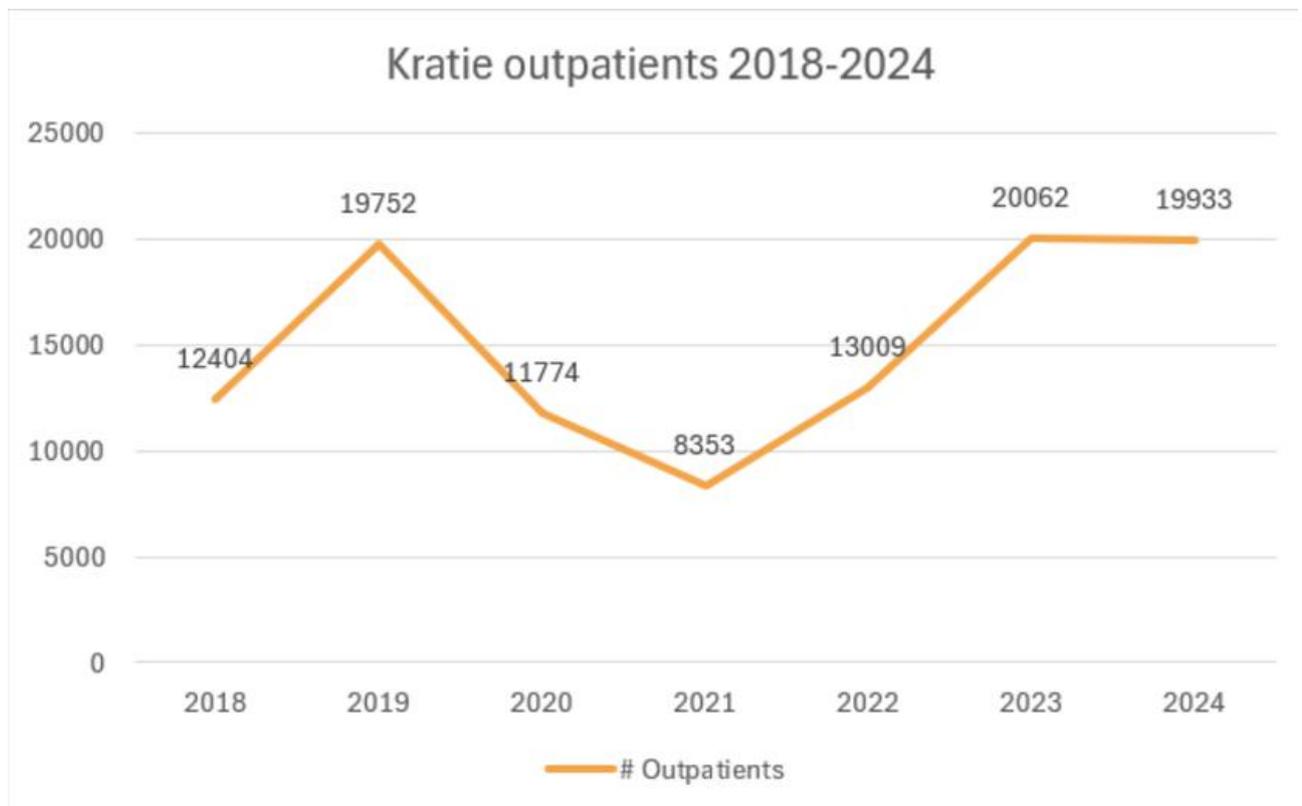


“Working at Chenla makes me feel incredibly happy. The facilities are clean, we have enough medical supplies to do our jobs properly, and there’s a real sense of trust—no micromanagement. It’s a place where we feel empowered and respected.”

– Nurse, Chenla/ Kratie

Figure 6: *Kratie patients over time*





As Chenla’s most mature site, trends in service utilization in Kratie provide clues for how other sites may evolve. After a huge jump in pediatric patients seen at KPH from 2017-2019, service utilization overall has been steady over time with the notable exception of the COVID-19 pandemic from mid-2020 until mid-2022. During the COVID-19 period, NICU and ICU use held steady while inpatient and outpatient numbers dropped sharply before rebounding in the second half of 2022.

The need for some specialized services has changed significantly since 2018. In the first two years, Chenla-Kratie was providing over 60 patient transfers annually to Phnom Penh. This tapered off and now averages about 30 patient transfers per year. Chenla strengthened care in Kratie—and families’ trust in that care—to the point where patient transfers are reserved for those in need of specialized surgery, extensive ICU needs, or care for rare diseases.



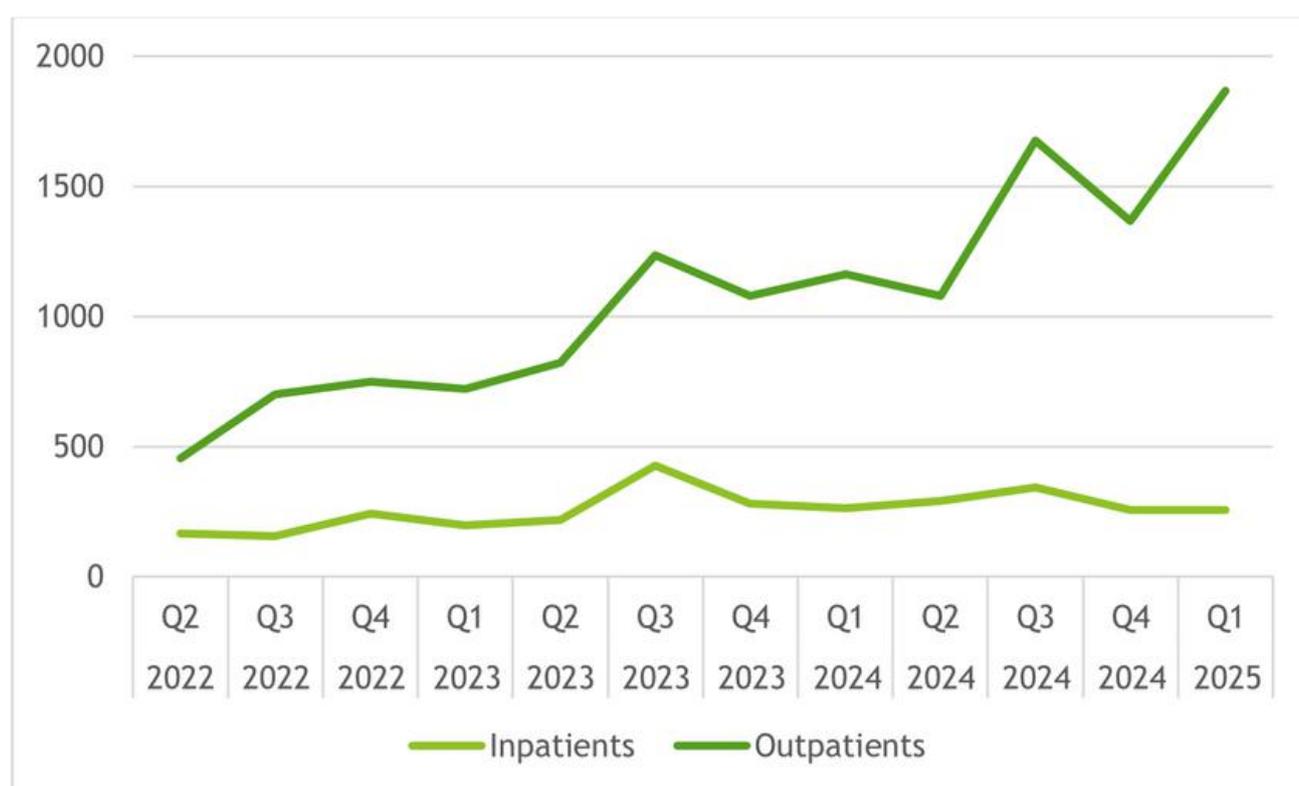
Mondulkiri

Using lessons learned in Kratie, Chenla worked with the Mondulkiri PHD and provincial referral hospital to plan an upgrade of the existing pediatric ward in Mondulkiri PRH in 2022. The pediatric ward was previously open to the outdoors, separate from the neonatal ward, lacked an ER and a pediatric ICU, and did not do consultations. Neonatal services were offered in a special care unit, but the equipment was not being fully used due to lack of supplies. In consultation, the hospital director and staff agreed to move the pediatric ward closer to the neonatal ward and to expand services to include outpatients and a pediatric ICU. Chenla enclosed the open air part of the pediatric ward with metal and glass walls and supplied additional equipment.

