Birthwork, Laos

Background and Context

2020

Dr Katharine McKinnon

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Introduction

This document has been written for use by the Birthwork training team to provide background information to help with planning and preparation for future training programs in Laos. It draws on published research about Laos, data from my own previous research in Laos, and data drawn from participant observation during the Birthwork program 2019-2020 and statistics shared by health workers and Department of Health officials during those visits. This information is intended to complement the *Evaluation of Birthwork Training Report, 2020.*

To follow up any aspects of the information contained here, or obtain copies of any the research I have referred to, please contact me directly:

Katharine McKinnon

mckinnonki@gmail.com

tel. 0402520107

Maternity care in Laos

Childbirth for Lao women has become considerably safer over the last two decades with the maternal morbidity ratio dropping from 544 to 185 per 100,000 live births between 2000-2018. The WHO, UNICEF. WHO and UNICEF Joint Skilled Birth Attendant (SBA) database also shows that there has been a dramatic increase in the proportion of births attended by a Skilled Birth Attendant, rising from 13% in 2000 to 67% in 2017 (World Health Organization, 2019). Among minority ethno-linguistic groups the rate is far less than national figures show, at only 1 in 5 (Durham et al., 2016). It is also important to note that the regional statistics are not necessarily reliable. The quality of record keeping in Lao PDR is variable, Health Centres may (have strong incentives to) underreport unattended births and indeed in more remote communities many births still go unrecorded. This is certainly the case in the Districts we visited (See Appendix 3).

Government workers are under pressure to report on figures that reflect their successful implementation of policy. Lao PDR is a single party socialist country and is governed through decrees issued by the central government in Vientiane, and compliance assumed. High and Petit (High and Petit, 2013) highlight that the State in Laos continues to wield considerable symbolic and actual power, with very little space for the expression of views critical of sanctioned policy. The targets that clinics were aiming for in 2020 were: 80% of women should attend at least 4 antenatal visits, and 75% of women should have a midwife attended birth. This policy is supported by the WHO and the international funding aid agencies that subsidise the Laos health care system. We were given figures for antenatal visits and

midwife attended births for each district, but given (the)international pressure to meet targets, and the likelihood that Health Centres are not always able to get accurate figures for the number of pregnancies in all villages, means that these figures are likely to be flawed. Records of unattended births were certainly incomplete. Records of annual rates of ANC, births and vaccination are not kept once they have been sent to the Ministry, thus individual clinics do not have data upon which to conduct strategic planning or assess their own improvements or progress.[1]

Resourcing

Overall, the health system in Laos remains badly underfunded. Urban Lao who have a high enough income will often seek medical care across the border in Thailand, or travel to Vietnam. Ordinary Lao who cannot afford to travel to seek medical care rely upon an generally under-resourced health care system. During the Birthwork workshops the pivotal role of the Vientiane government became a topic of conversation regularly. Never offering direct criticism of the government, senior health workers and administrators did voice their frustrations with the failures of the Ministry of Health to allocate resources fairly, for example, complaining about the failure to appoint enough clinical staff (see discussion of 'quota').

The provision of maternity care in Luang Prabang Province is shared across district Health Centres located in regional towns and villages, District Hospitals that service a number of Health Centres and villages, and the central Provincial Hospital located in Luang Prabang city.

Luang Prabang Provincial Hospital, and **Nambak District Hospital** are the only two facilities in the Province that can carry out surgical procedures. In Luang Prabang there are 2 operating theatres shared across the whole hospital. The hospital has approximately 100 births per month and the maternity ward is staffed by 8 midwives, with 2 maternity nurses and 3 obstetricians. In 2020, two out of the three obstetricians were undertaking several months of further study in Vientiane. Luang Prabang Provincial hospital maintains a blood bank, and Nambak keeps a limited supply for transfusion. At times Nambak must call down to Luang Prabang for the urgent supply of a particular blood type, typically a 2.5 – 3 hour journey by road.

