

Parent to child transmission of HIV: Strategies for Prevention and Care in Lao PDR

Situation Assessment for planning

Mission Report of International Consultant Visit 27 September – 9 October, 2003

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Acronyms

ADB	Asian Development Bank
AIDS	Acquired immune deficiency syndrome
ANC	Ante-natal care
ARM	Artificial rupture of membranes
ARVP	Anti-retroviral prophylaxis
ART	Anti-retroviral treatment
BCG	Bacille Calmette Guerin vaccine
BFHI	Baby Friendly Hospital Initiative
CBO	Community Based Organisation
DCCA	District Committee for the Control of AIDS
DPT	Diphtheria Pertussis Tetanus vaccine
EPI	Expanded Program of Immunisation
GDP	Gross Domestic Product
GOL	Government of Lao PDR
HIV	Human Immunodeficiency Virus
HIS	Health Information System
IEC	Information, Education, Communication
IMCI	Integrated Management of Childhood Illness
IMR	Infant Mortality Rate
Lao PDR	Lao People's Democratic Republic
LPRYU	Lao People's Revolutionary Youth Union
LWU	Lao Women's Union
MCH	Maternal and Child Health
MOH	Ministry of Health
MSF	Médecins Sans Frontières
NCCA	National Committee for the Control of AIDS
NCCAB	National Committee for the Control of AIDS Bureau
NGO	Non-Governmental Organisation
PCCA	Provincial Committee for the Control of AIDS
PLA	Participatory Learning and Action
PLWH/A	People living with HIV/AIDS
PTCT of HIV	Parent to child transmission (Mother to child transmission) of HIV
PSI	Population Services International
RCH	Reproductive and Child Health
RTI	Reproductive Tract Infections
SA	Situation analysis
STI	Sexually transmitted infection
TBA	Traditional Birth Attendant
UNAIDS	UN Joint Program on AIDS
UNICEF	United Nations Children's Fund
UNDP	United Nations Development Program
UNFPA	United Nations Population Fund
WHO	World Health Organisation
ZDV	Zidovudine (antiretroviral drug)

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Wendy Holmes, October 2003

Executive summary

The HIV epidemic has been spreading slowly in Lao PDR, and the prevalence remains low. Nevertheless there is potential for the epidemic to grow and much need for further prevention efforts and care and support initiatives. The National Committee for the Control of AIDS (NCCA) has overseen a wide range of responses and the development of an inter-sectoral National HIV/AIDS/STD Policy. UNICEF Vientiane has been responding to the new problems of the HIV epidemic since 1996. The HIV/AIDS Unit has supported a range of prevention and care initiatives with the government of Lao PDR, and a number of other partners. The NCCA has established a new Taskforce to address prevention and care in relation to mother to child transmission (MTCT) of HIV. UNICEF Vientiane wishes to assist the Taskforce to develop appropriate national policies and strategies to address the problems raised by parent to child transmission of HIV.

There are many aspects to prevention and care in relation to PTCT of HIV so UNICEF therefore invited a consultant with technical expertise in PTCT of HIV and knowledge of maternal and child health in Lao PDR to work with a representative from the NCCA Bureau and UNICEF staff to assess capacity and opportunities in Savannakhet province, and in Vientiane Municipality.

The team reviewed existing interventions and current practices and services of government and partner agencies in order to be able to recommend key strategies for comprehensive prevention and care in relation to PTCT of HIV, within a child survival approach. They were able to consult and hold discussions with a wide range of stakeholders.

The province of Savannakhet has developed strong responses to the threat of HIV, with impressive achievements in terms of acceptance for those infected with HIV, prevention, and counselling, and care and support activities for those infected and affected by HIV. Savannakhet therefore provides an appropriate setting to begin strategies to address PTCT of HIV.

The commitment of leaders to addressing parent to child transmission of HIV is strong nationally and in Savannakhet province. Maternal and child health services, especially referral and follow up systems, need strengthening both in these provinces and elsewhere in Lao PDR. Coverage rates for ante-natal care, delivery care and post-natal care are low. Maternal mortality and child mortality rates are relatively high. It is therefore essential that strategies to prevent mother to child transmission of HIV strengthen rather than undermine the maternal and child health and reproductive health care systems.

It is important to continue to strengthen efforts to prevent young men and women becoming infected, and, specifically, to introduce new strategies to prevent women becoming infected when they are pregnant or lactating. Given the low prevalence of HIV in Lao PDR, and the potential for adverse effects as well as benefits, we recommend that the introduction of routine VCT for HIV in the ante-natal clinic be delayed until the necessary supportive services have been strengthened, especially training of health care

workers in breastfeeding and HIV and infant feeding counselling. Modeling shows that only a small proportion of HIV infections in children could be averted in Lao PDR currently, with this approach. However there are interventions at a population level that will help prevent HIV passing to babies from infected mothers that are unaware of their HIV status. Community education about these issues is also essential, especially reaching men with appeals to their sense of responsibility for the well-being of their families.

In light of the findings of the assessment, discussions with stakeholders, including men and women living with HIV, review of the literature and of lessons learned in other countries we suggest the following key strategies.

In the short-term:

- 1. Develop national policy guidelines and protocols in relation to care and prevention for PTCT of HIV*
- 2. Develop technical knowledge base of National Ministry of Health PMTCT of HIV working group*
- 3. Develop capacity to address the needs and concerns of people that already know they are HIV positive, in relation to pregnancy, child birth, breastfeeding, weaning and child care, starting in Savannakhet and Vientiane Municipality*
- 4. Gather information to inform PTCT of HIV planning*
- 5. Prevent women becoming infected during pregnancy and the post-partum period*
- 6. Lower the risk of transmission of HIV from infected mothers to children through population-based strategies*
- 7. Prepare carefully for introduction of specific hospital-based secondary prevention program, initially in Savannakhet province and Vientiane municipality*

In the medium-term:

- 1. Extend strategies 3 – 7 to all provinces*
- 2. Introduce specific hospital-based secondary prevention program in Savannakhet province and Vientiane municipality*

First step:

Offer VCT for HIV to women who may be at high risk of infection – for example, patients with STIs in Savannakhet province and Vientiane municipality, and provide reproductive health care and support, including ART where available, to those who test positive. MSF have indicated an interest in supporting this initiative.

Second step:

Offer VCT for HIV as a routine in the ante-natal clinic to all women. Offer anti-retroviral prophylaxis and HIV and infant feeding counselling to those who test positive. Where available, provide anti-retroviral treatment to women, their husbands and infected children, if they meet clinical / laboratory criteria.

In the long-term:

Extend specific hospital-based secondary prevention program to all provinces

It is important that these strategies be implemented according to the principles of the National HIV/AIDS/STD Policy and the National Health Strategy, 2000.

We hope that this report provides a framework for more detailed planning of activities to prevent transmission of HIV to children, and to provide care and support for infected women, children, and their families.

Introduction

The HIV epidemic has been spreading slowly in Lao PDR, and the prevalence remains low. Nevertheless there is potential for the epidemic to grow and much need for further prevention efforts and care and support initiatives. The National Committee for the Control of AIDS (NCCA) has overseen a wide range of responses and the development of an inter-sectoral National HIV/AIDS/STD Policy.

UNICEF Vientiane has been responding to the new problems of the HIV epidemic since 1996. The HIV/AIDS Unit has supported a range of prevention and care initiatives with the government of Lao PDR, and a number of other partners.

HIV can pass from infected mothers to their babies during pregnancy, labour, and after delivery through breastfeeding. The NCCA has established a new Taskforce to address prevention and care in relation to mother to child transmission (MTCT) of HIV. UNICEF Vientiane wishes to assist the Taskforce to develop appropriate national policies and strategies to address the problems raised by parent to child transmission of HIV¹.

The province of Savannakhet has developed strong responses to the threat of HIV, with impressive achievements in terms of acceptance for those infected with HIV, prevention, and counselling, and care and support activities for those infected and affected by HIV. Savannakhet therefore provides an appropriate setting to begin strategies to address PTCT of HIV.

There are many aspects to prevention and care in relation to PTCT of HIV. Knowledge in this area changes rapidly. UNICEF therefore invited a consultant with technical expertise in PTCT of HIV and knowledge of maternal and child health in Lao PDR to work with a representative from the NCCA Bureau (NCCAB) and UNICEF staff to assess capacity and opportunities in Savannakhet province, and in Vientiane Municipality. The team aimed to review existing interventions and current practices and services of government and partner agencies in order to be able to recommend key strategies for comprehensive prevention and care in relation to PTCT of HIV, within a child survival approach.

¹The Ghent International Working Group on Mother-to-Child Transmission of HIV has recommended the term 'mother to child transmission' for clarity and consistency. But there has been concern that this term seems to blame the mother, and fails to acknowledge the role of men in transmission of HIV to children. There has been much debate about the best term to use. The UN Inter-agency Task Force continues to use this term, but may change soon. Several countries and organisations now use the term "Parent to child transmission of HIV". In this report we use "parent to child transmission of HIV", when talking of public health and policy aspects, and "mother to child transmission of HIV" when we describe how HIV can pass to a baby from an HIV infected mother, and when talking about influences on this risk.

Assessment process

To obtain a picture of the opportunities for prevention and care in relation to PTCT of HIV in Vientiane municipality and Savannakhet province we interviewed key leaders and officials, and held group discussions with:

- Government leaders
- The Taskforce on PMCTC of HIV of the NCCAB
- UNICEF-Vientiane staff
- Provincial Ministry of Health officials, Savannakhet
- Lao PDR Youth Union officials
- Pregnant women attending ante-natal clinic at the MCH Hospital, Savannakhet, and their husbands
- Older women from Savannakhet
- Staff of the HIV/AIDS Unit of the Provincial Hospital, Savannakhet,
- Staff of the MCH department of the Provincial Hospital, Savannakhet
- Staff of Medicins Sans Frontieres
- People living with HIV support team, Savannakhet
- The Outhum Phone District Committee for the Control of AIDS
- MCH staff at the Outhum Phone District Hospital
- Administrative and clinical staff of the MCH Institute hospital in Vientiane municipality
- Administrative and clinical staff from the Sethathirath Hospital

We were also able to make observations on visits to the ante-natal clinics, wards, pharmacies, laboratories and offices of provincial, district and municipal hospitals, collected examples of information pamphlets, and viewed training materials and reference books. We assessed the prices and availability of replacements for breast milk in the town shops in Savannakhet. We reviewed documents including the National HIV strategy, Provincial Ministry of Health data, and UNICEF program documents.

At an inter-sectoral stakeholders' workshop in Savannakhet we presented an overview of technical issues in prevention of parent to child transmission of HIV, provided a framework for planning, and a summary of our key findings. Participants were able to comment and correct any mistakes. The participants then broke into small groups to discuss strategies in more detail. The results of these discussions are included in Appendix 5. At this workshop this was insufficient time to make a detailed action plan for a comprehensive range of strategies. However the workshop achieved the aim of raising awareness, increasing understanding of the many aspects of prevention and care in relation to PTCT of HIV, and beginning the process of inter-sectoral planning, which will need to continue at a further workshop.

We also help a de-briefing meeting with the Ministry of Health Taskforce on Prevention of Mother to Child Transmission of HIV, and key stakeholders, at which we presented our key findings and conclusions, and received feedback.

Context

Overview of the health situation in Lao PDR

Health indicators in the Lao PDR are amongst the poorest in Asia. The World Health Organisation (WHO) ranks the country as 147th in overall health attainment. Infant mortality is estimated by the MOH at 75 per 1,000 live births and maternal mortality at 500 per 100,000 live births. The five most common reported causes of death in 1998 were malaria, pneumonia, meningitis, diarrhoea, and tuberculosis. The high maternal mortality rate is associated with a high fertility ratio, low rates of birth spacing, low coverage of ante-natal care and low levels of attended deliveries.

Infectious diseases and pregnancy-related mortality and morbidity are associated with high rates of malnutrition. Diarrhoeal diseases, viral hepatitis, and intestinal parasites are important causes of morbidity and contribute to high rates of malnutrition among children.

Increased mobility, labour migration, consumerism, and increased exposure to foreign media, has led to new emerging health problems. These include HIV/AIDS, illicit drug use, hepatitis B and tuberculosis.