As in Kratie, Chenla expanded the pediatric ward and its staff (from 3 doctors and 6 nurses to 4 doctors and 13 nurses), and offered incentives for other hospital departments implicated in pediatric service delivery such as radiology and laboratory.

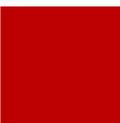
The number of outpatients continues to increase in Mondulkiri while inpatient and ICU caseloads are steady.

Figure 7: *Mondulkiri inpatients and outpatients, 2022-2025*





Mondulkiri neonatal and ICU patients





Stung Treng

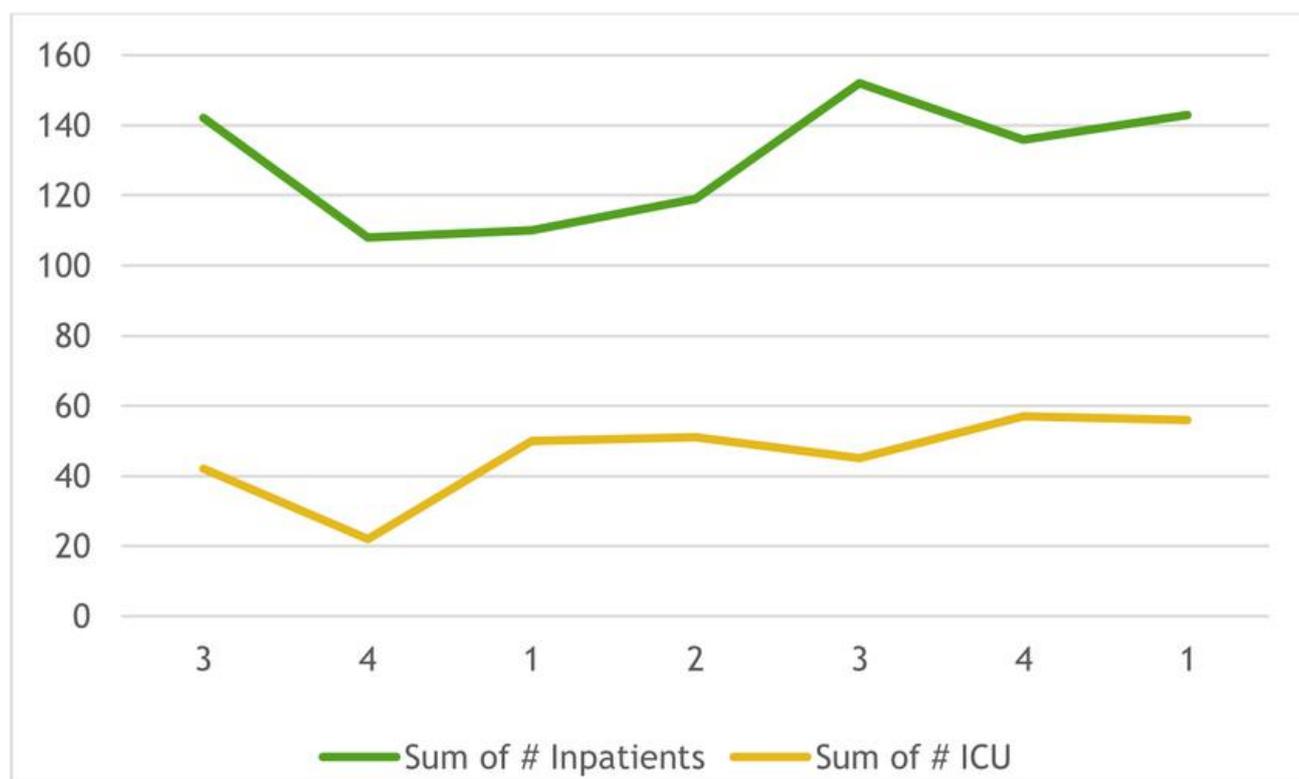
When Chenla began supporting neonatal care in Stung Treng in 2023, a new neonatal building had been donated by the Korea Foundation for International Healthcare (KOFIH) along with some equipment. The three nurses assigned to the unit lacked expertise in neonatal intensive care, so to staff the 5-bed NICU and 8-bed special care baby unit, KOFIH also sponsored two doctors and three nurses to train at the National Pediatric Hospital. Building on this momentum, the PHD and hospital director were eager for Chenla's partnership to maximize the use of the neonatal unit and service quality. Chenla supplemented the staff with an additional doctor and four more nurses, provided training and mentoring on the job, and purchased two ventilators, some furnishings (e.g. air conditioners, shelving, handwashing station), and additional supplies and medicines. Even after expansion, the special care baby unit is frequently over capacity, with extra bassinets placed in the room. "Sometimes we use all 5 CPAP modules," one nurse said, requesting to further increase equipment in the neonatal unit.

In 2024, Chenla's Stung Treng site treated 517 neonates. Doctors explained that Stung Treng has a high percentage of low birthweight newborns and prematurity. From the maternity unit, a midwife reported 60–70 deliveries per month, with 5–10 newborns transferred to the neonatal unit due to complications such as prematurity, asphyxia, or jaundice. She described that the presence of Chenla's doctor and nurse during deliveries now ensures safe resuscitation and transfer of newborns.





Figure 8: *Stung Treng Neonates and NICU patients by quarter*



Community Outreach

In addition to facility-based services, Chenla community outreach clinics go the last mile and provide direct care in remote villages of northeastern Cambodia. Outreach brings healthcare to people who lack access for many reasons, and along with meeting immediate needs it creates a connection with people throughout these provinces. For Chenla, community outreach is taking a pulse on the issues facing people who walk through their doors.

Equally important, it allows Chenla to demonstrate how they live out their mission to care for children, which raises awareness of the services available at Chenla sites and builds trust among communities and families. In Kratie, Chenla has treated over 15,000 patients at outreach events in conjunction with the PHD and local schools. In Mondulhiri, the PHD director described how effective joint health outreach clinics are carried out with Chenla each quarter, increasing community awareness of health issues and available services.

Operations

Leadership and Decision-making

Most day-to-day Chenla management needs are handled by the local administrative and medical leadership in Kratie, but every staff member is encouraged to share ideas and raise issues to solve them. In stark contrast to most medical settings in Cambodia, Chenla does not use a hierarchical structure to make and enforce decisions. Doctors and nurses described how they function as a team, guided by their commitment to patient-centered care in which the needs and dignity of children and their families are the top priority. This philosophy is embedded in every aspect of service delivery, from clinical care to community outreach.



Chenla set out to prove that working within the public healthcare system and strengthening it can empower good people to do great work, even in a relatively low-resource environment. By fostering a blame free and safety-oriented culture, Chenla creates an environment where staff feel supported, valued, and motivated, resulting in a positive working climate and high staff satisfaction.

As Chenla expands, site management needs have expanded the roles and responsibilities of Chenla's country director and medical and nursing directors. Constant communication with sites is necessary to keep medicines and supplies stocked and ensure technical quality. Medical leadership often conduct case reviews for Mondulkiri and Stung Treng patients online. Chenla's medical director spends time in Mondulkiri and Stung Treng every month and the nursing director regularly visits Stung Treng. In addition to routine visits, ad hoc site visits take place to respond to issues such as equipment maintenance or if there is a PHD meeting to attend.

Staffing

What makes Chenla unique is its ability to deliver compassionate, competent, and ethically grounded pediatric care in a rural setting, led by Cambodian professionals. Chenla's low staff-to-patient ratios and 12-hour shift schedule require more staff than government hospital wards typically have. Chenla hires staff that are locally based, invests in their professional development, and gives them the tools they need to deliver superior patient care. Every employee knows there is an ask and a promise when working for Chenla: they must put the patient first and hold themselves to a high standard of professionalism. In return, they will be fairly compensated, treated with respect, and provided with everything they need to do a good job. Chenla's low staff turnover and high staff satisfaction indicates that this contract works in the context of Cambodia's public provincial referral hospitals.