Provincial Health Centres (PHC) provide basic health care, and while they are meant to have on staff at least one trained midwife in practice this is not the case. Equipment and medications available at health centres is very limited (see Appendices). The basic equipment available at most clinics the team visited in the Province included oxygen, adult bag and mask for resuscitation, refrigeration for

[1] In 2020, however, we were informed that new documentation procedures were being introduced but the details of this were not available

medicines, suturing equipment, scales, Pinnard. Many Centres had supplies of Mizoprostil and Syntocinon available. Infant bag and mask were often lacking, and the Birthwork team were able to distribute supplies of these during the 2020 training sessions. Not all centres have an electricity supply, and some also lack running water. If a labour becomes complex staff call to the District Hospital for advice, and in cases of emergency women usually need to be transferred.

At the **District Hospitals** options for treatment are also limited. In addition to the basic equipment available at most Health Centres, the district hospitals visited in 2019 and 2020 also had handheld dopplers and CTG available. All did have trained midwives and doctors on staff, however electricity supply was unreliable and in one case, the newly built hospital building did not have a reliable supply of running water. If a caesarian section is required women have to be transferred again to either Luang Prabang Provincial Hospital or to Nambak. The travel times involved can stretch up to 8 hours or more, and in the rainy season some roads become impassable.

In Luang Prabang Province, the delivery of health services is supported by assistance from **International Non-Government Organisations (INGO)** Swiss Red Cross, Save The Children, and KOIKA. Each INGO is responsible for supporting a set of Districts, and negotiates the conditions of that support separately through a Memorandum of Understanding (MOU) that is approved by the central Ministry of Health. INGOs are required to keep strictly to the terms of the MOU. Thus while staff at the Luang Prabang office of Save the Children recognised the value of the training that Birthwork was delivering and wished to incorporate it into their support for maternity services in the Districts they are responsible for, the narrow terms of their MOU (limited largely to technical support) meant that was not possible. KOIKA on the other hand appeared to be mostly involved in providing infrastructure, distributing equipment, providing vehicles for use such as ambulances, and building new facilities, such as the brand new hospital at Phonthong. While many of these contributions were welcome, unfortunately much of the equipment distributed was inappropriate for the setting, (such as distributing electronic scales to Health Centres with no electricity supply) and the quality of the new hospital building was poor. Completed in late 2018, by early 2020 some rooms in the upstairs of the hospital had already become unusable.

Staffing

From our discussions with Department of Health staff, obstetricians and midwives in the province we understood that the number of trained midwives and obstetricians remains far fewer than are needed to service the population, midwives often receive limited training (sometimes only 9 weeks on top of their nursing training). Participants in the training sessions included: Village Health Workers (VHWs who received 6 months training in Luang Prabang and offer basic health care in their

home communities), nurses, midwives, doctors and medical assistants and nursing assistants: (those who have completed a proportion of the requirements for a nursing or medical degree, but have further study to complete.)

While there has been a push to increase the numbers of trained midwives in Laos since 2010, and efforts to locate midwives in regional health centres, there are still not enough midwives available to staff regional clinics. Our observations corroborate the findings of Manithip (2012) whose study of the quality and utilisation of antenatal care in rural Laos found that "sparse or non-utilisation of services was also due to limited access to health facilities, negative attitudes towards health care providers, sub-quality of the services and lack of information about ANC" and that health workers themselves felt "little competence and motivation to work with ANC" (Manithip, 2012, p. 3). At health centres we visited during the training program, health workers and midwives were often working in a volunteer capacity while they waited for the central Laos Ministry of Health to release the 'quota' for new paid positions to become available.

Clinic and hospital staff did express their concerns about the high numbers of **volunteer staff** in Health Clinics. Staffing across all health services relies upon the annual 'quota' of paid staff which is decided upon by the central government. Without 'quota' those seeking government funded jobs (not only in the health services, but across the public sector) work on a voluntary basis, they may be well qualified for the work but are unsalaried and rely on support of their families, or additional strategies for earning money. The fact that the government had not released adequate quota for new paid staff to be appointed in this District meant that many clinics were relying on unpaid staff who had worked in this capacity for 2-3 years already. We were informed that volunteers in Health Centres can get paid if they work a 24 hour shift, but the payment is not very high (80,000 Kip, or 100,000 at the weekend). In contrast a salaried Health Centre Nurse may be paid 200USD per month, and with more training salaries can be as high as 400USD per month (for more highly trained medical assistant). Even salaried medical staff often have to supplement their income by taking on additional work such as running a small business on the side. It is quite common that patients will be asked to pay for care, even in the case of maternity care which is meant to be free.