Government of Lao PDR (GOL) health services are delivered through 18 provincial and 141 district health offices, and 567 village-based dispensaries. These are supported by three regional referral facilities. At village level, village health volunteers (VHWs), Traditional Birth Attendants (TBAs), traditional healers and drug vendors provide a range of services. Total annual government health care expenditure in 1997/98 was estimated at 3.2 percent of GDP, with households contributing more than 58 percent of total annual health expenditures.

Access to services varies greatly by geographic region and ethnic group, and use of dispensaries in rural areas is low. As a general indicator of public health program coverage, child and maternal immunisation coverage range from low to moderate by international standards.

The government of Lao PDR promotes primary health care. In 1999 the Ministry of Health (MOH) was reorganised to include a PHC Coordination Unit, responsible for implementing the national PHC program. PHC Units have also been established in each province with responsibilities for planning, budgeting, training, supervision, coordination and evaluation of PHC services. However there remains a great need to strengthen health care systems, including supervision and support for health care workers, and referral and discharge mechanisms.

Overview of the HIV epidemic and responses in Lao PDR

The first case of HIV was reported in 1990. UNAIDS classifies the Lao PDR as a low prevalence country with an estimated HIV infection rate of 0.05% within the general

population. HIV infection rates in vulnerable groups such as service women are estimated to be around 0.9%. The Lao Government, however, acknowledges that prevalence in both the general population and most vulnerable groups is probably higher than official estimates. By December 2000, approximately 61,130 persons were tested for HIV and 717 people returned positive tests. Almost two thirds of those were men. In the same year there were 190 confirmed AIDS cases and 72 deaths reported². The situation in June 2002, some eighteen months later, according to UNAIDS revealed that the estimated number of positive people in Lao PDR had doubled to 1,400³. 64% are male and 36% female. Most HIV transmission appears to be through heterosexual sex. As of April 2003 there have been 590 reported cases of AIDS and 452 people have died⁴.

Despite its current low prevalence, Lao PDR remains highly vulnerable to the spread of HIV due to risk factors such as low condom usage and its location near and interaction with high prevalence countries in the region. The government estimates that there are 150,000 people working in Thailand – most of them are young, and many lack official travel documents, so they are a difficult group to reach with information and prevention and care services. Migrant workers account for at least 35% of all reported case of HIV infection. Most new infections (68%) are found among young people aged between 20-35 years.

The Lao PDR government responded to the threat of the HIV epidemic by creating the National Committee for the Control of AIDS (NCCA) in 1988. A consultative process between April and June 2001 resulted in the National HIV/AIDS/STD Policy (December 2001), which deals with the prevention of HIV infection; care and support for those infected and affected; and mitigation of the adverse impact of HIV/AIDS on the social and economic development of individuals and the nation. It also outlines the principles that should guide implementation of the policy.

There have already been a wide range of responses to the epidemic from many sectors, including the governmental agencies and ministries, mass organisations, civil society, and international organisations. Savannakhet province has been particularly active in relation to both prevention and care.

The PMCT Taskforce has been divided into three groups: a PMCT advisory group, a PMCT technical working group, and counterparts. Key counterparts have been identified as Central Lao Youth Union, the Central Lao Women's Union, the Central Lao Trade Union, UNICEF, WHO, UNFPA, UNAIDS, Medecins Sans Frontieres, Population Services International, and Family Health International.

² Report on Country Consultation on HIV/AIDS. National Committee for the Control of AIDS Bureau, Lao PDR, November 2001.

³ Epidemiological Fact Sheet, Lao PDR. 2002 Update. UNAIDS, Geneva. June 2002.

⁴ National Committee for the Control of AIDS Bureau, 2003.

The role of UNICEF

UNICEF in Lao PDR has been supporting responses to the HIV epidemic since 1995. These have included six initiatives for prevention and awareness raising, and a care and support component. UNICEF works with the NCCAB, and has formed partnerships with line ministries, mass organisations, international organisations and NGOs to implement programs. UNICEF provides technical advice and support, financial support, and helps to build the capacity of organisations to respond to HIV. UNICEF has supported interventions that aim to reach young people, especially mobile workers, service women, the general population, including ethnic minorities, and people living with HIV. Strategies have included lifeskills education, 'friends tell friends' peer education, community-based activities, advocacy, support groups, and the involvement of Buddhist clergy.

UNICEF is in a strong position to support the development and implementation of comprehensive, integrated strategies for prevention and care in relation to PTCT of HIV because of its strong partnerships in responses to the epidemic to date, and because of its role in supporting maternal and child health activities. UNICEF also has the benefit of learning from experience of PTCT programs in other countries in South East Asia, India and Africa.

Savannakhet

Savannakhet province is in the centre of Laos, south of Vientiane. To the north it borders Khammouane province, to the east, Vietnam, to the south, Saravane province, and to the west, across the Mekong river, is Thailand. Savannakhet has a population of 790,118, with 83% living in the rural areas of the province. There are 15 districts, with 1,543 villages. 70.5% of the villages have a village health worker, and 52.5% have a trained traditional birth attendant. 325 villages, or 21%, have a drug revolving fund. There are also 33 private clinics, and 202 private pharmacists. There are 107 doctors in the province, 237 medical assistants, and 591 nurses. The Provincial hospital has 160 beds. There are 14 District hospitals: four have 30 beds; three have 15 beds; seven have 10 beds.

Savannakhet has reported more cases of HIV/AIDS than other provinces. Many of the population visit Vietnam and Thailand for work or trade. Up to December 2002, 12,026 people had been tested for HIV, with a cumulative total of positive results of 462. There had been 236 deaths. To December 2002, 99 children were known to have been infected.

One of the reasons that there have been more cases reported may be the strong responses that there have been in Savannakhet. Dr Khampeng of the HIV/AIDS Unit at the Provincial Hospital has done remarkable work in building a group of trained health staff with skills in counselling and management of patients with HIV. She has helped to create an environment in which people living with HIV feel accepted and cared for. An intersectoral support team has been established, which works at every level to provide care and support for people with HIV, and promotes acceptance by others.

Comment [11]: Dr Khamphang

In recent months the HIV/AIDS Unit at the provincial hospital, with MSF, have been preparing for the introduction of anti-retroviral drug treatment for people with HIV that meet the clinical or laboratory criteria recommended by WHO. Treatment has just begun. The opportunity to be treated for this disease has stimulated more people to come forward for counselling and testing. In this way the availability of anti-retroviral treatment can contribute to prevention of further spread of HIV, and minimise the additional misery caused to people living with HIV that results from ignorance, stigma and discrimination.

Overview of parent to child transmission of HIV

Impact

The HIV epidemic has a profound effect on the lives of children and their families. UNAIDS estimates there were over one million adults of reproductive age living with HIV by the end of 2001 in South-East Asian countries. Many children become ill with HIV immune deficiency and die. Children suffer the emotional and social effects of chronic illness and death of their parents.

Many women first discover their HIV infection, and that of their husband, when their baby becomes ill. Women whose babies fail to thrive may blame themselves, or be blamed by their husband or relatives. Parents of infected babies have to cope with the burden of recurrent illness of their child without hope of recovery.

Most women do not know whether they are infected with HIV. As awareness of the possibility and consequences of PTCT of HIV increases women may fear becoming pregnant, and need access to good advice and contraception. Pregnant women worried about HIV need supportive counselling and information about risks, and about actions that couples or women themselves can take to reduce the risk of PTCT. Once the baby is born, parents have to cope with uncertainty until the baby is old enough for diagnosis. They may worry about infant feeding choices.

Babies of HIV positive mothers have a higher risk of low birth weight, prematurity, stillbirth and perinatal mortality. The most common clinical features of HIV infection in children are failure to thrive, recurrent bacterial infections, especially pneumonia, recurrent and persistent diarrhoea, oral thrush, generalised lymphadenopathy, itchy rashes, chronic cough, developmental delay, neurological problems, and parotitis⁵. The course of HIV disease tends to be more rapid in children than adults. Children who develop signs of HIV infection in their first year have a poor prognosis and most die within three years. Some children develop symptoms for the first time in their second or third year, and continue to grow well, although they may have frequent minor illnesses.

⁵ Nkrumah FK, Choto RG, Emmanuel J et al. Clinical presentation of symptomatic human immuno-deficiency virus in children. Central African J Med 1990;36:116-120.

Different patterns of progression may be explained by different viral strains, genetic factors in the host, the timing of infection, the immune status of the mother, and co-factors such as other infections⁶. Social circumstances and availability of medical care affect the course of the disease. When malnutrition combines with immune suppression due to HIV, children quickly succumb to infections, especially gram-negative septicaemia and severe pneumonia.

Nurses, midwives, medical assistants and doctors have to cope with uncertainty, rapidly changing knowledge, their own fears, and not being able to cure the disease. Dealing with the fears of women and their families, and with sick and dying children, is very stressful. The need to keep their knowledge of patients confidential can also be a burden. It is easy for them to feel overwhelmed.

Most children with HIV infection have become infected through transmission from the mother. A smaller proportion of children become infected through blood transfusions, especially when blood is not screened, or through unsafe injections. Sexual abuse of children happens in all societies and may result in HIV infection in addition to other serious consequences.

MTCT of HIV has been a difficult issue to study but there have been some rapid advances in knowledge in recent years. An understanding of the influences on the risk of transmission is necessary to understand how to prevent HIV infection in babies.

Risk of mother to child transmission of HIV

The risk of transmission from an infected mother to her child is between 15% and 48%⁷. Transmission may occur across the placenta, at delivery, or after birth through breastfeeding. Maternal HIV antibody crosses the placenta so the HIV antibody test is positive whether the baby is infected or not. This has made it difficult to study the timing of transmission. These maternal antibodies stay in the baby for as long as 18 months, although most babies lose maternal HIV antibodies by nine months of age. A recent review of the evidence suggests that in breastfeeding populations 20% of infected babies became infected during the pregnancy, 45 - 50% became infected at the time of delivery, and 30-35% became infected after birth, through breastfeeding⁸.

Influences on MTCT of HIV

⁶ Lepage P, Hitimana D-G. Natural history and clinical presentation of HIV-1 infection in children. *AIDS* 1991;**5**(suppl 1):S117-S125.

⁷ de Cock K, Fowler M, Mercier E, de Vincenzi I et al. Prevention of mother to child HIV transmission in resource-poor countries: Translating research into policy and practice. *JAMA* 2000;283:1175 – 1182.

⁸ Newell ML. Mechanisms and timing of mother-to-child transmission of HIV-1. *AIDS* 1998;12:831-837

Maternal viral load is the most important determinant of transmission^{9, 10}. High viral loads occur in the weeks after infection with HIV, and again, often years later, when the immune system is damaged and the woman develops HIV-related illness. When an HIV positive woman is well with low levels of virus in her blood the risk of transmission to her baby is small. The health and nutritional status of the mother also influence risk of MTCT, especially the presence of other infections such as sexually-transmitted infections and chorioamnionitis. The risk is increased by invasive procedures such as amniocentesis and artificial rupture of membranes¹¹.

Breastfeeding and HIV

Comment [COMMENT2]: Illustration will be provided for this

The baby of an HIV-infected woman may remain uninfected during pregnancy and delivery but become infected through breastfeeding. The only randomised controlled trial of breastfeeding versus formula was conducted in Kenya and found an attributable risk of 16%¹². The risk is higher when a woman becomes infected with HIV during the period of lactation, because of the high viral loads during early HIV infection¹³. Most HIV transmission via breastmilk occurs early, although some risk continues throughout the period of breastfeeding. Most babies born to HIV-infected mothers who are breastfed do not become infected with HIV and may benefit from the general and HIV-specific antibodies in breast-milk¹⁴. Babies who are not breast-fed have a high risk of death from malnutrition, diarrhoea, and respiratory infections¹⁵. As health benefits of breastfeeding are most important in the first six months of life, reducing the duration of breastfeeding by infected women may reduce the risk of HIV transmission while retaining the benefits of breastfeeding in the early vulnerable months. The risk of infection through breastfeeding is increased by mastitis or breast abscesses¹⁶. It is biologically plausible, and there is evidence to support the hypothesis, that exclusive breastfeeding, when the

⁹ Garcia PM, Kalish LA, Pitt J, Minkoff H, Quinn TC, Burchett SK, Kornegay J, Jackson B, Moye J, Hanson C, Zorilla C, Lew JF. Maternal levels of plasma human immunodeficiency virus type 1 RNA and the risk of perinatal transmission. *N Engl J Med* 1999;341:394-402.