There are two categories of staff working at Chenla: government staff whose public sector salary is supplemented by Chenla, and staff who are hired and paid 100% by Chenla. However, all are considered Chenla staff and work as a unified team. Compensation is set based on an employee's role, years of experience, and observed job performance. Government staff may have additional responsibilities assigned by the hospital director. Still, some providers prefer government employment because of the job security, eventual pension, and the prestige of being a civil servant. Some staff who were Chenla employees have switched to being public sector employees and the provincial health department agreed they would continue working at Chenla.



The shift schedule at Chenla is one of the key factors ensuring high-quality care and is acknowledged among all stakeholders as an essential component of the Chenla model. Each medical provider works 16 shifts per month, and when they are working they commit to being proactive. Both government and Chenla providers agree to the 12-hour shift schedule, which differs from the rest of the hospital.

Training and professional development

Some of Chenla's first staff have experience working at Angkor Hospital for Children or a specialized pediatric facility, while others are hired locally or are government health providers assigned to the pediatric wards run by Chenla. Government staff are successfully integrated with Chenla hires and continue to be valued as leaders in their public sector role. For example, the head pediatric nurse in Kratie, who has been working with Chenla since it started, was promoted and is now head nurse of KPH. Another government physician who works at Chenla in Kratie is supporting the hospital director to write new SOPs.



In each case, Chenla tailors onboarding and training for providers based on their level of experience and knowledge of specialized pediatric or neonatal care. New staff are assigned a preceptor and trained on the job for a period of three months. For ongoing training, senior Chenla doctors give lectures and there are rounds once per week. Chenla also facilitates and funds professional development opportunities to attend relevant trainings in Siem Reap or Phnom Penh when these take place.

For new sites, Chenla determines training needs based on the experience level of existing pediatric staff and shares costs with other partners where possible. In Stung Treng, two staff were funded by KOFIH to receive six months of specialized training at the National Pediatric Hospital in order to support the new NICU. Additionally, one NICU nurse had previously worked at Angkor Hospital for Children and two had experience working with Chenla.

Policies and Standard Operating Procedures

With the exception of financial policies that ensure appropriate use of funds, Chenla has few official organizational policies that staff were aware of. For example, training/onboarding, employee compensation and raises, employee performance monitoring, and data management and use are tasks that are regularly carried out based on established practices but without explicit documentation.

In medical practice, standard operating procedures (SOPs) aim to achieve efficiency, quality output, and consistent performance while reducing errors and ensuring compliance with regulations. Chenla uses SOPs from Angkor Hospital for Children, which haven't been recently updated, according to doctors. In the meantime, all government referral hospitals are charged with developing SOPs and Chenla staff are involved in this effort in Kratie. Having consensus with the referral hospitals on relevant SOPs will help improve consistency in medical practice and long-term sustainability.



When it comes to patient documentation and data review, Chenla focuses on daily bedside rounds and death case reviews. Data use for quality assurance and quality improvement is not systematic, but for issues of high importance like hospital acquired infections, Chenla's senior medical leadership undertakes formal studies.

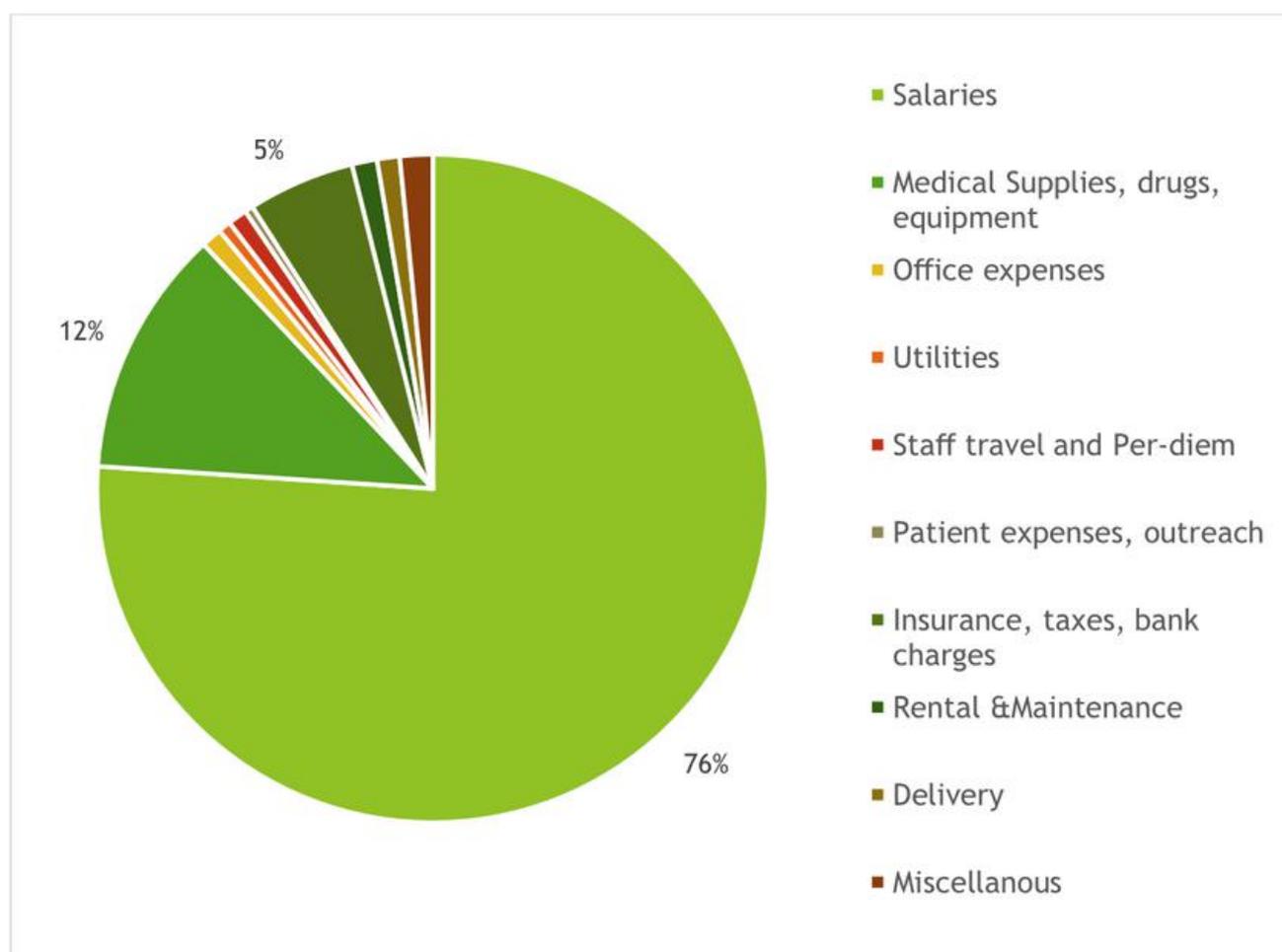


Financial model

Most people in Cambodia use private sector health care, incurring out of pocket costs that can cause hardship. From the patient's perspective, Chenla is part of the public hospital and charges the low public rates (or nothing for those enrolled in HEF) but has a facility, equipment, and staff similar to some private or NGO-run hospitals. Through outreach, Chenla has worked hard to assure people that their children can receive top notch care at KPH and that no one will be turned away for lack of payment.

Chenla has a unique cost sharing model that creates efficiencies by sharing resources with provincial referral hospitals. The highest funding priority for Chenla is direct patient care. Most Chenla spending is on provider salaries (76%), medical supplies (12%), and business costs including insurance, taxes, and bank fees (5%). All other costs make up 2% or less of Chenla spending, and administrative costs are kept to a minimum. Revenues go to the provincial referral hospital and these more than offset their contribution in utilities and lab, imaging, and administrative services provided to Chenla patients.