Setting

The design of the Village Health Centres is a complex of rooms at ground level that looks welcoming and user friendly, with an outdoor kitchen and ablution for visiting patients and family members. All kinds of health care are conducted at the Health Centres, and there is usually one side of the building (or 2 rooms) dedicated to birthing and recovery. Many of the District Hospitals are an extended version of this design, but some of the more recent funding for building has deviated from this and built more clinical and less welcoming double story buildings.

The care settings in both DH and PHC's tend to be sparse. Rooms are often fairly bare, with cold tile surfaces and little in the way of comfort. At the centre of the birthing rooms is usually a bed with plastic coverings and lithotomy stirrups. Often these rooms open on to a recovery room through an open doorway (usually covered with a thin curtain) where there may be 2-3 beds for women to stay following birth. The birth space is often quite small and without any obvious options to enable the woman to choose her birth position, although in some health centres staff demonstrated how they might be able accommodate that. Some had also made an effort to find curtains to cover windows and provide blankets for the bed making the room softer. During the 2020 visits the health centre carried supplies of blankets, mattresses and curtains to give to PHCs that needed them. Sychareun and colleagues (Sychareun et al., 2012) explored why rural women do not to attend clinics for antenatal care or birth. They found that one significant reason was that the women in their study felt clinics were uncomfortable, not allowing freedom of movement or providing space for family members to support women.

Medical staff agreed that for very many women travel to clinics and district hospitals was a major challenge. Villages are sometimes a great distance from PHCs, not all families have access to motorised transport, and some villages may only be reached on foot. In addition, when it rains unpaved roads in the mountains become dangerously slippery or outright impassable.

While maternity care is meant to be free for all Lao women, in practice many families in rural areas struggle to cover the costs of travel and of providing food for the mother while she's in hospital (Marsden, 2011; Sychareun et al., 2016),[2] on top of missed earning while family members remain at the hospital. In addition, women are frequently charged for the cost of their care. The low salaries of medical staff, and the fact that many staff are working as volunteers, increases the likelihood that they will charge a fee for services, in spite of regulations.

Language

Finally, many women that do attend regional clinics do not speak Lao language and so it is difficult for health workers to communicate unless they come with a family member who can help with translation. Sychareun et al (2012) noted in their study that one reason women were reluctant to go to clinics was because they were unable to communicate with health staff due to language barriers. At every hospital and clinic the team visited in 2019 and 2020, staff reported that they often needed to care for women with whom they did not share a common language. In these cases they would call on health workers who did speak the language (usually Hmong or Khmu), but more often communicated through family members who spoke Lao. Family were often in attendance at birth in the health centres, but it was

[2] Family members must supply meals to patients admitted to district hospitals and clinics.

not common for women to have family support while in the District hospital (likely due to the distance from home village and inability of family members to be away from farms and child care obligations, or inability to support the costs of travel, accommodation and food while away).

Illustration of the challenges

The challenges are illustrated by the stories shared by midwives during 2019 and 2020 trainings. Many of these stories were shared during training sessions as participants debriefed about their experiences with breech delivery, PPH (postpartum haemorrhage) or other emergencies. We also heard many experiences from the senior LPHD staff who accompanied the team. During conversations over the long drives to district hospitals and health centres, and over meals shared outside of the training sessions, these senior Mother and Child Health officials also used the opportunity to debrief, sharing stories of when things had gone wrong. Lack of knowledge about how to deal with emergency situations, alongside the remoteness of many of the clinics, were central features of these stories. PPH is the primary cause of maternal morbidity and in these cases it was often the distance away from medical care that was the biggest concern. These stories, recorded in my field notes, exemplifies a common challenge:

> *Boukaeo told us the story of a woman who had birthed at a Health Centre but suffered PPH following breech delivery. The mother was transported by boat to Nambak, where there is a large district hospital. The journey by boat took 4 hours, and staff had called ahead to make sure that blood was available for transfusion when they arrived. Boukaeo received a call at home to ask if she could help them find the right blood type to send up to Nambak from Luang Prabang as they had none available. It would take 2.5 hours to get the blood up to the hospital, but none was available in Luang Prabang either. The woman died on the way to Nambak, but the baby survived. In another case, a woman had a retained placenta following birth at a health centre and had to travel for 10 hours: by two boats and then a 2 hour road journey to get to Nambak hospital, and from there transferred again 2.5 hours to Luang Prabang for surgery. She survived.*

In preliminary research (conducted with Kelly Dombroski and Stephen Healy in 2018) in the province of Luang Prabang we could see that neither (not all) clinics nor the hospitals are necessarily equipped to help women birth safely, or able to accommodate all the women who might need them, and for many communities travelling to clinics is extremely difficult (McKinnon et al., 2019). In addition, many women do not want to come to clinics or hospitals for antenatal care or childbirth. Relatively low rates of Lao women attend antenatal care, and this tendency is stronger amongst rural women. Our participants also reported that it is rare for women to come to more than one antenatal visit, (the motivation for one visit often (to a district hospital) to have an ultrasound to establish the due date of the baby. As the gestational age of the baby increases the scans become less accurate in

determining due date) - and in the majority of cases would not come to clinic unless something was going wrong with the pregnancy or the birth. This suggests that getting more women into clinics is not necessarily the solution. Having women attend regular ANC helps to predict some complications such as an unusual or difficult presentation of the baby or an unwell mother becoming more seriously compromised over time, but it doesn't address the unpredictable that can occur at any time. Knowing how to deal with unpredictable situations and emergencies on the spot becomes of paramount importance to the skill set of the health staff.

In the majority of cases would not come to clinic unless something was going wrong with the pregnancy or the birth. In many situations there was often no way of knowing the gestational age of the baby, an important consideration for pre-term births in particular.

Culture

The cross-cultural context of the Birthwork training programs is multifaceted. In addition to the need for cross-cultural sensitivity in the partnership between Lao and Australian professionals, the program must traverse different institutional and bureaucratic cultures, different languages, and different educational norms between the trainers and the participants, and is also delivering a training program that needs to equip medical staff for their work in a rich multi-cultural environment.

Multi-ethnic context of northern Laos

Laos PDR is one of the most ethnically diverse countries in the world. The Laos PDR government recognises 149 ethnic groups, but ethnolinguists have suggested that the correct number is closer to 160. There are 86 documented languages spoken in Laos, but the Vientian Lao dialect is the official language of the country. Lao is widely spoken and is the language that all children are taught at school. For communities in inaccessible areas, like the mountains of Luang Prabang Province, many ethnic minority people cannot speak or understand Lao, with men being more likely than women to be able to communicate in Lao.

Luang Prabang province has 12 districts, Luang Prabang, Xieng Ngeun, Nan, Pak Ou, Nambak, Ngoi, Pakseng, Phonxay, Chomphet, Viengkham and Phoukhone. The majority population in the lowland areas is Lao Lum. In the mountains the setting is much more diverse, with Khmu, Hmong, Tai, Mien, and Lue peoples, among others. Each of these groups speaks their own language. Along with language differences are different cosmologies, different cultural practices, spiritual beliefs, village political structures, and different kinship systems. Each group may be described as its own nation, with distinct costumes acting almost like national flags: symbols of

identity and shared belonging across communities of the same nation. Officially there is no distinction made between majority Lao Lum and other groups, all are officially classified as 'ethnic groups' (Badenoch and Shinsuke, 2013) . However, minority groups are often still looked upon as 'backward' or 'undeveloped', and are not always treated with respect. Health workers reported that the highest rates of ANC visits and immunisation occur with Khmu and Lao families, but that Hmong tend to be more reluctant to visit the PHCs for care during pregnancy or childbirth.