¹⁰ Contopoulos-Ioannidis DG, Ioannidis JP. Maternal cell-free viraemia in the natural history of perinatal HIV-1 transmission. A meta-analysis. *J AIDS Human Retrovirol* 1998;18:126-35

¹¹ Mandelbrot L; Mayaux MJ; Bongain A; Berrebi A; Moudoub-Jeanpetit Y; Benifla JL; Ciraru-Vigneron N; Le Chenadec J; Blanche S; Delfraissy JF Obstetric factors and mother-to-child transmission of human immunodeficiency virus type 1: the French perinatal cohorts. *Am J Obstet Gynecol* 1996;175:661-7.

¹² Nduati R, John G, Mbori-Ngacha D, Richardson B, Overbaugh J, Mwatha A, Ndinya-Achola J, Bwayo J, Onyango E, Hughes J, Kreiss J. Effect of breastfeeding and formula feeding on transmission of HIV-1, a randomized clinical trial. *JAMA* 2000;283:1167-74.

¹³ Dunn DT; Newell ML; Ades AE; Peckham CS. Risk of human immunodeficiency virus type 1 transmission through breastfeeding. *Lancet*, 1992;340:585-8.

¹⁴ Tozzi AE, Pezzoti P, Greco D. Does breastfeeding delay progression to AIDS in HIV-infected children? *AIDS* 1990;4:1293-1294.

¹⁵ WHO Collaborative Study Team on the Role of Breastfeeding on the Prevention of Infant Mortality. Effect of breastfeeding on infant and child mortality due to infectious diseases in less developed countries: a pooled analysis *Lancet* 2000; 355: 451 – 455.

¹⁶ Embree JE, Njenga S, Datta P, et al. Risk factors for postnatal mother-child transmission of HIV-1. *AIDS* 2000;14:2535-41.

baby receives nothing but breastmilk, may be safer than mixed feeding (breast and other fluids), and may even protect against transmission at the time of delivery¹⁷. Babies do not need to receive any food or fluids other than breastmilk for the first six months of life.

Prevention of mother to child transmission of HIV

In recent years much attention has been focused on interventions that depend on knowing the HIV status of pregnant women. These are: antiretroviral prophylaxis (ARVP), counselling about safer infant feeding, and elective caesarean section. Access to these “test-dependent” interventions has reduced the risk of MTCT of HIV to less than 4% in industrialised countries.

A 1994 US study showed that zidovudine (ZDV) given orally during pregnancy, intravenously during labour, and for six weeks to the baby (ACTG076 regimen), reduced MTCT by 68%. But this regimen is expensive and difficult. Since then there has been a number of randomised controlled trials of shorter and simpler regimens of ARVP. In Thailand, administration of a cheaper regimen of ZDV for the last four weeks of pregnancy and three hourly during labour, was found to reduce risk of transmission by half when babies were not breastfed¹⁸. In breastfed populations the efficacy is reduced; studies in West Africa showed that the same regimen reduced transmission by 37% measured at three months postpartum, and by 26% after two years¹⁹. A study in Uganda showed that a single dose of nevirapine (NVP), given to the mother during labour, and to the newborn, reduced the risk of MTCT by half²⁰. This intervention costs only a few dollars and appears to have long-term efficacy despite continued exposure to HIV during breastfeeding. An expert panel convened by WHO in October 2000 concluded that NVP should be approved for widespread use, because potential benefits outweigh concerns about the development of drug resistance²¹. This cheap and practical regimen is replacing ZDV in many settings. The efficacy of ARVP given to the baby during lactation is also being studied. UNICEF have supported pilot implementation sites for

¹⁷ Coutoudis, A., Pillay K., Kuhn L., Spooner, E., Tsai W-Y, Coovadia H.M. Method of feeding and transmission of HIV-1 from mothers to children by 15 months of age: prospective cohort study from Durban, South Africa. *AIDS* 2001;15:379-387.

¹⁸ Shaffer N, Chuachoowong R, Mock PA, Bhadrakom C, Siriwasin W, Young NL, Chotpitayasunondh T, Chearskul S, Roongpisuthipong A, Chinayon P, Karon J, Mastro TD, Simonds RJ. Short course zidovudine for perinatal HIV-1 transmission in Bangkok, Thailand: a randomised controlled trial. *Lancet* 1999;353:773–80.

¹⁹ Wiktor S, Leroy V, Ekpini ER. 24-month efficacy of short course maternal zidovudine for the prevention of mother to child HIV-1 transmission in a breastfeeding population: a pooled analysis of two randomised clinical trials in West Africa. Abstract TuOrB354 XIII International AIDS Conference, Durban July 2000.

²⁰ Guay L.A., Musoke P., Fleming T., Bagenda D., et al. Intrapartum and neonatal single-dose nevirapine compared with zidovudine for prevention of mother-to-child transmission of HIV-1 in Kampala, Uganda: HIVNET 012 randomised trial. *Lancet* 1999;354:795-802.

²¹ UN Inter-Agency Task Team on Mother-to-Child Transmission of HIV. Geneva, 11-13 October 2000 New Data on the Prevention of Mother-to-Child Transmission of HIV and their Policy Implications Conclusions and recommendations Published 15 January 2001. available at: www.unaids.org/publications/documents/mtct/index.html

antenatal voluntary counselling and testing (VCT) and ARVP in several countries. Many lessons have been learned (see below)²².

Caesarean section before the onset of labour allows the baby to avoid contact with the mother's blood and cervical secretions, and can reduce the risk of MTCT of HIV by 50 to 66%²³. In developing country settings factors to consider include the likely safety of the operation, access to surgery, long-term childbirth risks for the mother, and the cost.

HIV positive pregnant women need counselling about infant feeding to help them to assess the risk for their baby, and advice and support to feed their baby safely whatever their choice. The fact that breastfeeding carries a significant risk of transmitting a fatal infection presents policy makers with a difficult dilemma. The balance of risk will vary for different mothers in different settings. The UN inter-agency task force on HIV has made the following recommendations²⁴:

- When replacement feeding is acceptable, feasible, affordable, sustainable and safe, avoidance of all breastfeeding by HIV-infected mothers is recommended.
- Otherwise, exclusive breastfeeding is recommended during the first months of life.
- To minimize HIV transmission risk, breastfeeding should be discontinued as soon as feasible, taking into account local circumstances, the individual woman's situation and the risks of replacement feeding (including infections other than HIV and malnutrition).
- When HIV-infected mothers choose not to breastfeed from birth or stop breastfeeding later, they should be provided with specific guidance and support for at least the first 2 years of the child's life to ensure adequate replacement feeding. Programs should strive to improve conditions that will make replacement feeding safer for HIV-infected mothers and families.
- HIV-infected mothers who breastfeed should be provided with specific guidance and support when they cease breastfeeding to avoid harmful nutritional and psychological consequences and to maintain breast health.

These test-dependent interventions are important advances. But to protect babies from HIV we need to do more than focus only on the HIV positive pregnant woman. It is important to allocate resources to strategies that prevent women becoming infected, and to strategies that reduce the risk of transmission to babies when it is not known which women are infected. A 'child survival' approach emphasises the need for counselling women about infant feeding so that they can make the safest choice for their circumstances. This approach also highlights the need to provide follow up care and

²² UNICEF/UNAIDS/WHO/UNFPA African regional meeting on pilot projects for the prevention of mother-to-child transmission of HIV. Gabarone, Botswana. March 27-31, 2000.

²³ European Mode of Delivery Collaboration. Elective caesarean-section versus vaginal delivery in prevention of vertical HIV-1 transmission: a randomised clinical trial *Lancet* 1999;353:1409-14.

²⁴ UNFPA/UNICEF/WHO/UNAIDS Inter-Agency Task Team on Mother-to-Child Transmission of HIV. January 15 2001. www.unaids.org/

support for parents found to be positive to enable them to live longer and happier lives and to care for their children.

Experience with “test-dependent” interventions from other countries

Thailand has been able to implement ante-natal VCT and ARVP widely and relatively effectively, but it is different to other countries in the region, including Lao PDR²⁵. It is a middle income country with a good health care infrastructure, including a good quality, well-used, antenatal care system, trained staff, clean water, and high levels of literacy. However it is still valuable to study the lessons learned from the national implementation of secondary prevention of mother to child transmission of HIV (PMCHT)²⁶:

- “Pilot PMCHT projects provide a setting to work out feasible referral and management protocols and solve problems; if successful, they provide data to advocate for expansion.
- Frequent communication throughout PMCHT programs is needed to establish good teamwork, clarify responsibilities and work flow, disseminate policy, and solicit and heed input from staff at all levels.
- Training, especially in counseling, is critical for preparing counselors and their supervisors. Periodic re-training is needed because of staff turnover and rapidly evolving technical issues.
- Counseling plays a central role in PMCHT programs by informing pregnant women about HIV testing and prevention, and helping HIV-infected women to adjust to their diagnosis and reduce transmission to their children. Skill in counseling can enhance the quality of antenatal and other health services in addition to PMCHT.
- Data from surveillance, research, monitoring, and evaluation provide evidence to advocate for developing, expanding, and improving PMCHT programs. Simple data systems that allow accurate information to be easily collected, quickly analyzed, readily understood, and rapidly disseminated enhance their usefulness.
- Integrating PMCHT into maternal and child health services simplifies program management at the hospital level. For instance, messages about breastfeeding, which differ for HIV-infected and HIV-uninfected women, are easier to deliver consistently when the same counselors are trained in the reasons for promoting breastfeeding for HIV-uninfected women and discouraging it for HIV-infected women.
- Non-governmental organizations and research groups can catalyze programs by providing services before the government is able to do so, and can gain early PMCHT program experience useful for policy making.”

There are pilot or demonstration sites in several other countries in the region. These include sites in Henan province in China, 12 sites in Myanmar, since January 2001, and

²⁵ Thaineua V; Sirinirund P; Tanbanjong A; Lallemand M; Soucat A; Lamboray JL From research to practice: use of short course zidovudine to prevent mother-to-child HIV transmission in the context of routine health care in Northern Thailand. *Southeast Asian J Trop Med Public Health* 1998;29:429-42.

²⁶ Kanshana, S, Simonds, R.J National program for preventing mother-child HIV transmission in Thailand: successful implementation and lessons learned. *AIDS* 2002;16(7):953-959.

two sites in Cambodia, since November 2001. In 2000 the National AIDS Control Organisation of India, with support from UNICEF, began a pilot ARVP program in five states, which is currently being extended to medical colleges and district hospitals.

Pilot projects have experienced logistic and social problems, including limited capacity to provide training for sufficient clinic staff, the added workload of VCT in already over-stretched clinics, lack of privacy for VCT, high rates of loss to follow up, and low rates of take-up of ARVP²⁷. However, uptake of the intervention is improving in many centres. There have been problems with inconsistent advice about infant feeding for HIV positive pregnant women.

It may be difficult to take staff away from their jobs for the training that they need in pre-post-test and infant feeding counselling. Because of these problems, in many settings pre-test 'counselling' is carried out in groups, rather than one-to-one. This should be more than simply giving women, in a large group, information about HIV and MTCT. Groups should be small and there should be an opportunity to ask questions, to bring the husband or a relative, or to delay making the decision to be tested until the next visit. It is important to ensure that after the small group 'counselling', and before they give consent to the test, each woman is able to have a few moments alone with the counsellor in case she has a question that she could not ask in front of others. Women who do not want to be tested may feel unable to decline if the rest of the group gives consent. Staff should know that 'proportion of women tested for HIV' is not an indicator for program evaluation. It is important to carry out qualitative studies to explore local attitudes to issues of informed consent and confidentiality in relation to testing. When a woman comes to the ante-natal clinic she is not usually expecting to be offered an HIV test. Her needs and concerns are likely to be different to those of women who have actively sought testing²⁸. Women who have undergone testing have often failed to return to receive their results, so they miss out on further ante-natal and delivery care.