Figure: *Chenla expenditures by major category, 2024*





Because the three Chenla sites differ in size and services available, it is important to consider them separately.

Estimated Chenla expenditure per patient ranges from \$34 in Kratie to \$182 in Stung Treng. Chenla expenditure can be considered the additional cost of delivering international standard care to children or neonates at that site because most utility costs, basic commodities, and government staff salaries are paid by the provincial referral hospitals who would be running these services if Chenla wasn't supporting them. Kratie has by far the highest total costs for patient care but also higher patient volume and thus lower costs per patient despite treating some complex cases with longer inpatient stays. In reality, costs would be much higher for an ICU patient and lower for simple outpatient cases. Chenla spending in Mondulkiri was \$42 per patient on average in 2024. Mondulkiri continues to see patient volumes increase, which should lead to lower average cost per patient and increased revenue. The Stung Treng site only treats neonates and has a high proportion of NICU patients who may stay 30 days or more and require constant provider care; the cost of treating NICU or ICU patients in Kratie and Mondulkiri would likely be similar.

	Kratie	Mondulkiri	Stung Treng
Salaries	563,000.81	205,857.49	86,067.31
Medical Supplies, Drugs, Equipment	110,754.14	23,100.17	850.00
Office Expenses	9,001.48	1,744.32	453.00
Utilities	4,789.24	1,984.83	70.00
Staff Travel and Per-diem	4,756.69	4,709.15	923.35
Patient Expenses, Outreach	3,090.92	525.00	851.37
Insurance, Taxes, Bank Charges	42,028.88	12,233.78	3,671.43
Rental & Maintenance	12,846.54	161.38	570.00
Delivery	6,446.55	5,592.25	167.87
Miscellaneous	13,060.97	4,270.05	421.59
Total	769,776.22	260,178.42	94,045.92

Table 4: *Chenla 2024 Operating Expenses by Site*



For this report, Kratie Provincial Hospital (KPH) provided data on revenue from patient payments and the Health Equity Fund. Fees in the public healthcare system are set by a committee. There is a flat outpatient fee of 15,000 KHR, or 3.75 USD. Inpatient fees are 5 USD per night including lab and x-ray costs. This goes up to 10 USD per night for ICU and NICU patients, with the total cost of a stay capped at \$50. The ICU and NICU cost will go up to \$15 per night in 2025.

Total annual revenue to KPH in Kratie was \$165,630 in 2024, with 48% of revenue from outpatients and 52% from payments for inpatient hospital stays. Comparing total patient revenue with the documented Chenla expenditures in Kratie, the current revenues would cover approximately one-fifth of 2024 pediatric ward operating costs. In practice, these revenues go into the KPH budget and contribute to the salaries of government doctors and nurses as well as hospital running costs.

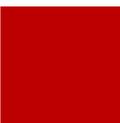
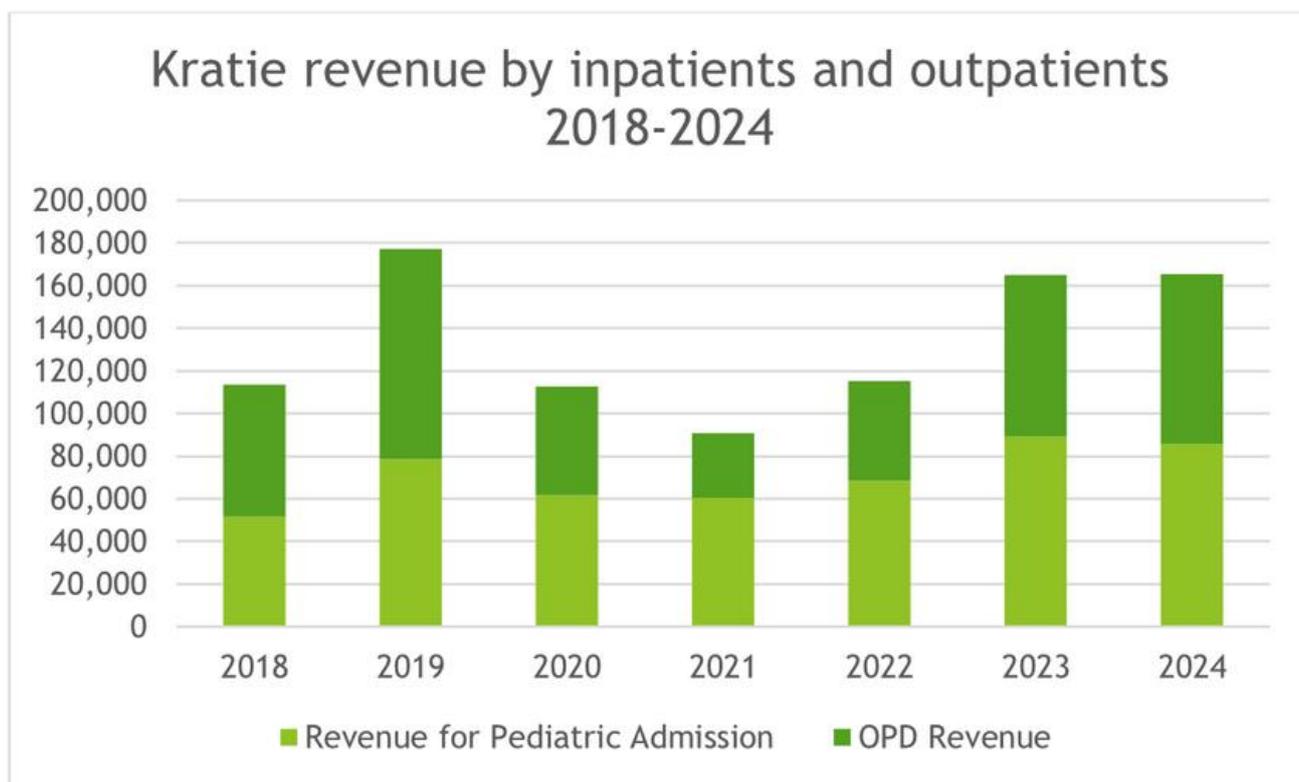
Payments made by the government system in 2024 include \$251,352 in salary to government employees utilized by the Chenla system. In addition, the government purchased an Oxygen Concentrator at \$206,000 so that Chenla no longer needs to purchase oxygen at a usual cost of approximately \$25,000 per year. Assuming a depreciation of 15 years, this would equal approximately a \$13,700 per year investment by the government into the Chenla collaborative system.

In addition, the government is providing up to \$1,800 a month of electricity which thus far Chenla has not exceeded and therefore has not needed to pay. While Chenla did provide a new pediatric building in 2024, the land was provided by the government as a part of their hospital compound close to the river. The value of the land is estimated at \$300,000 based on recent sales in the area. Assuming 30 years of depreciation, this would roughly equal another \$10,000 per year investment into Chenla's efforts. In 2019, the government purchased a backup generator for use during power outages for \$162,000.

This generator is now connected to Chenla's new building. Again, assuming a 15-year depreciation for this item, this would represent approximately another \$10k per year investment. Finally based on consumption reports, the government system currently supplies 38% of medications and IV Fluids and approximately 20% of medical supplies. Assuredly, the government is able to purchase these items at bulk rate prices, but is not as nimble at procuring items quickly when needed. Chenla estimates the value of government supplied medications and IV Fluids at \$23,940 and medical supplies at \$14,785 per year. The total yearly inputs from the government system side equals approximately \$345,377 compared to \$769,776.22 from the Chenla side in Kratie.



With revenue from patient fees plus HEF reimbursements in Kratie equaling 1/5 of Chenla financial inputs and with Kratie reaching a steady state of growth, Chenla is in a strong position to advocate for further financial sustainability from within Cambodia. Since day one, Chenla under the leadership of Mr Long Chinda (country director) Dr Chanthou Seng (Medical Director) and Lihak (Nursing Director) has strived for financial efficiency measured against patient safety and quality of care. Chenla continues to find the most cost-efficient methods in purchasing and human resource utilization. Staff uniformly state they are often almost overwhelmingly busy in their tasks, but they are happy because they are supplied with the resources to do a safe and high-quality job. Now appears to be the time to advocate with the government for fee structures to be increasingly responsive to changes needed to maximize local community inputs while always assuring there is no “block” whatsoever for the poor to access care. In addition, Chenla shows that local level expertise can handle complex and life threatening cases, therefore central Ministry of Health funding should be increased as well. This argument should be a winning one, because the financial costs are not that high, and the return on investment of the local populations trusting the public healthcare is very high both politically and with regards to health outcomes.