The Districts in which the Birthwork team delivered training, provide care to a population that are ethnic Khmu, Lao Lum, and Hmong. Traditional care around pregnancy and birth differs between cultural groups, but available research on traditional care and beliefs is very limited. Holmes et al (2007) held participatory focus group discussions and interviews in two remote northern provinces to investigate people's knowledge, attitudes, beliefs and practices in relation to women's and children's nutrition. This study identified some key food taboos that may be related to child malnutrition and micronutrient deficiencies, particularly the emphasis on plain rice or rice soup following birth and the dangers associated with some meat (see Appendix). Across all groups, the taboos against breaking dietary restrictions are significant: failure to adhere to dietary restrictions could cause illness or even death of the child.

Cultural diversity in childbirth

Very little information exists on traditional midwifery practices and even less in depth ethnographic research into cultural practices and traditional medicine for childbirth and pregnancy among ethnic minority groups in the region. It is widely believed by medical staff and government personnel that we interviewed that traditional midwives do not exist among village communities. Amongst health workers that participated in our training there is widespread belief that there is no traditional midwifery practice or traditional medical knowledge around childbirth among ethnic Khmu and Hmong. The two published ethnographic accounts of childbirth practices with Hmong communities show, however, that there is a great deal of traditional medicine.

Rice (1997) studied childbirth and early motherhood practices with Hmong women recently arrived in Australia, interviewing women who had birthed in Laos, in refugee camps or in Australia, as well as speaking with men, traditional healers, and shamans. Patricia Symonds (2004) conducted a year long ethnographic study in a Hmong village in northern Thailand. During this study she spoke with women about

childbirth, and observed several births. Together Symonds and Rice provide important insights into Hmong birth practices.

Their studies claim that for Hmong women birth is traditionally managed at home with no assistance, except during a woman's first birth when her mother-in-law will help. Symonds noted that women would often use a rope hung from the ceiling for support. During childbirth a primary concern of the mother and those caring for her was to ensure the spiritual safety of the mother and child, and childbirth is a dangerous time when a channel opens up between the world and the unseen world of the spirits. There are key practices which increase the spiritual danger for women. Travelling away from home, allowing metal to be inserted into the body, or speaking directly about the child all have the potential to invite the attentions of malevolent spirits, or to endanger the opportunity of rebirth for the woman if she should die during childbirth. Both Rice and Symonds found that women tried to give birth in silence. With difficult births, assistance would be sought from knowledgeable female elders in the community, a medicine woman or shaman. Assistance includes giving the mother special soup or herbal medicine, massage of the abdomen, or ceremonies to rebalance relationships with the spiritual realm. Rice's respondents in Australia struggled with some of the treatment they received in hospital. Vaginal examination was particularly objectionable, most women wanted their mother-in-law present, and were very concerned by caesarian section:

> "Why I was worried about a caesarean birth? Because I had never had it done before and because I had only given birth myself. I was afraid that the operation might kill me and that was why I was worried about it. Old people say that I might lose my soul. Even if the operation was okay I might get sick and then die; this is the Hmong belief. So when I came home from the hospital, the family had to *hu plig* [soul calling ceremony] for me."

Following childbirth many Hmong women would follow a 30 day confinement postpartum during which it is very important to keep warm, eat only rice and chicken, and to not do any physical work or have sex. Rice heard from Hmong mothers in Australia that because of these restrictions women did not want to attend postnatal visits, and often left hospital early because they could not eat the right foods and were made to get up and exercise when they strongly believed they should stay lying down as much as possible.