To minimise the social and psychological problems associated with testing, and the child health problems associated with avoidance of breastfeeding, careful preparation is needed before introduction of PMTCT of HIV programs in hospitals. They require:

- Commitment by leaders
- Well-functioning maternal and child health (MCH) services
- Accessible and acceptable VCT services
- Quality and confidential testing facilities
- Sustainable supply of ARV drugs in appropriate formulations
- Community acceptance of those infected and affected by HIV
- Health care workers trained in VCT, infant feeding counselling, and management of lactation
- Resources for follow up care and support for infected mothers, babies and their

²⁷ African regional meeting on pilot projects for the prevention of Mother-to-child Transmission of HIV, Gaborone. 27-31 March 2000. www.unaids.org

²⁸ Kasisedapan S, Piboonsombat S. The impact on women in Thailand of programs to reduce the mother-to-child HIV transmission. *Int Conf AIDS* 2000;2:390 (ThPpC1494).

families

The complexity of these programs also places a strain on health services management. Attention and resources are often diverted from other preventive and curative services. Care must be taken not to increase existing inequalities in resource allocation for MCH services between urban and rural areas. It is important for PMTCT programs to be integrated with MCH, and other health and social welfare services. Vertical programs will not be sustainable – and may take resources from other aspects of MCH care services.

Findings of the assessment

Commitment by leaders

The NCCA have shown great commitment to preventing further spread of HIV and to providing care and support to those infected and affected. They have developed a comprehensive national policy document that includes a commitment to prevent mother to child transmission of HIV. The establishment of an inter-sectoral Taskforce demonstrates this commitment to develop effective and equitable policies and programs for PTCT of HIV prevention and care. In addition to public health officials there are also clinicians with a particular interest in parent to child transmission of HIV. Dr Sivixay Thammalangsy, Medical Administrative Manager of the Mother and Child Health Hospital, for example, has prepared information leaflets and training materials on MTCT of HIV.

In Savannakhet there has been impressive and exceptional commitment and leadership by the Vice-Governor, the inter-sectoral Provincial Coordinating Committee for AIDS, officials from the Ministry of Health and clinicians at the hospital, in particular Dr Khamphang of the HIV/AIDS Unit at the Provincial Hospital.

Maternal and child health services

In general in Lao PDR lack of resources means that maternal and child health care services remain weak, although there are a range of current initiatives that aim to strengthen them within a primary health care framework. It is important to note that access to and quality of health care services varies greatly between provinces, and within provinces, between urban, rural and remote settings. Several recent reports provide useful data about health care seeking behaviour, and access to health care services, in different parts of the country²⁹.

²⁹ Asian Development Bank (1999): Household Survey in 11 Provinces, State Planning Centre, National Statistics Centre, Ministry of Health (2001): Multiple Indicator Cluster Survey, 2000 (MICS II); State Planning Centre, National Statistics Centre, United Nations Population Fund (UNFPA): Lao Reproductive Health Survey 2000; Developing Healthy Communities project.

Savannakhet and Vientiane Municipality are not necessarily typical provinces in relation to health care services. For example, the Reproductive Health Survey 2000 reported that 89.6% of pregnant women in Huaphan in the past 5 years did not receive antenatal care (91.8% in rural areas compared to 70.1% in urban areas)³⁰. A great deal of work has been done to strengthen MCH services in Savannakhet province in recent years, with support from a number of donors.

Ante-natal care - quality and coverage

- 31% of women in Savannakhet are estimated to attend three ante-natal clinic visits
- First visit usually at about 20 weeks of pregnancy
- Those women who do have easy access to ante-natal care do make use of it – however many women in rural areas are unable to afford transport to ante-natal care, they are busy, and also they believe that pregnancy is natural, not an illness, so do not see the need for health care
- Sometimes husbands accompany their wives to the hospital / clinic – but do not see a health care worker – an opportunity to reach men with HIV and STI prevention messages
- Both women and men say that urban men would be willing to attend a routine ANC visit with their wife – but that rural men would be less likely to because of embarrassment, workload and cost of transport
- Anaemia is common among pregnant women – treated routinely with ferrous sulphate if haematocrit <33%
- Women reported that they get their health information from other women who have been to the hospital, from older women, from TV and from village visits by health education teams
- Referral system is weak currently – lack of communication facilities and transport options
- Some women by-pass their health centre or district hospital to come straight to the Provincial hospital
- The Savannakhet provincial hospital saw 1,756 new pregnancies last year – a total of 6,713 ante-natal visits – usually about 35 women seen each day in ANC
- STI detection and management for pregnant women needs strengthening
- There was a useful counselling flip chart available for health promotion (produced by UNICEF) – district health staff said that they use this flip chart
- There are a number of hospitals in the Vientiane municipality that provide ante-natal, obstetric, and child health services. Most of their patients live near to the hospitals. As in Savannakhet, we heard that referral systems are weak. This diversity of hospitals makes it difficult to collect data about size of population served, numbers of

Lao People's Democratic Republic. Report on Health Study Findings. February 2003. Burnet Institute / ACIL.

³⁰ State Planning Centre, National Statistics Centre, United Nations Population Fund (UNFPA): Lao Reproductive Health Survey 2000.

pregnancies each year, percentage that attend ANC, and percentage that deliver in hospital.

- In general, there are few statistics available to assist planning. For example, data do not seem to be collected on the proportion of deliveries that are unbooked, or proportion that are referred from other hospitals. Staff at the MCH Hospital see 50 – 60 women in the ANC each day, of which 20 – 30 are new pregnancies. Staff estimate that 50% of women in the municipality attend for ANC, and believe the greatest obstacle to ANC attendance is poverty. ANC consultations are private so there is opportunity for confidential on-to-one counselling. Staff estimate that less than 10% of deliveries are unbooked, and that most unbooked cases come from the rural areas.
- It is interesting to note that there is some seasonal variation to rates of deliveries. In the city the “wedding season” occurs in October and November. This means that many deliveries occur in August and September. It is important to gather data to document seasonal patterns of delivery both for planning health information, especially to men, and for planning PMTCT service provision, including supply of test kits and drugs for prophylaxis.
- There are opportunities to provide men with information and condoms: men sometimes accompany their wives to the ANC, although they don’t currently attend the consultation. They also sometimes sit with their wives during labour, and come to collect their wife and newborn baby after the delivery. The staff agreed that there are male staff at the hospital who could be trained to counsel fathers and provide condoms at this time.
- All blood for transfusion is screened for HIV and Hepatitis B. None of the district hospitals in the municipality have blood available. Vientiane province also has no blood banks.

Delivery care

Outside urban areas it remains common to deliver at home, unattended by trained personnel.

- 13.2% of pregnant women deliver in hospital (PMOH data, 2002)
- 10.2% are attended by a health professional (PMOH data, 2002)
- 21.2% are attended by a traditional birth attendant (PMOH data, 2002)
- 55% deliver at home unattended by professional health staff (PMOH data, 2002)
- Women pay a small fee to deliver at hospital – more if they suffer a complication. The women we spoke to thought that the small fee for normal delivery is not a barrier to delivery in hospital – but transport costs are a barrier.
- Caesarean section is only available at the provincial hospital and six district hospitals
- Only the Provincial hospital has a blood bank with screened blood for transfusion; one district hospital can screen blood
- District hospitals sometimes give blood transfusions in emergencies with unscreened blood from a relative donor.
- Infection control seems weak. Staff have been trained and policies for Universal Precautions and needlestick injuries developed. But we observed that, except in the

central hospitals in Vientiane Municipality, sharps disposal containers were not in place and used. Universal precaution guidelines were not displayed in hospitals.

Post-natal care

- Women commonly go home the day after delivery. They are often collected by their husbands. This is an opportunity to counsel men about the risk to their baby and wife if they have unprotected sex outside the marriage during the post-partum period. Hospital staff in both provinces agreed that this would be a feasible and inexpensive intervention to implement – there are male hospital staff that could be trained to talk to new fathers and provide condoms.
- 31% of women receive a post-natal care visit at about 3 – 8 days after delivery. This presents an important opportunity to promote and support exclusive breastfeeding, and to talk to the husband about safe sex, and provide condoms.
- If women from other districts deliver at the Provincial hospital we heard that there is no communication with the District hospital or health centre to arrange post-natal care. There seem to be no channels of communication between hospitals and health centres.
- Women are advised by health staff not to have sex for three months before delivery and three months after delivery (based on interview with district hospital staff). There is no good medical reason for this advice. This represents a long period of abstinence – and may increase the likelihood that the husband will have sex outside the marriage at this time. He may then become infected with HIV and have a high viral load (ie be very infectious) when he resumes sex with his wife.

Promotion, protection and support of breastfeeding

- Some data about rates of initiation and duration of breastfeeding is available from a national survey conducted in 2000³¹. Breastfeeding is almost universal, but practices are not optimal, with low rates of exclusive breastfeeding. There are some useful reports of qualitative studies of infant feeding for some provinces^{32, 33, 34}. There is variation in infant feeding practices among different ethnic groups. The belief that colostrum is harmful is common among some groups, and sometimes wet nurses are used to feed babies until the mother's milk 'comes in'. A major barrier to exclusive breastfeeding in the highlands is that women have to leave their babies to climb to work in distant fields.
- Our brief assessment in Savannakhet, including discussions with a variety of health staff, pregnant women and older women, suggest the following picture. Most women

³¹ Ministry of Health, National Institute of Public Health, State Planning Centre, National Statistics Centre: Lao National Health Survey 2000

³² Asian Development Bank (2000): Health and Education Needs of Ethnic Minorities in the Greater Mekong Sub-Region.

³³ Gillespie A, Creed-Kanashiro H, Galloway R (2002): Newborn Care and Child Nutrition in Three Provinces (Huaphan, Champasak, and Savannakhet) of the Lao PDR.

³⁴ Developing Healthy Communities project. Lao People's Democratic Republic. Report on Health Study Findings. February 2003. Burnet Institute / ACIL.

breastfeed their babies – although a small percentage of women who travel as part of their work may not breastfeed. Exclusive breastfeeding is rare, as in other societies. Many women give their babies water or honey in the first few days of life while they are waiting for their milk to ‘come in’. Many women give rice or other milk after a few weeks, in addition to breastmilk, often because they fear that the baby is not getting enough milk. Few babies have not received rice by six months of age.

- The WHO 40-hour breastfeeding manual has been translated into Lao, but the illustrations have not been adapted.
- There has already been a training program in promotion, protection and support of breastfeeding, and lactation counselling in Vientiane Municipality and Savannakhet – so Trainers are available. Two members of the Savannakhet Provincial MCH staff went to Vientiane for training. Thirty health staff – two from each district – have already been trained in breastfeeding, as well as Trainers from the Provincial Hospital and Military hospital. Health centre staff are currently being trained – seven out of 80 so far. However there is a lack of resources for follow up supervision and support.
- There is a lack of potential suitable replacements for breastfeeding. The cheapest infant formula costs more than 208,000 Kip per month – equivalent to the typical monthly income for many families. Although sweetened condensed milk is not suitable as a substitute for breastmilk it is the most commonly used substitute and supplement for breastmilk. Liquid unsweetened cow’s milk, and powdered full cream milk are not available in shops.
- A wide variety of teats and feeding bottles are widely available and commonly used, including the most dangerous types of novelty bottles that are even more difficult to keep clean. When HIV positive mothers choose not to breastfeed it is important to encourage the use of cups, which are easier to clean, rather than bottles and teats, which need to be sterilised and carry a risk of diarrhoea.