Progress Toward Meeting Chenla's Five Aims

Figure 9. Achievement of Chenla's five aims from 2018-2025

1 Provide high quality holistic healthcare in Kratie

Renovated and expanded pediatric ward, eventually constructing a new building for all peds services

Added and equipped the PICU and NICU

Coached all providers on patient-centered, respectful care

Ensured timely care with low patient ratios and 24/7 coverage

2 Link healthcare with educational outreach to remote towns and villages

12 outreaches in Kratie

14 villages served

19,157 people served



3

Establish a stabilization, referral, and transport center for children needing high-level care such as heart surgeries, cancer treatment or extensive ICU services

Created an efficient transport system with medical staff accompanying patients

Completed 301 ambulance transfers

Reduced need for transfers as ICU care expanded in Kratie

4

Improve medical standards in the region by training local personnel in high quality care

38 trainings

146 doctors, nurses trained

5

Obtain a portion of funding from local and regional sources from the beginning, including the Health Equity Fund system, so that the project is equitably shared by local and international stakeholders and partners from the start

Increased HEF reimbursements at KPH by 240%

Increased pediatric patient volume and revenue from pediatric services

Shared 31% of operating costs with KPH in Kratie, including government providers, facility costs, lab, imaging, pharmacy, drugs and medical supplies, and administration

Stakeholder Perspectives

Ministry of Health

H.E. Prof. Chheang Ra, Minister of Health, praised Chenla's high-quality, safe care and dedicated staff. He affirmed that the Chenla model for strengthening neonatal and pediatric care should be used in hospitals located in border areas and pointed out that Chenla proves it is feasible to strengthen the capacity of Cambodian government doctors and nurses in neonatal care.

H.E. Prof. Im Sethikar, Secretary of State responsible for maternal and child health, commended Chenla for saving so many newborns. She suggested that Chenla should train health workers in Kratie, Mondulkiri, Ratanakiri, Tbong Khmum, and Stung Treng on how to care for newborns and perform resuscitation.



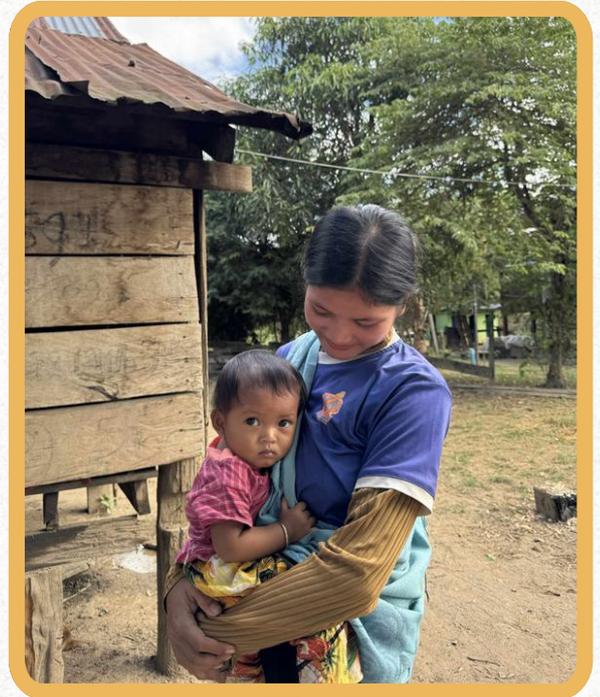
Provincial Health Departments

Chenla cannot operate without the strong support of Provincial Health Departments, who are responsible for overseeing health care in their province. PHD directors in Kratie, Stung Treng, and Mondulkiri shared a desire for Chenla to continue supporting pediatric health care in their provinces. Despite skepticism about maintaining the 12 hour shift schedule and low provider ratios, they believe that the values, systems, and quality improvements introduced by Chenla have led to better outcomes – especially lower neonatal and child mortality.

In Kratie, Mondulkiri and Stung Treng, PHD directors described drops in child mortality and morbidity, signaling improved clinical care since Chenla began operating. They described downstream effects like an increase in deliveries at the provincial referral hospital, and increased laboratory testing volumes, reflecting both better access and increased confidence in public maternal and child health services. These increases in service utilization also benefit the hospitals by increasing revenue, leading to expanded diagnostic capacity and pay increases for providers.

Kratie Province:

The Director of Kratie PHD recognized the Chenla project as an important catalyst for strengthening the province's pediatric and maternal health services since 2017. He specifically appreciated Chenla's role in the Kratie Provincial Hospital's number five ranking among all public hospitals in Cambodia on the HEQIP2 national quality survey, and Chenla's recent support to send a KPH doctor to the United States for professional development.



However, he expressed concern that Chenla has its own reputation in Kratie communities. He stated: "The services belong to the public hospital, not to Chenla." He sees this distinction as crucial to avoid confusion among patients.

He also raised concerns about Chenla's 12-hour shift model diverging from the prevailing MOH 24-hour system and requiring a larger staffing pool. Despite this, he remains supportive of the overall approach and is confident that the Chenla quality and safety standards can be sustained if Chenla transfers management back to Kratie PRH eventually.





Mondulkiri:

The Director of Mondulkiri PHD described in his own words that he is a champion for Chenla in his province because the Chenla partnership has led to meaningful improvements in patient outcomes, pediatric diagnostic capability, child survival, and increases in hospital revenue and deliveries at Mondulkiri PRH. He described how he advocates for Chenla with the governor and continually supports Chenla requests, such as working with the hospital director to procure additional beds and medicines from the MOH. He urges the Chenla project to continue in Mondulkiri, attributing the drop in newborn deaths at Mondulkiri PRH to the training, equipment, and supplies from Chenla.

“Additional staff make the pediatric services run so well,” he stated. “Other services lack staff, they have only one or two doctors.” When it comes to an exit strategy, he raised the issue of lack of adequate revenue to support Chenla’s staffing model. “There is not enough money coming in to hire additional contract staff,” he said. “Without Chenla, we will take responsibility for the pediatric ward and the infrastructure will be there. [Without additional staff] the quality of care is uncertain.”

The Mondulkiri PHD Director also described Chenla’s support of health outreach with the provincial health department four times a year. The PHD and Chenla collaborate and share resources to bring screening and health education to remote communities, deepen trust and ensure early detection and treatment. Chenla contributes staff and supplies and handles all pediatric patients who attend the outreach clinic. The PHD treats adult outreach patients and supplies medicines and food for participants.



Stung Treng:

Dr. Ung Soviet, Director of Stung Treng PHD, reflected on the Chenla project's immediate impact on the province and his hope to see Chenla support pediatric care. He credits a notable drop in neonatal deaths and complications at Stung Treng PRH to the Chenla-managed neonatal ward. Full pediatric services have been delayed in Stung Treng while Chenla and central authorities negotiate on the renovation of an existing building within Stung Treng PRH, but Dr. Soviet had a clear vision for building up the facilities and capability of Stung Treng PRH and emphasized the province's willingness to absorb ongoing costs of approximately \$1,000 per month in electricity. He is also planning to provide neonatal resuscitation training for midwives across the province's 21 health centers and 6 health posts, reducing the need for referrals.



"I'm not concerned about electricity costs because of the need we have here and the importance of the services. With better facilities and equipment for specialized care, we will be able to attract physicians to Stung Treng. For example, we don't have a trauma center yet."

Ratanakiri Province:

Mr. Chea Sanith, Director of the Ratanakiri PHD, voiced a bold ambition to transform Ratanakiri Provincial Hospital into the province's leading pediatric and neonatal center with Chenla support. He desires to combat healthcare access challenges, limited health literacy, remote geography, and traditional healing practices across Ratanakiri's 13 ethnic groups.