Maternity care for cultural diversity

The multi-cultural environment of northern Laos presents particular challenges to the effective provision of maternity care. In studies exploring the reasons why

women do not attend ANC appointments and choose to give birth at home, Sychareun et al (2012, 2016) found that in addition to transport difficulties and discomfort in clinics, women also felt afraid, and many had experienced bullying and mistreatment, and felt spiritually vulnerable in hospital, being unable to receive the traditional spiritual or medicinal treatments that they need for a safe and healthy birth (Sychareun et al., 2016, 2012). In hospitals they were unable to follow traditional practices they feel have benefitted generations of their family – including use of sacred water to wash during labour, using different positions during labour, and the lack of privacy. The perceived necessity of giving birth on a "hot bed" and the need for "mother-roasting" after giving birth were also important to the women in their study. Finally, the lack of trust of medical staff is a significant factor some women. Sychareun et al (2012) notes that some women's husbands would not give them permission to go to the clinics. The information given by participants in our study was that in some cultural groups there was a particularly strong aversion to women's private parts being seen by male medical staff and a mistrust of the treatments provided, especially if it involved a syringe.

The LP Ministry of Health officials interviewed (both during the Birthwork trainings and during a scoping visit in 2017) were particularly focused on the challenges of biomedical systems meeting traditional spiritual beliefs. Several officials mentioned that women are 'afraid of ghosts/spirits' and therefore won't accept lifesaving treatment. Improving 'health literacy' is thus a strong focus of current policy. One health department official in Luang Prabang made the point strongly that education and improved health literacy needed to be a focus of generational change:

> "This is our challenge, it is behaviour change. We have to change their behaviour. It is easy now with young people to change their beliefs. It was much more difficult 20 years ago, we couldn't do it. People were too stuck in their ways" (field notes, Jan 2019)

The focus on health literacy carries with it the danger that traditional knowledge of elders may be dismissed inappropriately. By mis-labelling cultural and spiritual beliefs as 'superstition' officials are effectively de-legitimising cultural practices as a whole, when not all such practices may be harmful as claimed.

The Birthwork program, in its advocacy for kind and respectful care and the encouragement given to participants to enable women to have family members assist during labour, provides an opening for health workers to welcome cultural practices into the birth space. In fact, traditional care practices may in some cases be a safer option for women in labour than travelling to distant and under-

resourced clinics. When scholars, doctors and health officials dismiss the traditional knowledges they are failing to protect the cultural safety of women, as these knowledges are often intimately connected with the complex cosmologies that are the foundation of life and culture for diverse ethnic groups.

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[note: Katharine McKinnon has access to all the references listed and can provide copies if needed]

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Appendices

1. Post natal practices of some minority groups (after Holmes et al 2007)

Group	Foods avoided	Foods encouraged	Beliefs
Akha	Wild animals; buffalo meat; chicken; pig fat; crab; some kinds of vegetable; fruit; melon and pumpkin tops (for 4-8 months); banana flower (for 1 year after delivery); 'raw' salt; chilli; fermented food; coffee and tea; oily food; fried food; vegetables and fruits (for 3-4 days).	Rice; boiled pork and chicken (but sometimes only after 3- 4 days); all kinds of fish, but only the lower part because upper part is 'bitter'; eggs; some vegetables.	Fried foods and fermented foods cause both mother and child to get a stomachache and other diseases; these foods will affect breast milk supply, and umbilical cord of baby may not dry.
Hmong	Red meat; chilli; ginger; fruit; and most vegetables (for 20-30 days). If the baby is ill, breastfeeding mother avoids: beef; chicken; fruit; onion; oil; and chilli.	Warm water; white rice; chicken (except white chicken or chicken with yellow legs); pork; fish; lettuce; beans.	Belief by elders that taboo foods will cause sickness, damage to uterus, and later, cough.
Khmu	Fresh meat, incl. beef, white buffalo, deer, female pig, wild pig, dog, and white and red chicken; certain fish: Kouan, Khae, Kheung, red, Nai; fermented foods; pumpkin tops (only men said this) *Taboo foods are avoided for 1-5 months.*	Rice; all vegetables; 'roasted' salt; dry black buffalo meat; pork; black chicken; duck; Mom fish; turkey.	Good food is important to keep the new mother healthy and able to breastfeed well; taboo foods may cause bleeding, illness or death; some men said 'pumpkin leaves have rough skin - baby has soft skin'.
Lue	No meat or salt in first 5 days White buffalo; white chicken; beef; duck; female pig; pickled foods; sour foods; Pa-daek (fermented fish); bananas; eggplants; lettuce; vegetables for first three days. Some food taboos last 5 months - 3 years.	Grilled sticky rice + water after delivery; Baked dry fish; black buffalo meat; pork; boiled chicken (except white chicken); rice; leafy vegetables (Pak now); morning glory; bamboo shoots; cabbage; potatoes.	Taboo foods cause leprosy or other illnesses; female pig causes headaches, dizziness and fever; women often feel tired and need help post-partum, but feel better if well fed; "If the mother does not have good food the baby does not grow up well."