Child health promotion and care services

- Diarrhoea, ARI, dengue, malaria, tuberculosis are major causes of child illness and deaths in Savannakhet province
- Child health services are well attended in the city; less access and uptake in rural areas
- BCG vaccination cover: 75.2%; measles: 77.4% (Savannakhet PMOH data, 2002)
- We heard that parent held child health records (growth cards) are in general use in the province. It would be interesting to know what percentage of families have cards for their children. The records are not in use in remote areas of Lao PDR where parents have little access to health care services.
- Referral and follow up systems are weak

Family planning

- Training materials and manual are available in Lao
- A national training program is already in place; many staff have already been trained – doctors, medical assistants and nurses are trained together

- The most popular methods of contraception seem to be injectables, followed by oral contraceptives, and IDUs. Condoms are not used much for FP.
- The female condom is not available (available in Thailand), and has not been trialed yet
- Male condoms are pre-lubricated. No separate water-based lubricants are available
- In some societies women dry the vagina before sex because of beliefs about men's pleasure – this may increase vulnerability to HIV. However it seems that this custom is not practiced in Savannakhet, since there have been complaints from some women that the Pill causes vaginal dryness that makes sex uncomfortable.
- Women have to pay a small fee for advice – contraceptive products are free

STI management and control

- There is currently a training program for health staff in STI management and control
- It is recognised that many people attend pharmacists when they have an STI – many pharmacists in Savannakhet province have been trained in syndromic management of STIs
- Medicines to treat STIs are reported to be available
- We were told that more community education work is needed – and more resources are needed for this
- The PCCA with support from NCCA, PSI, ADB, WHO and MSF have recently started a 100% condom promotion campaign in Savannakhet, and a video in Lao is available.
- Useful qualitative information about knowledge, attitudes and practices in relation to sex and STIs of young people is available in a report from the Lao PDR Youth Union HIV/AIDS project³⁵.

HIV testing facilities

- At present only rapid tests are available at the HIV/AIDS Unit at the Savannakhet Provincial Hospital. Currently specimens have to be sent to Vientiane for confirmatory testing. However equipment for ELISA testing will soon be installed at the hospital so that confirmatory testing can be performed in Savannakhet.
- Testing facilities are also available at only one of the district hospitals.

Voluntary counselling and testing services for HIV

- To date most HIV testing has been for the purpose of diagnosis in patients at the Provincial hospital with signs and symptoms of HIV-related disease. The spouses and children of HIV positive patients have also been counselled and tested.

³⁵ Lao Youth Union and Burnet Institute. Lao Youth HIV/AIDS Project Mid-Term Review. Vientiane, March 2000.

- Anyone who would like to know their HIV status can request counselling and testing at the HIV/AIDS Unit. This service has not yet been publicised or promoted.
- Requests for HIV testing are increasing as knowledge of the good support and care available increases
- There are no VCT services available yet elsewhere in the Province.

Sustainable supply of anti-retroviral drugs

- The HIV/AIDS Unit at the Provincial Hospital, with the support of MSF, has been able to order and store appropriately a full range of anti-retroviral drugs in acceptable formulations
- There are questions about replicability and sustainability of anti-retroviral treatment programs in Lao PDR. Costs for training staff, strengthening referral and follow-up, ordering and storage of drugs, and monitoring of treatment are high. The pilot program is taking appropriate steps to maximise the chance of good adherence to medication because of the known dangers of resistant viruses developing – but this is likely to be more difficult to ensure with scale-up of the service.
- District hospitals have fridges and pharmacies. It would be feasible for them to order and store small quantities of nevirapine for ARVP for MTCT of HIV

Community acceptance of those infected and affected by HIV

- An impressive amount of work has been done by several sectors collaborating to educate the population of Savannakhet about HIV infection
- Many sectors collaborate to provide support team for people living with HIV, and there is outreach to people's homes.
- A self-help group was established in 2000 that has been extremely effective. People living with HIV started to come forward to join the group well before anti-retroviral treatment became available
- There are functioning HIV committees at every level
- The pregnant women and their husbands we talked with had good knowledge of HIV infection and transmission routes, and were accepting of people with HIV (however they believed that 100% of babies of mothers with HIV would be infected)
- The people living with HIV that we spoke with have all found that their family and community have been accepting of them – and they have received a great deal of support from health care services
- At district level we heard that many people with HIV are open with their family and village, but more are not
- We heard that there is some stigma associated with STIs. People are embarrassed and fear that others will disapprove of them if people know that they have an STI. Husbands will be reluctant to tell their wives that they have an STI.
- Although there seems to be less stigma and discrimination associated with HIV in this province, we did hear some stories of stigma, so it would be dangerous to assume that this will not be a problem in future in Savannakhet – or that it is not a problem in other provinces.

Health care workers trained in VCT, infant feeding counselling, and management of lactation

- Many hospital and other health care staff have been trained in pre- and post test counselling for HIV in Savannakhet – but not yet in other provinces
- No one has yet been trained in HIV and infant feeding counselling
- Program for training in lactation management underway – see above

Resources for follow up care and support for infected mothers, babies and their families

- The achievements in care and support for people infected with HIV in Savannakhet province provide an excellent model for care and support for infected mothers, babies and their families.
- There are problems providing care and support, and MCH services, in rural areas of the province, and a weak referral system

Rationale for the suggested strategies

Most attention in the field of mother to child transmission of HIV in the literature and at conferences has been focused on the “test-dependent” interventions, which begin with offering voluntary counselling and testing for HIV as a routine in ante-natal clinics. Now, when people speak of “PMTCT programs” they tend to mean introducing VCT during pregnancy with anti-retroviral prophylaxis and advice about infant feeding for those who test positive.

There are several reasons why it is important to allocate resources to a broader range of strategies to reduce the number of babies with HIV infection within a child survival approach, and to prepare carefully before the introduction of routine testing during pregnancy.

In Lao PDR the majority of HIV infected women do not know their status, and this is likely to remain so for some time. There are several strategies to reduce PTCT of HIV that do not depend on knowing which women are infected. Influences on the risk of transmission can be addressed through strategies that will improve the health of women and men who are not infected. They can be integrated with, and strengthen, existing women and children’s health and reproductive health services.

In considering how best to allocate resources we also need to take into account epidemiological patterns. UNAIDS/WHO classify countries as “low-prevalence” where infection remains below 5% in any given sub-population; ‘concentrated’ epidemic, where HIV prevalence has exceeded 5% among certain populations; and ‘generalised’ epidemic, where HIV prevalence has reached at least 1% among antenatal women. In low

prevalence countries, such as Lao PDR, but with high vulnerability, the priority should be primary prevention, and the building of capacity in preparation for later introduction of specific hospital-based test-dependent interventions, with an emphasis on efforts to prevent the generation of stigma and discrimination in relation to HIV infection.

How many babies can be saved with a hospital-based PMTCT of HIV intervention?

It is possible to model the potential impact of an intervention to prevent MTCT of HIV that consists of offering VCT for HIV in the ante-natal clinic, and providing anti-retroviral prophylaxis and infant feeding counselling to women who test positive. The model uses the following assumptions:

- Risk of transmission from mother to child when women tested positive during pregnancy: 28% (based on summary estimates from control groups of ARV trials)
- Risk of transmission when women become infected late in pregnancy or during lactation: 40% (based on seroconversion studies that have followed women who tested negative during pregnancy, and studies of PMTCT rates by viral load)
- The intervention will have 50% efficacy (ZDV short course or nevirapine clinical trial results)

and the following variables:

- the number of pregnant women in a year,
- the prevalence and incidence of HIV,
- attendance at ante-natal care, and
- percentage of ANC attenders that are offered voluntary counselling and testing for HIV, return for the results, and receive the intervention if positive.

Appendix 7 has a diagram that explains the model's calculations and a table showing potential impact for a range of possible scenarios.

First, we can imagine a 'best-case' scenario, with the following assumptions:

- HIV prevalence in the general population: 0.1% (current govt estimate: 0.05%)
- HIV incidence: 0.01%
- Attendance at least one ante-natal clinic visit: 53% (Lao PDR MOH data, 2002)
- 80% of those who attend ANC will be offered VCT for HIV, accept the screening, return for the results and receive the intervention optimally

There are an estimated 200,000 pregnancies each year in Lao PDR (UNICEF State of the World's Children Report, 2003, 2001 data). With the above assumptions we would expect 64 babies across the country to become infected with HIV in a year. 12 of these could be averted, which is only 19% of the total.

Potential impact has also been assessed using less optimistic assumptions, but with the same estimates for prevalence and incidence of HIV:

- 31% of women attend ante-natal care
- 40% of those who attend ANC will be offered VCT for HIV, accept the screening, return for the results and receive the intervention optimally

With these assumptions, we could expect to avert only 6 HIV infections in babies, which is only 9% of the total number of HIV infections expected of 64.

If we look at the situation in Savannakhet province we could expect about 8 babies to become infected with HIV in a year, and hope to avert less than one of these.

In considering these figures we need to bear in mind that in Lao PDR each year we expect 20,000 deaths of children under five years from other causes.

It is important to note not just the small number of HIV infections that could be averted, but that this is a relatively small proportion of the number of babies expected to become infected with HIV. This is because the intervention has only 50% efficacy, not all infected women will receive the intervention, and newly infected women miss the intervention, but have a higher risk of transmitting HIV to their baby.

If prevalence of HIV increases there would be more child HIV infections, and greater numbers could be averted, although the proportion averted would remain the same unless ANC coverage increased.

Other potential benefits of hospital-based, test-dependent interventions

However, although this intervention cannot avert a high proportion of HIV infections in babies, there are other potential benefits to consider:

- Ante-natal care quality and coverage may be strengthened
- Breastfeeding advice and support may be strengthened
- Because services such as this intervention are offered for people with HIV, more women or couples may be encouraged to come forward for VCT for HIV.
- Post-test counselling when the woman / couple tests HIV negative provides an important opportunity to try to ensure that she remains uninfected
- Infected women and their husbands would be identified and be able to be counselled and receive prophylaxis and treatment for opportunistic infections, and anti-retroviral treatment if it is available. This would enable them to care for their children, and reduce the risk of further spread of HIV to others.
- Couples that already know they are infected would feel more confident about deciding to become pregnant.

Potential adverse effects of test dependent interventions

It is also important to consider potential adverse effects of hospital-based test-dependent interventions. Some of these may be minimised by careful preparation before the introduction of VCT for HIV routinely during ante-natal care.

- Pregnant women offered VCT for HIV may feel anxious
- Identification of positive HIV status may cause problems between husbands and wives, may result in stigmatisation and rejection, especially if confidentiality is breached
- Poor HIV and infant feeding counselling may result in poor health outcomes for babies of HIV positive mothers

- Staff are taken away from their usual work for training
- There is an opportunity cost – staff could receive other training, and supervisors could be visiting health centres and improving the quality of other MCH services
- Those women most at risk of HIV may be those least likely to attend for ante-natal care – but the program may divert attention from the need to reach more marginalised groups
- Investment in this program would increase rural/urban inequalities in health spending and access to services

Strengthening health care systems

In the context of Laos it is especially important that strategies that aim to reduce the number of babies with HIV should be integrated with and strengthen maternal and child health services, and reproductive health services for men and women.

We need to encourage a recognition among health officials and health professionals that their work in relation to STI management and control, breastfeeding promotion, improving access to good contraceptive advice and products, all make an important contribution to prevention of HIV in babies. It is also important to identify indicators that will help to evaluate progress in integrating these activities and their contribution to strengthening the quality and coverage of health care services. There is an obligation to ensure that ‘disease-specific’ funds, such as resources allocated for prevention of transmission of HIV to children, also strengthen health care systems. There is a danger that these funds may increase existing inequalities in access to quality health care between rural and urban populations, and rich and poor. The Task Force on Child Health and Maternal Health of the Millennium Development Project have recommended that: “The primary aim of global health policymaking and funding should be the strengthening of primary health care systems through which the essential services related to maternal health and child health are made accessible to all parts of the population, with specific attention to reaching the poor and marginalized and to reducing inequity.”³⁶

Progress towards the objectives described in this report could be monitored by disaggregating data by socio-economic level, rural/urban settings, and by ethnic minorities. The National Taskforce on PMTCT of HIV could perhaps liaise with relevant MCH and reproductive health programs within the MOH to ensure that PMTCT activities are integrated. It would be helpful to evaluate the success of this integration at intervals. This process will be facilitated by the fact that the Taskforce membership is inter-sectoral, and maternal and child health clinics and public health officials are well represented.