Mr. Sanith pledged to embrace the Chenla model and to cover additional electricity costs for operating equipment like ventilators and oxygen production systems. He also endorsed the shift to a 12-hour work system in line with the Health Minister's recent guidance, which he said will promote high-quality care.

Overall, PHD directors' shared belief is clear: Chenla's model doesn't just deliver high-quality services. It creates systems, capability, and momentum that can usher Cambodia's pediatric care into the future.





Kratie PRH

Director of Kratie PRH praised the improvements Chenla has made at the hospital in terms of infrastructure, equipment, and technical expertise. While acknowledging some coordination challenges he shared that he hopes to continue strengthening integration with the maternity ward and welcomes Chenla staff to participate in hospital meetings and to hold routine coordination meetings with KPH to align on policies. He would also like Chenla staff to attend MOH trainings and workshops and to serve on the hospital's quality improvement and IPC committees. If Chenla leaves, "We have competent staff to run the pediatric services are ready to assume responsibility," he said. However, he described the Chenla model as too expensive to continue without outside support and requested additional funding for shared services such as the laboratory, where costs have risen.

Dr. Sotheary, the chief of maternity, explained how Chenla has enabled the hospital to fulfill its mission. "Chenla makes us feel secure. Complicated deliveries come from all over, and CPA3 hospitals must have a neonatal unit. Before Chenla, previous attempts to establish neonatal care failed in Kratie."





Mondulkiri Provincial Hospital

Dr. Tuy Sros, Director of Mondulkiri Provincial Hospital, expressed deep appreciation for Chenla Children's Healthcare's contributions that have allowed the hospital to provide comprehensive pediatric services. The pediatric unit in Mondulkiri is staffed by government doctors with ongoing mentoring and technical support from rotating senior physicians from Chenla, who also serve in Stung Treng.



“The impact of Chenla’s model is evident in the significant increase in both deliveries and pediatric admissions. Previously, many pediatric cases were referred to Siem Reap or Kratie, and some didn’t survive the long journey. Today, more children are treated locally with improved survival rates.”

Dr. Sros emphasized that despite the absence of full-time Chenla doctors, the quality of pediatric care remains high because of strong training and capacity-building efforts. However, he acknowledged some organizational challenges. For instance, government staff are increasingly interested in transferring to the pediatric unit due to its better supply of medicines and equipment, and the added incentive of a 50% salary top-up. Additionally, differences in shift systems—Chenla’s 12-hour model versus the government’s 24-hour model—have created staffing expectations that require careful management.

Stung Treng Provincial Hospital

Dr. Suy Sopheap, Director of Stung Treng Provincial Hospital, shared insights into the hospital's neonatal services and its collaboration with Chenla. The neonatal unit is primarily staffed by hospital personnel, with additional support from three Chenla nurses who provide on-the-job training. Senior Chenla doctors also rotate monthly to offer continuous mentorship to the hospital's neonatal team. Dr. Sopheap identified a key operational challenge: the difference in shift systems. While the hospital follows a 24-hour shift model, Chenla operates on a 12-hour system. He stressed the importance of flexibility and coordination to ensure smooth collaboration and maintain high-quality care.

Since Chenla's involvement began in 2022, neonatal care has improved significantly, with many lives saved. Previously, critically ill neonates were referred to distant hospitals such as AHC, Kantha Bopha, or Kratie, often with limited success. Today, more neonates are treated locally with better outcomes.



Despite these gains, Dr. Sopheap noted that public awareness of Chenla's work in Stung Treng remains limited. Unlike Kratie and Mondulhiri, where Chenla supports full pediatric services, Stung Treng currently offers only neonatal care (NICU and NCU), even though with strong support in terms of equipment, supplies, and medicines. He expressed a strong desire to expand services and establish a full pediatric department to meet the growing needs of the province.

Dr. Hong Hai, Chief of the Technical Bureau and a practicing doctor in the neonatal unit, also shared his perspective. Formerly a pediatrician, he was reassigned to the neonatal unit in 2021 to support Chenla's initiative. He highlighted the hospital's alignment with the H-EQIP2 project through the establishment of three key committees: Quality Improvement (QI), Infection Prevention and Control (IPC), and a combined Management and Disciplinary Committee.

Ratanakiri Provincial Hospital

Dr. Ou Savuth, the energetic and forward-thinking Director of Ratanakiri Provincial Hospital, welcomed Chenla's initiative with enthusiasm. Leading a multidisciplinary team, he expressed strong support for the establishment of a full pediatric service at the hospital in partnership with Chenla.



As a CPA-3 referral hospital serving the entire province, the facility spans 4.6 hectares, includes 19 buildings, and employs 106 staff, including 23 doctors and 32 nurses. In 2024, the hospital admitted 1,301 children and 184 neonates. From January to May 2025 alone, it recorded 610 pediatric and 105 neonatal admissions.

Neonatal services are currently supported by the KOFIH project, which has enabled two doctors to receive specialized training at the National Pediatric Hospital in Phnom Penh. Dr. Savuth emphasized the importance of building on this foundation to develop a comprehensive pediatric department, with Chenla's technical and operational support.





Staff perspectives

Staff members expressed high levels of satisfaction working at Chenla, citing strong leadership, reliable equipment and supplies, and effective infection prevention and control practices. They particularly appreciated the supportive work environment—characterized by blame-free culture, minimal pressure, and strong teamwork. While some staff prefer to be government doctors or nurses, staff unanimously indicated a preference to work under the Chenla model rather than the current public hospital model of care.

While competitive salaries are important, staff emphasized that good governance, effective leadership, management, and a well-functioning system are critical to their job satisfaction. Staff repeatedly used the term empowerment in connection with Chenla leadership, team-based patient care, and the general environment being well-equipped. They appreciate having open communication between nurses, doctors, and leadership and being trusted and equipped to do their job well.

“We keep in our mind that the patient is boss, the hospital must always be clean, and especially we have quality care ...
Chenla is empowering staff to lead.”

– **Country Director**

“Chenla is a good place to work because it is flexible and relies on teamwork. There is less pressure and it’s not so strict compared to the government hospital environment.”

– **Senior Nurse, Kratie**

“Chenla has good salaries, supplies of medicine, and they always support us to study.”

– **Doctor, Mondulkiri**



“It’s a blessing and benefit to have the best of both worlds, working with Chenla and as government staff. At Chenla, doctors and nurses can get any necessary equipment they request in a timely manner. The government can only get supplies from an MOH supply list.”

– Senior Physician, Kratie

Doctors specifically described witnessing behavior change in providers due to Chenla’s culture of responsive care.

“Government staff change their attitude when they work here. They change the way they speak to people with compassion and respect, they are responsive and timely during their working hours, and they have good teamwork.”

– Physician, Kratie

“We follow each other. If we go to the public area and show people a queue, we learn to queue. ...If we get more new doctors showing an excellent example, more people will follow them and improve.”

Physician, Kratie

Medical staff in Kratie described very close collaboration with the maternity ward, facilitated by an alarm that calls a Chenla emergency team to care for newborns who are born prematurely, or who are in distress or ill. Chenla staff respond to these calls at least three times a week, sometimes three times a day.



“Every difficult case, they always call us. We take the emergency bag and go! Usually one ICU doctor and the ED nurse”

“How Chenla has influenced KPH is in the way patients and families are treated, having more respectful care for patients and families.”

– Nursing Director

Despite working closely with other departments, especially maternity, some doctors and nurses in Kratie were frustrated by friction in the relationship with KPH. They shared that it can be difficult to get timely information from other departments, such as cases of pediatric surgery. The hospital’s morning meetings must be attended by government staff and the hospital director recommended that all Chenla doctors attend. However, the discussions may not be relevant to Chenla and the length of the meeting interferes with direct patient care.



Some suggestions from staff included being more transparent and equitable about professional development. “Doctors have learning opportunities but not nurses,” said one staff member. One of the main opportunities consists of online sessions with specialist doctors from the US and other countries, conducted in English. The language barrier makes it difficult for some staff to participate.



Some experienced staff also criticized the lack of official policies and SOPs.