Phunoi	Beef; chicken; pork; wild animals, incl. squirrel and deer (meats avoided for 1-4 months for healthy women, up to a year if unhealthy). Fish without scales - snake fish; MSG; young pumpkin until umbilicus dries; yellow flowering vegetables; cab- bage; cauliflower; leuang flower; bouan and kadom fruits; mak nam tao; 'itchy' fruit types; papaya.	Rice; scaly fish; lettuce and vegetables with white flowers Some men said no taboos - pork, chicken, wild animals are all allowed.	Eating fish without scales results in insufficient milk; if women eat deer meat or beef then the baby will lose consciousness.
Yao	Animals that were killed by a tiger; blood; buffalo meat and intestine; roasted meat; duck; fermented fish; fruit and pumpkin. Taboo foods are avoided for one month.	Rice; chicken and rice wine; ginger and warm water.	Fruit will make the mother thin and pale; eating pumpkin makes mother's abdomen pumpkin-shaped; ginger mixed with water helps to prevent illness.

2. Infant feeding beliefs and practices (adapted from Holmes et al 2007)

Group	Colostrum & prelacteal feeds	EBF	Complementary foods	Action if worried about BF
Akha	Feed babies straight after birth – do not discard colostrum.	EBF for 6 months unless mother is not healthy or is worried about milk supply.	At 5-6 months, meat, eggs and rice - fruits and vegetables introduced later; foods pre- chewed for baby	Give mother hot water, boiled pork, dog's meat or chicken; give baby pre-chewed rice, ground rice with water and sugar by bottle, or condensed milk.
Hmong	Most mothers discard colostrum – believe it will cause diarrhoea; some now feed colostrum in response to health education. Don't give pre- lacteal feeds.	Most EBF for 5-6 months.	At 5-6 months, most introduce pre-chewed rice, meat, and non-sweet fruit; sweet foods are avoided.	If mother is worried about breastmilk one day after delivery, chews rice for baby; some give formula milk, rice soup, or condensed milk and rice; may use a wet nurse; may organise 'sacrificing ceremony'