UNICEF is in a good position to facilitate this process. For example, the National Safe Motherhood Action Plan could include sub-objectives that relate to PMTCT of HIV, such

³⁶ “Background Paper of the Millennium Project Task Force on Child Health and Maternal Health.” April 18, 2003.

as: Ensure that at least 50% of fathers are reached with information and condoms during ante-natal care or after delivery.

Taking into account these issues, the key findings from this assessment in Vientiane Municipality and Savannakhet province, and the views of the stakeholders we have consulted, we suggest the following strategies to respond to the needs for prevention and care in relation to parent to child transmission of HIV within a child survival approach. We have grouped them with the idea of staged implementation, as short-term, medium-term and long-term.

These suggested strategies will need further discussion and development of action plans with detailed activities, timelines, and identification of resources required, roles and responsibilities. These strategies relate to the framework for primary and secondary prevention in appendix 8. However for more detailed planning it will be more helpful to 'pull out' activities needed for the different strategies that relate to different program areas – such as MCH services, and community communication. This process was carried out to facilitate discussion at the stakeholders' workshop, (Appendix 4) but will need to be elaborated further.

The suggested strategies are consistent with the 'four-prong' approach of the "Interagency Task Team on Preventing HIV in Pregnant Women, Mothers and their Children", which includes UNAIDS, WHO, UNICEF, UNFPA and the World Bank:

1. Primary prevention of HIV in young people and women of childbearing age
2. Prevention of unintended pregnancies among HIV infected women
3. Prevention of transmission of HIV from an infected woman to her infant
4. Care and support for HIV-infected women, their infants and their families³⁷

Suggested key strategies

In the short-term:

1. Develop national policy guidelines and protocols in relation to care and prevention for PTCT of HIV

Although strategies will need to vary at central, provincial, district, health centre and community level, it is important to have a consistent approach across the country. There is a danger that different hospitals, or different NGOs or donors may support different responses and a variety of training and communication materials may be produced. National policy guidelines and protocols will prevent confusion for health care staff and encourage a consistent approach across the country.

³⁷ www.unaids.org/publications/documents/mtct/mtct_TU4.ppt

2. *Develop technical knowledge base of National Ministry of Health PMTCT of HIV working group*

Technical knowledge related to mother to child transmission of HIV is extremely complicated and rapidly changing. It is important that there be senior Lao MOH staff with in-depth technical knowledge of all aspects of MTCT of HIV. This will help to avoid dependence on external specialists and assist in policy development. These staff will then be able to follow new developments in MTCT of HIV and adjust national strategies in the light of results from new international studies.

We recommend that there be a three day course on the evidence base for current understandings of all aspects of MTCT of HIV, management of HIV infection in children³⁸, and health economics, for a small number of senior staff from the Technical Working Group of the National Taskforce on PMTCT of HIV.

The recently completed slide set with commentary produced for the organisation TALC, “HIV infection: parent to child transmission (for the South-East Asia region)” provides a useful overview of all aspects of PMTCT of HIV that is up to date, relevant to Laos, and referenced. If this is translated into Lao it would be a valuable resource for the working group and for senior hospital staff and MOH officials throughout the country.

3. *Develop capacity to address the needs and concerns of people that already know they are HIV positive, in relation to pregnancy, child birth, breastfeeding, weaning and child care, starting in Savannakhet and Vientiane Municipality*

There are already people in Lao PDR who know their HIV status – and the numbers are increasing. Health care staff are currently uncertain how to manage and advise these people in relation to pregnancy and infant feeding, so there is an urgent need to build capacity. Experience gained to date in counselling, support and care for HIV positive people in Savannakhet and Vientiane provides an excellent base on which to build further capacity.

Activities will need to include:

- Training of health care staff, especially MCH staff
- Development of appropriate training materials
- Development of counselling checklists
- Development of community communication materials

Topics need to include:

- Counselling for:

- HIV positive women / couples who want to become pregnant, including discordant couples
- HIV and infant feeding choices

³⁸ Paediatric HIV/AIDS Technical Update, UNAIDS best practice collection. November, 2001

- HIV positive pregnant women about their choices, including anti-retroviral prophylaxis, elective CS (where safe), use of condoms, good nutrition, and prompt treatment for infections, including STIs
 - HIV positive women / couples who want to avoid pregnancy about contraceptive options
 - HIV positive mothers / parents of infected babies about their care and nutrition
 - Foster carers of orphaned babies, including advice on replacement feeding and weaning
- Management of:
- Lactation, and breastfeeding problems
 - HIV positive pregnancy and prescribing of ART and ARV prophylaxis
 - Common conditions in HIV infected children

4. Gather information to inform PTCT of HIV planning

There is concern among health officials in Savannakhet that the national sero-surveillance survey, due to be repeated early next year, may not provide sufficient data about trends in HIV prevalence in women of reproductive age for strategic planning by policy makers in relation to PTCT of HIV. This is because only service women were sampled in Savannakhet in the earlier surveillance round, but most reported cases of HIV have not been among service women. If prevalence is very low a very large sample of ante-natal women would be needed to be able to detect changes in prevalence over time with precision. However a relatively small sample could help to confirm that prevalence remains very low. This would be unlinked anonymous testing, and could be performed on samples obtained when women receive the routine finger-prick for haematocrit.

Operational research on the feasibility, safety and acceptability of alternatives to breastfeeding is needed, to inform guidelines for both HIV positive pregnant women and for foster carers of orphaned babies.

The interventions that can help to prevent PTCT of HIV relate to areas of life that have great cultural and social significance – sexual behaviour, the desire to have babies, pregnancy, childbirth, the post-partum period and infant feeding. Counselling guidelines need to take into account the social and cultural context, and the associated attitudes, knowledge and behaviours, so further qualitative studies of these issues would be useful

5. Prevent women becoming infected during pregnancy and the post-partum period

Women who become infected late in pregnancy or in the post-partum period have a higher risk to their babies than women who are already infected. Women are likely to be especially vulnerable to HIV infection at this time for both social and biological reasons. It is therefore important to develop interventions to reach men with information about the risk to their babies, their wives, and themselves, if they have unprotected sex outside the marriage at this time.

The assessment suggests that there are a number of opportunities to provide this information:

- Introduce routine ante-natal couple visit
- Train male counsellors in hospitals and health centres to talk to fathers and provide condoms when they come to collect their new born baby
- Provide information and encourage VCT for couples before marriage
- Talk to men as well as women at the post-natal home visit
- Community education about PTCT, especially addressing men

Couple ante-natal visit

An ante-natal visit provides an opportunity to give men information, and to supply condoms. The 'couple visit' could be promoted as a routine visit rather than an 'HIV/AIDS visit'. It would allow an opportunity to screen and treat for infectious diseases that could affect the baby, including tuberculosis and STIs. It also enables discussion with the father about the possibility of complications during labour. He can learn about the warning signs and discuss emergency transport plans. This intervention could improve maternal health, child health and men's health. Some women may have a good reason not to want their husbands to attend the clinic with them. If the 'couple visit' is scheduled as the second visit women have a chance to choose.

In most societies pregnancy, childbirth and breastfeeding are 'women's business', although men often make the decisions. It may take some years for it to become routine for men to attend ante-natal clinics. It was suggested that a Saturday morning clinic might be easier for husbands to attend. A separate area could be arranged where men would feel comfortable to sit, with posters of interest to men, perhaps outside the clinic itself. We should remember that other effective interventions, such as vaccination, took several years to become widely accepted.

To avoid infection of pregnant and lactating women in health care settings it is also important to implement strict transfusion criteria, strengthen blood safety program and infection control procedures, promote safe injection practice, and train midwives in active management of third stage of labour to reduce need for transfusions.

Use of video for community communication

Advances in technology mean that it can be cost-effective to produce a video which can be distributed cheaply on CD Rom – and can be shown to small groups in villages using a portable computer. This is most effective if people are filmed (with their permission) during information gathering discussions, and if people living with HIV are willing to speak in the film. Such a locally produced film is much more interesting to local audiences, enables the findings of a situation analysis to be communicated to the communities from which the information was gathered, and can be an effective way to convey new information to people who have low levels of literacy. Such a video can convey complicated information and be stopped from time to time for discussion. A short locally produced video can also be useful for counselling training.

6. Lower the risk of transmission of HIV from infected mothers to children through population-based strategies

Most women infected with HIV do not know that they are infected. There are population-based activities that will lower the risk that these women will pass HIV to their babies. These activities strengthen reproductive health care services for both men and women. They include:

- Prevent unwanted pregnancies:
 - Increase access to VCT and contraception
 - Community education
- Train health staff to encourage women with any chronic illness to avoid pregnancy until well for six months
- Improve health of pregnant and lactating women:
 - Promote quality ANC; treat STIs and other infections; nutrition advice
 - Community education
- Reduce risk of transmission at delivery:
 - Train midwives to reduce unnecessary artificial rupture of membranes
 - Promote exclusive breastfeeding and train health care workers in breastfeeding to minimise breast problems

7. Prepare for introduction of specific hospital-based secondary prevention program, initially in Savannakhet province and Vientiane municipality

Because there are potential adverse effects as well as benefits to offering VCT for HIV in the ante-natal clinic this intervention needs to be introduced after careful preparation. Several aspects of MCH services need to be strengthened, staff trained, and materials developed. It will be helpful to develop close links with HIV support groups and district level AIDS committees who might be able to contribute to pre- and post-test counselling and facilitate follow up care and support services. This may bring problems of confidentiality, and exploitation, but may add to sustainability.

Activities implemented under Strategy 3 would contribute to this strategy.

There is a tension in selecting appropriate sites to pilot new interventions. On the one hand it is important to show that the intervention can be implemented successfully, so it is reasonable to choose a site that has already demonstrated a strong response to the epidemic and an acceptance of those infected and affected by HIV. On the other hand we also want to show that the intervention could be replicated across the country, where knowledge, services and attitudes are less advanced. For these reasons we suggest that preparations are made in both Savannakhet and Vientiane Municipality with a view to later piloting of the strategy. The strategy should only be implemented after a further assessment of readiness.

In the medium-term:

1. Extend strategies 3 – 7 to all provinces

2. Introduce specific hospital-based secondary prevention program in Savannakhet province and Vientiane municipality

First step:

Offer VCT for HIV to women who may be at high risk of infection – for example, patients with STIs in Savannakhet province and Vientiane municipality, and provide reproductive health care and support, including ART where available, to those who test positive. MSF have indicated an interest in supporting this initiative.

Second step:

Offer VCT for HIV as a routine in the ante-natal clinic to all women. Offer anti-retroviral prophylaxis and HIV and infant feeding counselling to those who test positive. Where available, provide anti-retroviral treatment to women, their husbands and infected children, if they meet clinical / laboratory criteria.

Before introducing routine VCT in the ante-natal clinic it is helpful to have general VCT services available. The National Strategy states: “NCCA Bureau will develop a strategy to ensure that, by end of 2005, there are affordable, accessible and non-judgmental services in place in every province for voluntary counseling and HIV testing services. This strategy will ensure minimal levels of service provision in every province by the end of 2005, with more extensive services in all districts of at least five provinces.”

Caesarean section

In Lao PDR few Caesarean sections are conducted outside the MCH Institute hospital in Vientiane Municipality. In Savannakhet Caesarean section is only available at the Provincial hospital. Caesarean section carries a risk to the mother, from both anaesthetic and surgery, as well as a longer-term obstetric risk with subsequent pregnancies, when access to Caesarean section cannot be assured. Although the death of a baby is always a tragedy, the death of a mother has a greater impact on the health and well-being of her children, her husband and her community. For this reason we would not currently recommend a policy that HIV positive pregnant women in Lao PDR be offered an elective Caesarean section.