“Chenla should have clinical protocols and guidelines. They follow old AHC guidelines, some haven’t been updated. We have discussed whether we should update these or write our own.”

– Senior Physician, Kratie

“Junior doctors learn on the job. At first sometimes they want to prescribe more antibiotics. We don’t want to start and stop patients on antibiotics so if they’ve started we wait and have the patient stay on it a few days. There is no antibiotic SOP or guidelines, we need guidelines for that.”

– Medical Director

“There are some differences with antibiotic use between Chenla and the government. The National guidelines say to treat seven days but here we treat for five days.”

– Doctor, Mondulkiri

At the newer sites in Mondulkiri and Stung Treng, staff shared their lived experience of seeing the quality of care improve. A government pediatrician trained at the National Pediatric Hospital and through Chenla programs, said that Stung Treng hospital now delivers high-quality pediatric care and receives more referrals from Keo Seima and Koh Nhek districts. The head nurse noted a transformation in responsiveness and accountability. “Before, patients were waiting for staff; now staff wait for patients,” she remarked.

There are some growing pains with implementing the Chenla model and culture of teamwork and accountability. In Mondulkiri, where the Chenla pediatric ward is staffed by government doctors and rotating Chenla physicians from Kratie, one staff member reflected that they felt Chenla doctors “look down on national doctors.” If there are differences of opinion, they said, “I don’t want to discuss because I tried to and there was no change. If I say a lot, there is no advantage.” Though there is room for improvement, morale is still high and staff have a positive attitude about their work. “Care is different here because Chenla supports a lot, and patients are happy. I want to change bad habits, improve, and work happily together,” said one doctor.



When it came to sustainability, staff were predominantly hopeful that Chenla would continue managing their department to maintain a well equipped and fully staffed environment. Nurses in Kratie and Stung Treng said they love working at Chenla and prefer it over other facilities.

One doctor stated: “Money solves the problems. Chenla used money to recruit staff – there were only 3 doctors and 7 nurses in the pediatric ward but now Chenla has 50 staff. Other sections of the hospital aren’t adequately staffed. Our ICU ratios are one doctor per 4 patients or per 2 for severely ill patients, and we are taking vital signs every hour. Without Chenla, what will be hard is money. They will not come if there is no money ... if I was the boss or the hospital director, or the chief of the pediatric ward, to make this happen I have to find more money. Maybe ask for more funding or support from somewhere else, or maybe increase the payment from patients.”

Community Perspectives

Chenla is well known among nearby market vendors and villagers in Kratie, many of whom have either brought their children for care or heard about the facility through word of mouth. Mothers and grandmothers shared stories of the kindness and compassion shown by Chenla's staff and community members praised the effectiveness of Chenla's treatment. One mother whose child, suffering from dengue fever, was inappropriately treated at a private clinic with IV fluids, which led to fluid overload. The child was referred to Chenla, where she received appropriate care and recovered. This experience left a lasting impression on the mother, who praised the staff's clinical expertise and said Chenla is helping change the belief that IV treatment is necessary in every case. In the market, a grandmother whose grandchild was born early described the loving care that saved her grandson.



However, awareness of Chenla could be improved; a few residents in Sambo district are unfamiliar with Chenla or confused it with a private clinic. In Stung Treng market, sellers who have young children and women who sell baby products did not know about the enhanced neonatal services provided at Stung Treng PRH with Chenla support.



Chenla and Cambodia's Future: Strengths, Challenges, and Opportunities

The Chenla model is a case for accelerated improvement in neonatal and pediatric health in a rural low middle income setting. Chenla has closely aligned with the Cambodia MOH priorities for maternal, newborn and child health as well as their overall strategy to strengthen and expand services to achieve universal health coverage. Since Chenla came to Kratie, the province experienced the largest jump in infant and child survival of any province in Cambodia.

Certain strengths of Chenla were consistently described by staff and stakeholders. These were the loyalty and mission-driven attitude of Chenla staff, high quality patient care, and the trust that Chenla has earned in the community. Trust leads to higher patient volumes and patient revenues, which can contribute to the hospital's ability to support additional staff. However, the current cost of running a Chenla pediatric ward still exceeds the direct revenue from patients and government inputs.

Chenla's services are designed to address the most pressing life threatening health challenges facing Cambodian children. Among neonates, the most common conditions include neonatal sepsis, prematurity and low birth weight complications, birth asphyxia, neonatal jaundice, and congenital anomalies. For older children, Chenla frequently treats pneumonia, diarrheal diseases, dengue fever, and malnutrition. Through evidence-based practice and timely interventions, Chenla has contributed to dramatically improved child survival in Kratie, and is on its way to replicating this success in Mondulhiri and Stung Treng.



Chenla goes beyond the scope of a provincial referral hospital pediatric department by functioning as a center of excellence, offering continuing professional development and community-based health education and screening programs. With its outreach and patient support efforts, Chenla extends its impact far beyond the hospital walls, contributing to long-term improvements in child health across the region. Sustainability is reinforced through financial planning that includes integration into government budgeting and alignment with the HEF social health protection scheme. Its integration into the national health system ensures that Chenla is not a competing alternative for care; Chenla's sites at provincial hospitals can serve as hubs of quality care, positively influencing the network of Cambodian public health facilities.

Chenla demonstrates how a CPA3-level facility—the highest level of care expected at the provincial level—can operate successfully. Among Cambodia's 24 provinces, Chenla stands out for its exceptional quality and safety, setting a benchmark for others to follow. Moreover, Chenla's work is closely aligned with the strategic directions of the new Minister of Health, H.E. Prof. Chheang Ra, who has prioritized quality and safety in healthcare. This vision is driven by the 2023 Royal Government of Cambodia's Pentagonal Strategy for Growth, Employment, Equity, Efficiency, and Sustainability, which highlights five national priorities: People, Roads, Water, Electricity, and Technology. As the Ministry implements its nine strategic directions and three core priorities, Chenla serves as a living example of how national goals can be realized at the provincial level, contributing meaningfully to Cambodia's progress toward the Sustainable Development Goals (SDGs) and a stronger, more equitable healthcare system.

At the same time, Chenla's key strengths present challenges for replicating success. To see Chenla in action is to see a tale of two cultures within one hospital. Staff emphasized the differences in how Chenla is run compared with other wards, particularly with regards to staffing. Lower patient-to-provider ratios, combined with the ongoing commitment of Chenla staff to care, cleanliness, safety, and addressing the needs of patients and families, are key factors that contribute to Chenla's outcomes. Unsurprisingly, staff salaries are by far the largest cost area for Chenla. Continuing this theme, it is Chenla's core team of exceptional healthcare leaders that has supported expansion to additional sites; however, scaling up to additional provincial hospitals would take more investment, leadership commitment, and training to transfer the skills and values that reinforce Chenla's quality of care. Chenla should continue to strengthen relationships with local, provincial, and national healthcare leaders; emphasize partnership and mutual goals to improve health outcomes; and advocate for expanding high quality services within the MOH framework.



Recommendations

To build on Chenla's success, and support the sustainable integration of Chenla's high-quality healthcare practices into provincial referral hospitals, the following actions are recommended:

Develop Policies and SOPs for High Priority Topics

Organizational policy can reduce burdens on staff and improve efficiency when applied in a clear and user-friendly manner. As Chenla operates in an increasing number of sites, policies can help onboard staff and establish and maintain values of openness, patient centeredness, and high quality care. Human resources policy will help systematize functions like performance review and ensure equitable treatment of staff. Chenla staff should also continue to seek opportunities to provide input on hospitalwide SOPs and work with hospitals to implement them.



Establish a Joint Implementation Team at Each Site

The Director of KT, MDK, RTK and ST Provincial Hospitals should support the formation of a joint team or committee comprising staff from both the hospital and Chenla. This team will lead the ongoing implementation of the Ministry of Health's National Quality Enhancement Monitoring Tool 2 (NQEMT2), also known as the Cambodian Hospital Accreditation Standards (CHAS). As this framework is a mandatory, nationally endorsed, and financially linked strategy to improve healthcare quality and safety, it presents a timely opportunity to forge a sustainable path forward together with local leaders.