				to ask for milk from the "sky ghost".
Khmu	Most discard colostrum for 1-6 days – believe causes diarrhoea. Baby fed by cotton bud dipped in honey or glucose until 'nice' milk appears.	EBF uncommon; many breast-feed and give chewed rice or rice soup from day 1; rice given if newborn cries a lot; moth- ers return to work soon after birth – 15 days – barrier to EBF.	Pre-chewed rice, wrapped in leaves and baked or roasted - often from a few days of age; after 6 months, eggs, seasonal fruits and banana; later - fish, dry meat and meat soup.	Wet nurse feeds baby; sweetened condensed milk / pre-chewed rice / well ground rice boiled with sugar given to baby; lac- tagogue: banana flower, vegetable.
Lue	Some put baby to breast after birth; many delay until 'good, white milk' appears. Believe colostrum causes diarrhoea, and 'makes baby thin'.	Usually EBF 2–3 months, some up to 6 months; often concern that mother does not have enough milk for newborn – give sugar water or rice and sugar; work is a barrier to EBF.	Pre-chewed rice with sugar; after 3 months pre-chewed meat and sticky rice (if baby well); avoid fermented foods for babies – believe causes diarrhoea.	'Take care of mothers' health'; drink warm water or soup; give mother chicken, pork, egg and buffalo meat; give baby pre-chewed rice or ground rice with water and sugar by bottle; lactagogue: drink boiled wild chilli tree.
Phunoi	Most discard colos- trum 1-3 days - believe causes diar- rhoea. Give pre- chewed rice or sugar water via cotton bud. Some now give colostrum in response to health education.	EBF uncommon; usually start to give rice 2–3 months, some up to 6 months. Elders advise mothers to give pre- chewed rice early – from a few days of age - belief that food and milk given together will make baby healthy.	Pre-chewed rice, sometimes with sugar, wrapped in leaves and steamed; after 3-6 months - eggs, seasonal fruits, banana, pre-chewed meat; after breast- feeding ceases, fish, dry meat, soup, rice, fruits, 'same food as parents, or 'whatever is avail- able'.	Pre-chewed steamed rice, wrapped in leaves, given to the baby; mother drinks boiled water and has mas- sage.
Yao	Most feed colostrum to the newborn - believe that if they don't, the breast- milk will 'dry up'.	Most EBF for 3-6 months, but if the mother feels she does not have enough milk, chewed rice or rice soup may be given from day one; returning to work is a barrier to EBF.	At 3-6 months of age, most introduce ground rice, meat, rice soup with sugar, banana, and fish; some give 'Kao Mam' - chewed rice with meat, put in a banana leaf and roasted.	Baby is given formula milk, or chewed meat and rice; alternatively, the baby may be fed by a wet nurse

3. DH and HC Birth stats (2019), equipment, staffing

Location	Births at Clinic	Assisted births at home	Unassisted births at home*	Staffing	Equipment available
Phoukhone DH	247	3	unknown		Ambulance
Thabokeo PHC	52	nil	unknown		No infant bag & mask
Banjim PHC	45	3	unknown		No infant bag & mask
Pakengnoi PHC	121	nil	unknown	1 VHW, 1 Nurse, 1 Midwife	No infant bag & mask
Palangmo PHC	unknown	unknown	unknown		No infant bag and mask, no Citatec, but could purchase
Phouviengnoi PHC	106	3	unknown	1 VHW volunteer, 1 trainee doctor	No infant bag & mask
Phonthong DH	123	4	19		Ambulance
Naluang PHC	19	8	15	1 midwife, 1 nurse, 1 medical assistant	
Bandon PHC	29	4	4	1 medical assistant, 1 nurse	No infant bag & mask
Thongsy PHC	22	1	73	1 midwife, 1 assistant midwife	No infant bag & mask
Mueng Hueb PHC	13	34	56	1 nurse, 2 medical assistant, 2VHW	No infant bag & mask
Sopphon PHC	28	4	20	1 midwife, 1 nurse	No infant bag & mask

* data on the number of unassisted birth at home is not reliable as many births still go unreported in the more remote villages in the Province

4. Glossary of Lao terms

English	*Lao*
bed	*tian*
bleeding (lit. blood out)	*leuod awk*
blood	*leuod*
breastfeeding	*dut nom*
breech	
calm	*jai yen yen*
catheter	*nge ngiew*
cervix	
comfortable	*sabai*
compression	*kan bib ad*
delicious	*saep*
fees (study)	*khatam niem*
formula milk	*nom fun*
gentle	*khoey khoey*
government employee	*ratchakan*
health clinic	*suk sala*
home care/health worker	*phaed baan*
kind	*jai dee*
massage	*nuat*
medical assistant	*phaet san soon*
midwife	*padungkhan*
mother and child	*meladek*
mothers milk	*nom mae*
no problem	*baw pen yang*
nurse	*payaban*
placenta	*hae*
placenta praevia	
PPH	*PPH*
relax	*phonkai*
respect/respectful	*Nab theu*
shoulder distocia	
traditional doctor	*maw pheun baan*
traditional medicine	*yaa pheun baan*
uterus	*motlook*
vagina	*songkhawt*
volunteer	*asassamak*