In the long-term:

Extend specific hospital-based secondary prevention program to all provinces

Guiding principles

Strategies to address prevention and care needs in relation to PTCT of HIV should be consistent with the National HIV/AIDS/STD Policy (December 2001) and should be governed by the principles that were determined through a consultative process in April – June 2001:

- non-discrimination
- a multisectoral, integrated approach
- voluntary approaches with informed consent for HIV testing
- confidentiality and privacy in counseling, testing and care
- empowerment of individuals to take personal responsibility
- gender equity
- accessibility to affordable and acceptable health services
- reduction of risk for vulnerable individuals and community groups
- involvement in decision making of those with and affected by HIV

It is also important that responses to PTCT of HIV are integrated with, and contribute towards the GOL's PHC approach reflected in the National Health Strategy, 2000. This supports:

- 1) Strengthening the ability of health service providers
- 2) Improving community-based health promotion and disease prevention
- 3) Improving and expanding hospitals at all levels and in remote areas
- 4) Promoting and strengthening the use of traditional medicine, with integration of modern and traditional care
- 5) Ensuring the quality, safety, and rational use of food and drugs, promoting national pharmaceutical products
- 6) Promoting operational research
- 7) Ensuring effective health administration and management, self-sufficient financial systems, and establishing health insurance funds

PTCT of HIV raises many complex ethical issues. The availability of specific test-dependent interventions to protect children from HIV leave us in the awkward position of being able to offer a woman some hope for her child, while leaving her with the knowledge that she has a fatal and incurable disease. In introducing these interventions there may be a tension between the rights of the child, the woman and the man and a need to analyse the impact on gender equity and on the gender roles of men and women.

Men's rights

Most infected pregnant women have been infected by their husbands, so a positive HIV test result is often a 'marker' of HIV infection in the husband. The woman is put in a position where she has a responsibility to tell her husband that she is infected with HIV, yet he has not had the opportunity to receive pre-test counselling and give informed consent to knowing his HIV status. A possible solution to this conflict of rights is to encourage couples to be counselled and tested together. Some have argued that husbands who fear they have put themselves at risk of infection would then be unwilling to agree to be tested or allow their wife to be tested. This is a difficult issue involving gender relations that requires further discussion.

Increasing the burden of caring for orphans

Some argue that we should not invest resources in interventions to prevent MTCT of HIV because they will increase the numbers of children who survive to become orphans when their parents die of AIDS. It is understandable to be concerned about the well-being of orphaned children, but this is not a morally defensible argument. Even without interventions most children born to HIV infected parents will be uninfected themselves – and will need care and support if they become orphaned. Children infected with HIV will require more costly care than if they were uninfected.

Preventing unwanted pregnancies

Women living with HIV need counselling after delivery about the possible risk of infection to future babies. Some women, especially if they have children already, may want to avoid further pregnancies and will need advice about contraception. Some health professionals believe that all women with HIV infection should be advised not to become pregnant, or even be sterilised. They believe this because the babies might become infected with HIV, and are likely to be orphaned. But the right to ‘marry and found a family’ is a basic human right. Women living with HIV should not be pressured or advised not to become pregnant or to terminate a wanted pregnancy. They should receive accurate information about the likely risk to the baby so that they can make up their own mind, in consultation with their husband and family. The desire to have a baby may be very strong. If the woman is well and does not have signs of HIV-related illness the risk of MTCT is likely to be low. Women who have HIV-related signs and symptoms are more likely to have an infected baby. These women need careful counselling to make sure that they understand the risks and have thought about how the baby would be cared for if they were to die.

Documenting progress and lessons learned

It is important to contribute to regional and inter-country learning about broader responses to PTCT of HIV. It would be valuable if the Taskforce could document progress and present at regional meetings and conferences.

Appendix 1: Terms of Reference: Prevention of Mother to Child Transmission

Under the general guidance and supervision of the Programme Co-ordinator/Project Officer for HIV/AIDS

1. Review and assess range of approaches to HIV Prevention and Care and Support initiatives in Savannakhet, including hospital-based and home-based care initiatives supported by UNICEF and MSF and other agencies.
2. Review and Assess capacity of Savannakhet Hospital staff and MCH facilities and current practices related to antenatal care, delivery services, VCT, and other reproductive health support systems to women and men, including pregnant women and their husbands.
3. Building on existing interventions and current practices and services, draft an action plan for Savannakhet Province outlining key strategies and interventions to be taken at level of services, families and community for comprehensive prevention and care in relation to mother to child transmission of HIV, within a child survival approach.
4. Conduct a stakeholders' meeting in Savannakhet with key government and partner agencies involved in HIV/AIDS Prevention and Care and Support to discuss proposed action plan.
5. Finalise action plan based on comments and feedback and mission report.

Appendix 2: Itinerary

27th September Melbourne – Bangkok

28th September

Morning:

- Bangkok-Vientiane (arrive at 9:30 check in the guest house)

29th September

Morning:

- 08:30-10:30 Meeting with UNICEF staff and MSF Medical Coordinator, Serge Doussantousse
- 10:30-11:30 Meet with Dr. Chantome, Deputy Director, NCCAB

Afternoon:

- 13:30-14:30 Meeting with Dr Bounlay Phommasack, Deputy Director of Hygiene & Prevention, MOH
- 15:00- 16:30 PMCT orientation meeting with PMCT Taskforce and key stakeholders at the MOH.

Tuesday 30th September 2003

Morning:

- Depart VTE to Savannakhet by air at 6.20 am, and arrive in Savannakhet at 7.20 am
- 10.00 – 11.00 Visit Mr Soukaseum Bodhisane, Vice-Governor of the Province

Afternoon:

- Meet Dr. Outhone, Director of Provincial Health Office, and Dr. Khamphang (Responsible for HIV/AIDS Unit in Savannakhet Hospital)

1st October 2003 / Wednesday Morning:

- Visit provincial MCH clinic and Obstetric ward and meet Dr. Kongsy, Chief of MCH Clinic.

Afternoon:

- Continue working with staff at provincial MCH hospital.

2nd Oct 2003 / Thursday

Morning:

- Continue working with MCH and Obstetric ward
- Visit provincial HIV Unit in the provincial hospital

Afternoon:

- Meet with NCA Savannakhet representative
- Meeting with Lao Youth Union
- Meet with MSF Team in Savannakhet (Camille, Ahmed and Anne) MSF representative and medical team in Savannakhet.

3rd Oct 2003 / Friday

Morning:

- Visit MCH clinic in Outhom Phone District
- Meet with DCCA

Afternoon

- Meet PLWH volunteers.

4th Oct 2003 / Saturday

Morning:

- Meet with representatives of Self Help Group (PLWHIV)

Afternoon:

- Observe (?) home based care activity (home visit of health staff).

5 Oct 2003 Sunday

Write up key findings and prepare for stakeholders' planning workshop

6 Oct 2003 Monday Stakeholders Workshop in Savannaket.

7 Oct. 2003 / Tuesday

Morning: Depart to Vientiane

Afternoon:

- Visit Central MCH hospital.

8 Oct. 2003

Morning:

- Visit MCH Section and obstetric ward at Sethathirath hospital

Afternoon:

- Debriefing Meeting with MOH/PMCT Taskforce, key stakeholders and UNICEF Staff.
- Write report

9 Oct. 2003

- Continue write report
- Wrap up (UNICEF Representative and programme staff)
- Depart VTE-BKK (afternoon flight)

Appendix 3: People met

UNICEF-Vientiane

Dr Onevanh Phiahouaphanh	Project Officer - Health
Mr Thong Deng Silakoune	Project Officer – HIV/AIDS
Mr Inpeng Rasprasith	Assistant Project Officer – HIV/AIDS
Dr Dominique Robez-Masson	Project Officer, Head of Health and Nutrition Section

PMCT Taskforce

Dr Bounlay Phommasack	Deputy Director of Hygiene and Prevention, Ministry of Health
Dr Chanphomma Vongsamphanh	Deputy Director, Department of Curative
Dr Simmaly Phongmany,	Head of Infectious Disease Department, Mahosot Hospital
Dr Konkeo Darasavong	NCCA Bureau
Ms Khamla	Center of Information and Education for Health

MSF

Mr Serge Doussantousse	Medical Coordinator
Dr Ahmed	HIV Physician
Ms Camille	HIV care project nurse
Ms Anne	HIV care project nurse

Savannakhet

Mr Soukaseum Bodhisane	Vice-Governor, Savannakhet Province
Dr Khamphang	Head of HIV/AIDS Unit, Provincial Hospital
Dr Outhone	Deputy Director, Provincial Hospital
Dr Vongsoth Konphanthavong	Chief of MCH Provincial Hospital
Dr Komgsy	Chief of MCH – Obstetric section, Provincial Hospital
Ms Buaphanh	Medical Assistant, Statistics, Ministry of Health
Dr Bongene	Chief of Family Planning, Savannakhet Province

Savannakhet Lao Youth Union

Mr Thong Thieng Sidavong	Secretary, Savannakhet Provincial Lao Youth Union
Ms Saengphornxay Sirixay	Lao Youth Union
Ms Malayky	Lao Youth Union
Ms Bouaphanh	Lao Youth Union

Dr Panom Phongmany	Deputy Director, Savannkhet Provincial Health Department
Dr Ketsaphone	Secretary, PCCA Bureau (CDC Unit)

Outhum Phone District Committee for AIDS

Dr Chantha	Chief, District Hospital, Outhum Phone
Mr Somsak	Teacher, Outhum Phone
Ms Manosay	Lao Women's Union
Dr Bounhong	DCCA Bureau member

MCH Institute Hospital -Vientiane municipality

Dr Buavan	Director of MCH Institute Hospital
Dr Phengsy Phongmany	Vice Medical Administrative Manager
Dr Atmalay Siboriboun	Head, Nursing Ctte
Dr Chausysomphone	Technical staff, ANC

Sethathirath hospital

Dr Khampe	Deputy Director
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Appendix 4. Outline for Stakeholders Workshop for planning strategies to prevent parent to child transmission of HIV in Savannakhet province

Monday, October 6th 2003

- 8.30 am Opening ceremony
- 8.40 am Introduction and presentation about the current situation in the province and responses by the Provincial Coordinating Committee for AIDS
Dr Panom Phongmany, Deputy Director, Savannakhet Provincial Health Department
- 9.00 am Overview of parent to child transmission of HIV and planning framework
Dr Wendy Holmes, Consultant for UNICEF
- 9.45 am Summary of findings from assessment
Presented by Inpeng, UNICEF, with Dr Kongkeo, NCCAB
- 10.15 am Break
- 10.30 am Break into small discussion groups for planning in relation to the following major strategies:
- Preventing women becoming infected during pregnancy and lactation – primary prevention
 - Preventing transmission from mother to child when women's HIV status is not known – population-based secondary prevention
 - Preparing for introduction of HIV testing during pregnancy, with the offer of anti-retroviral prophylaxis and HIV and infant feeding counselling if positive – hospital-based secondary prevention
 - Addressing the needs and concerns of women and couples that already know they are infected in relation to pregnancy, childbirth and infant feeding and child care

Four small discussion groups:

1. Maternal and child health service responses (1)
2. Maternal and child health service responses (2)
3. General health care service responses
4. Community education responses

Facilitators:

Dr Panom Phongmany,
Dr Onevanh Phiahouaphanh, Project Officer (Community Health), UNICEF
Dr Chanphomma, Ministry of Health
Dr Sonvankham, Ministry of Health

11.40 am Plenary - presentation from first group and discussion

12.00	Lunch
1.30 pm	Plenary – presentation from three groups and discussion
2.20 pm	Presentation of work of HIV/AIDS Unit Dr Khamphang, Head of HIV/AIDS Unit, Provincial Hospital Serge Doussantousse, MSF, Medical Coordinator Followed by discussion
3.00 pm	Plenary discussion about counselling and testing for HIV in ante-natal clinics
3.45 pm	Summary – Dr Panom
4.00 pm	Closing ceremony

Maternal and child health service responses (divide between two groups)

Objectives: First group

- To improve quality of ante-natal care services, including management of STIs
- To introduce as routine a “couple” visit as the second ante-natal visit, for discussion of screening for and prevention of infections (TB, STIs, HIV), and preparing for problems in labour
- To ensure that fathers are counselled when they come to collect their wife and newborn baby from the hospital so that they know that unprotected sex with others carries a high risk of infection of HIV to their baby, and given condoms
- To train midwives in active management of the third stage of labour to reduce the need for transfusions, and in the use of strict transfusion criteria
- To train health staff to avoid unnecessary artificial rupture of membranes during labour, and episiotomies
- To improve coverage and quality of post-natal care
- To train health staff in management of breastfeeding and promotion of exclusive breastfeeding

Second group

- To train health staff in counselling HIV discordant couples (husband HIV positive, wife HIV negative) if they are keen to conceive, to minimise the risk of transmission to woman and baby. (Counsel couples about timing of ovulation so they need have unprotected intercourse only once each month)
- To train health staff in HIV and infant feeding counselling and provide them with appropriately adapted counselling guidelines

- To train health staff in counselling HIV positive pregnant women about their choices, including anti-retroviral prophylaxis, good nutrition, and prompt treatment for infections, including STIs, and provide them with appropriately adapted counselling guidelines
- To train health staff in counselling HIV positive women / couples that want to avoid pregnancy about contraceptive options
- To strengthen the management of pregnancy, delivery and post-natal care for women with HIV infection, including anti-retroviral treatment, and prevention and treatment of opportunistic infections
- To increase the confidence of health staff in the management of common conditions in HIV infected children, and how to advise the mothers / parents of infected babies about their care and nutrition
- To train health staff to advise foster carers of orphaned babies, including advice on replacement feeding and weaning
- To have information materials available that address the needs and concerns of HIV positive women and couples in relation to pregnancy, childbirth and infant feeding

Questions for the groups to consider:

- What activities are needed to achieve each objective?
- Who needs to be involved? Who will be responsible?
- What progress has already been made?
- What training materials will be needed?
- Are there any potential harmful effects of these activities?
- What additional information do we need for these activities? How can we obtain it?
- What inputs will be needed? What will the costs be?
- When can these activities be implemented?
- How will we evaluate the process and impact of the activities?