Implement Problem Driven Iterative Adaptation (PDIA) in Pediatric Services in Kratie, Mondulkiri and in Neonatal Services in Stung Treng

PDIA a methodology solving local challenges in the health sector, rather than utilizing a specific overarching program. By focusing on central Ministry of Health goals and priorities but assessing local current compliance and capabilities, Chenla is uniquely positioned and flexible to be able achieve desired results. Indeed, Chenla's methodology should be applicable to other areas and services within provincial hospitals as well.

Leverage Chenla's Strengths for Hospital-Wide Improvement

Given Chenla's proven systems and experienced staff, hospital wide collaboration offers an opportunity to extend Chenla's effective practices. This approach not only supports CHAS implementation but also serves as a strategy to sustain Chenla's services within the broader hospital system. Under this approach, Chenla pediatric ward staff should serve on key hospital committees like the QI and IPC committees. Routine collaboration meetings with hospital leaders (as suggested by the KPH hospital director) would also reinforce cooperation.



Strengthen Professional Development and Knowledge Sharing

To foster the Chenla spirit of teamwork and continuous learning, ensure that all staff who work at Chenla sites have opportunities for professional development. The provincial referral hospitals should also ensure Chenla staff are included in relevant training and workshops organized by the Ministry of Health's Quality Assurance Office. This will build shared competencies in applying CHAS tools and foster a culture of continuous improvement.



Encourage Active Participation in Hospital Meetings

Chenla staff should regularly attend hospitals' meetings to stay informed and contribute to institutional change. By modeling effective meeting practices, such as agenda setting, time management, and a blame-free culture, they can positively influence hospital operations.



Strengthen Community Outreach and Preventive Care

Chenla should enhance its community outreach efforts and hold outreaches regularly to promote health education and disease prevention in the hospitals' catchment areas. Engaging with local communities and collaborating with local health centers has multiple benefits: improving health knowledge on key topics that can prevent illness, learning from residents about health needs and emerging health threats, and raising awareness of Chenla services.

Build Capacity in Neonatal Resuscitation

Chenla should take the lead in training health center staff within the hospital's catchment area on neonatal resuscitation, following MOH's Early Essential Newborn Care (EENC) guidelines. This investment will not only enhance newborn survival rates, strengthen the continuum of care from community to hospital and enhance relations with health centers, it is a direct response to the MOH's feedback and requests regarding this critical area of service delivery.



Ongoing Support to Achieve Sustainability

To ensure the long-term impact and continuity of healthcare services in hospitals supported by Chenla, the following measures are recommended:

1 Operational Support: All hospitals where Chenla has implemented projects should receive ongoing financial support to cover essential operational costs, including electricity, water supply, and the maintenance and operation of oxygen production. Although the infrastructure was initially provided or renovated by Chenla, sustaining these services requires continued investment beyond the project period.



As SEAsia's low and low-middle income country's healthcare systems continue to evolve, Chenla's model offers a scalable and effective approach for rural, resource-limited settings. Supporting both infrastructure and human resources is essential to sustaining and expanding this success.

2 Human Resource Integration: Chenla staff, who have played a critical role in service delivery and capacity building, should be embedded into the healthcare system. It is recommended that these staff members be formally absorbed into the hospital workforce upon the conclusion of Chenla's project activities. This will help maintain service quality, retain institutional knowledge, and ensure continuity of care.





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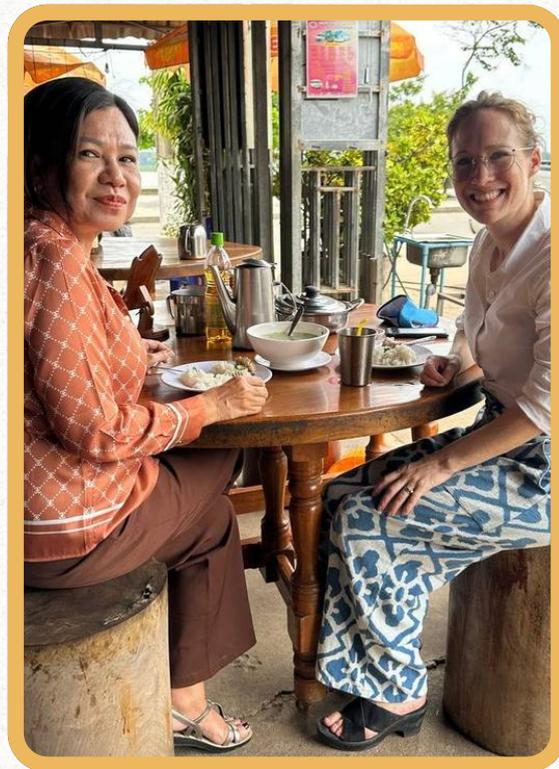
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Bios

Tori Lebrun has for years been performing detailed programmatic evaluations of public health and health initiatives. She has worked extensively in Uganda, Vietnam and Cambodia. Her work has been rigorous in its details and has resulted in catalyzing national policy changes. Largely working under USAID funded programs in the past, the recent dissolution of USAID allowed Ms. Lebrun to use her high level skill for the nascent grassroots Chenla Children's Healthcare project. Ms Lebrun graduated Magna cum Laude in 2008 from Mount Holyoke College with a BA in English and French. She subsequently obtained a Master of Science in Public Health from the Gillings School of Global Public Health at UNC Chapel Hill. She currently resides in Phnom Penh with her husband and two daughters.



Ms Manila Prak RN MSN is a Cambodian healthcare professional who has tirelessly worked to strengthen the healthcare standards of her country for the past 30 years. Protected by her highly educated father Choung Prak a French speaking nursing instructor and mother Buth Marin a nurse/radiology technician during the Khmer Rouge period after they were relocated to remote Banteay Meanchey Province from Phnom Penh 300km away, Ms Prak seized on the opportunity to become a nurse midwife during the post conflict period. She rode on a community truck between Siem Reap and Battambang where her school was located, always striving to avoid Vietnamese occupying troops and their victimization of Cambodians. As her country very gradually stabilized, she furthered her education locally and internationally and became a leader within the rebuilding NGO and Cambodian Government communities. She has worked hard and distinguished herself in the ensuing years. She has been recognized as one of the 100 Outstanding International Women Nurse and Midwife Leaders in 2020, awarded the 20 Year of Service Certificate by Angkor Hospital for Children and awarded the Mony Saraphoan Medal by His Majesty King Norodom Sihamoni. Her recent loss of employment under a USAID cancelled contract allowed her the sufficient time to complete this assessment of Chenla Children's Healthcare.



Appendix 1: Project logic model

1 Inputs

- Funding from private grants, and donations
- Funding from HEF
- Shared resources with Kratie Provincial Hospital
- Collaboration with educational and medical institutions
- Skilled doctors and nurses
- Additional and upgraded equipment and infrastructure

2 Activities

- Run Pediatric IPD and OPD
- Upgrade pediatric ICU, NICU, and ED
- Develop safe referral and transport for specialized care
- On the job training
- Outreach to communities in collaboration with
- Outreach to local schools
- Conduct research

3 Output

- Physicians and nurses trained on quality standards and patient centered care
- Pediatric patients treated
- Critically ill children treated (ventilator or CPAP)
- Premature babies cared for (900g and above)
- Reach and effectiveness of outreach

4 Outcomes

- Highly skilled practitioners
- Patient satisfaction
- Community trust
- Enhanced collaboration with KPH and provincial stakeholders
- Increased patient volumes
- Increased hospital revenue



5 Impact

- Upgraded hospital services
- Long-term improvement in hospital scores
- Reduced need for transfers to Phnom Penh
- Reduced out of pocket or catastrophic health expenditure
- Improved pediatric health indicators (infant and under 5 mortality)
- Higher levels of job satisfaction

External Influences & Outside Factors

- Economic conditions and labor market fluctuations
- Government policies and regulations that impact services offered, patient costs
- Availability of alternative health services in the community
- Cultural and social factors that may influence participants' motivation, commitment, and perceived barriers to going to the provincial hospital and following a treatment plan