General health care service responses

Objectives

- To increase the knowledge and capacity of Ministry of Health officials to respond to prevention and care in relation to parent to child transmission of HIV
- To increase access to voluntary counselling and testing services
- To strengthen management of STIs and contact tracing
- To train doctors, medical assistants and nurses to encourage women with any chronic illness to avoid pregnancy until well for six months
- To improve blood safety – reduce need for transfusions; introduce strict transfusion criteria; distribute rapid HIV test kits to district hospitals for screening blood for transfusion in emergencies
- To improve knowledge, attitudes and practice of doctors, medical assistances and nurses in relation to infection control in health care settings

Questions for the group to consider:

- What activities are needed to achieve each objective?
- Who needs to be involved? Who will be responsible?
- What progress has already been made?
- What training materials will be needed?
- Are there any potential harmful effects of these activities?
- What additional information do we need for these activities? How can we obtain it?
- What inputs will be needed? What will the costs be?
- When can these activities be implemented?
- How will we evaluate the process and impact of the activities?

Community education

Objectives:

- To increase the awareness of both men and women that HIV can pass to babies – and that this risk can be reduced (appeal to men's sense of responsibility for their families)
- To increase attendance of women at ante-natal care
- To increase attendance of men at the second ante-natal care visit
- To increase awareness of the value of being counselled and tested for HIV
- To increase awareness of the value of planning for pregnancy, in terms of improving health, treating any infections and being tested for HIV before becoming pregnant
- To increase use of condoms and other contraceptive methods to avoid unwanted pregnancy
- To increase awareness of the need to seek care when affected by the signs and symptoms of STIs
- To raise awareness that there is no need to fear catching HIV from people living with HIV, and that community support and acceptance is important

Questions for the group to consider:

- Which groups in the community need to be reached with each message?
- How can we reach them? What methods of communication can we use?
- What progress has already been made?
- What materials do we need to develop?
- Who should be responsible for developing the materials?
- Who should be responsible for disseminating the materials?
- What additional information do we need for these activities? How can we obtain it?
- What inputs will be needed? What will the costs be?
- When can these activities be implemented?
- How will we evaluate the materials and the impact of the communication activities?

Appendix 5. Notes from the stakeholders planning workshop in Savannakhet, 6 October 2003.

Group discussion.

Group 1: Maternal and child health service responses.

1. What activities are needed to achieve each objective?
 - Strengthen MCH services.
 - Train MCH staff on health education/communication and provide them the health education materials/equipment (audio equipment, leaflet).
2. Who needs to be involved? Who will be responsible?
 - MCH staff at the ANC clinic.
 - Nurses.
 - Health education team.
 - Trainers with long experience.
3. What progress has already been made?
 - Encourage men participation to accompany their wives to ANC clinic.
 - A few Health staff has been trained on counseling.
4. What training materials will be needed?
 - Audio equipment (TV, news paper).
 - Leaflet, poster.
5. Are there any potential harmful effects of these activities?
 - Stigma in the family and community.
 - Some HIV positive people cannot manage themselves physically and mentally.
6. What additional information do we need for these activities? How can we obtain it?
 - ANC coverage and data on STI.
 - These data could be obtained from record book in the hospital.
7. What inputs will be needed? What will the costs be?
 - Need to gain more experience on PMCT (study visit on PMCT).
 - Need to have people, who have a lot of experience to lead and give guidance.
 - Funds (for DSA, transportation cost,...).
8. When can these activities be implemented?
 - After training.
 - After establishment of teams.

- After planning.

9. How will we evaluate the process and impact of these activities?

- ANC coverage increased.
- Men participation in PMCT.
- Reduction of cases with artificial rupture of membrane and episiotomy during labour.
- Reduction of HIV and STI prevalence among pregnant women and others.

Group II.: Maternal and child health service responses.

1. What activities are needed to achieve each objective?

- Training counselors from PCCA/DCCA (HIV/AIDS Unit), ANC clinic.
- Training staff from obstetric ward.
- Regular supervision and follow up.

2. Who needs to be involved? Who will be responsible?

- MCH staff.
- Staff from HIV/AIDS Unit.
- Staff from obstetric ward.
- PCCA, DCCA.

3. What progress has already been made?

- Health education to pregnant women in general.
- Provide health education messages to general population.

4. What training materials will be needed?

- Training guidelines/manuals.
- IEC materials.

5. Are there any potential harmful effects of these activities?

- Contradiction to national policy on HIV/AIDS, which indicated: “HIV positive person should not be pregnant” and “if husband is HIV positive, he should use condom always when having sex”.
- If the husband is HIV positive, even though he has unprotected intercourse with his wife once a month, the wife could be infected and then the baby also.
- By promoting exclusive breastfeeding to babies, whose mothers are HIV positive, the babies could be infected through breastfeeding.
- If the mother chose formula feeding, the baby may die because of diarrhoea, malnutrition and others.
- Number of children with formula feeding increased.
- ARV drug resistance.
- Increased family expenditure.
- Limitation of choice to have children among the HIV positive women.

6. What additional information do we need for these activities? How can we obtain it?
 - # of discordant couple (husband positive, wife negative)
 - # of staff available and willing to do these activities.
 - Appropriate location/place for counseling.
 - # of HIV positive pregnant women.
 - # of HIV positive couple.
 - # of babies born from HIV positive parent.
 - # of children, who are breastfed exclusively and who received formula feeding.
 - These data could be obtained from PCCA, DCCA, MCH Unit.
7. What inputs will be needed? What will the costs be?
 - ?
8. When can these activities be implemented?
 - In 2004 onwards.
9. How will we evaluate the process and impact of these activities?
 - Interview people who receive counseling.
 - Number of target audience used services.
 - Interview mothers.
 - Data on exclusive breastfeeding and formula feeding.
 - Child morbidity and mortality.
 - # of staff trained.

Group III.: General health care service responses.

1. What activities are needed to achieve each objective?
 - Training staff on:
 - i. Counseling and care to HIV positive people.
 - ii. General health care services.
 - iii. STI management and treatment.
 - Training staff from provincial, district and health center levels.
 - Providing health education to couple when attending ANC clinic.
 - Routine VCT.
 - Equipment for P. A. diagnoses to be equipped in all districts, especially those districts without any support/projects.
2. Who needs to be involved? Who will be responsible?
 - All sectors: LWU, Youth, Education, Information and Culture.
 - Responsible person: health staff from concerned departments.
3. What progress has already been made?

- PCCA, DCCA, VCCA established.
 - Team of counselor formed at provincial and district levels.
 - Team for HIV testing formed to screen blood.
 - ARV treatment started.
 - Many donor agencies supported.
4. What training materials will be needed?
 - VDO projector, VDO, camera, TV.
 - Audio equipment.
 - IEC materials (Iposter).
 5. Are there any potential harmful effects of these activities?
 - Constraints in providing health education to their partners/spouses.
 - Sometimes, it created problems for family (family members don't understand each other).
 - Weak in confidentiality.
 6. What additional information do we need for these activities? How can we obtain it?
 - Need to have Surveillance system at each level (at the provincial, district and health center levels).
 - Need to have evaluation team.
 - Proper supervision and monitoring at each level.
 7. What inputs will be needed? What will the costs be?
 - Computer, fax, telephone.
 8. When can these activities be implemented?
 - Early in 2004 if fund is available.
 9. How will we evaluate the process and impact of these activities?
 - Need to have vehicle for supervision.
 - Health education network at all levels.
 - Evaluate the results/impact of these activities at each level.
 - Activities should be implemented in all provinces because of migrants.

Group 4: Community Education.

1. Which groups in the community need to be reached with each message?
 - Reproductive age women 15-50 years.
2. How can we reach them? What methods of communication can we use?
 - Media and IEC (radio, television, news paper, poster, leaflet,...).
3. What progress has already been made?
 - Dissemination of messages through radio, TV.

- Health education session at the village level to disseminate the messages about STI, HIV,....
4. What materials do we need to develop?
 - Radio spot, television programme on HIV, PMCT, breastfeeding, utilization of ANC services by pregnant women/family in the health facility.
 - Leaflet, poster, advertising board on the road and in the place where there is many people.
 - Information board in the village.
 5. Who should be responsible for developing the materials?
 - PCCA, DCCA, VCCA.
 - Provincial and District Commission for Mother and Children (PCMC, DCMC).
 - Governor authority at each level.
 - All concerned departments.
 6. Who should be responsible for disseminating the materials?
 - The same as point 5 above.
 7. What additional information do we need for these activities? How can we obtain it?
 - Handbook/guidelines on maternal and child health care.
 - Data on PMCT situation (globally, in the Lao PDR from national to community level).
 - Data on the utilization of health services at the hospitals by the women and children, and people with STI.
 - Need support and financial assistance from government, private sectors, international agencies and NGOs.
 8. What inputs will be needed? What will the costs be?
 - Inputs needed are the same as point 7.
 - Regarding the costs, this should be reviewed one more time.
 9. When can these activities be implemented?
 - After establishment of Taskforces and development of clear Terms of Reference (role/function) for each level.
 - After completion of the training for staff.
 10. How will we evaluate the materials and the impact of the communication activities?
 - Assessment before and after the implementation of activities and evaluate the impact of these activities by:
 - Using questionnaires.
 - Interviewing people.
 - Assess the situation on utilization of health services in the health facilities at each level.

**Appendix 6: Review of cost of potential replacements for breastfeeding –
Savannakhet town**

Name of product	Amount	Price	Cost / 100 gms	Cost for 6 months supply (US \$)	Cost per month (typical monthly wage - 100,000 – 300,000 Kip)
Infant formula					
Dumex	200 gms	13,250 Kip	6,500 Kip	1,325,000 (124\$)	220,000 Kip
Dumex	700 gms	43,750 Kip	6,500 Kip	1,250,000 (117\$)	208,000 Kip
Lactogen (Nestle)	200 gms	13,500 Kip	6,500 Kip	1,350,000 (127\$)	225,000 Kip
S-26 Wyeth	900 gms	82,500 Kip	9,000 Kip	1,833,500 (172\$)	305,500 Kip
S-26 Gold Wyeth	900 gms	102,500 Kip	11,500 Kip	2,277,800 (214\$)	379,500 Kip
Cow's milk					
Full cream milk powder - Not available					
UHT cow's milk	250 ccs	2,500 Kip		920,000 (86\$)	153,000 Kip
Fresh milk – not available					

Babies need 40 x 500gm tins of commercial infant formula for six months.
Home-made formula will require 92 litres of animal milk in the first six months.
10,655 Kip = 1 US \$

GNP = 320 US\$ per year (284,133 Kip / month)

Appendix 7 : Model to show percentage of HIV infection in babies that could be averted by Thai regimen in Lao PDR

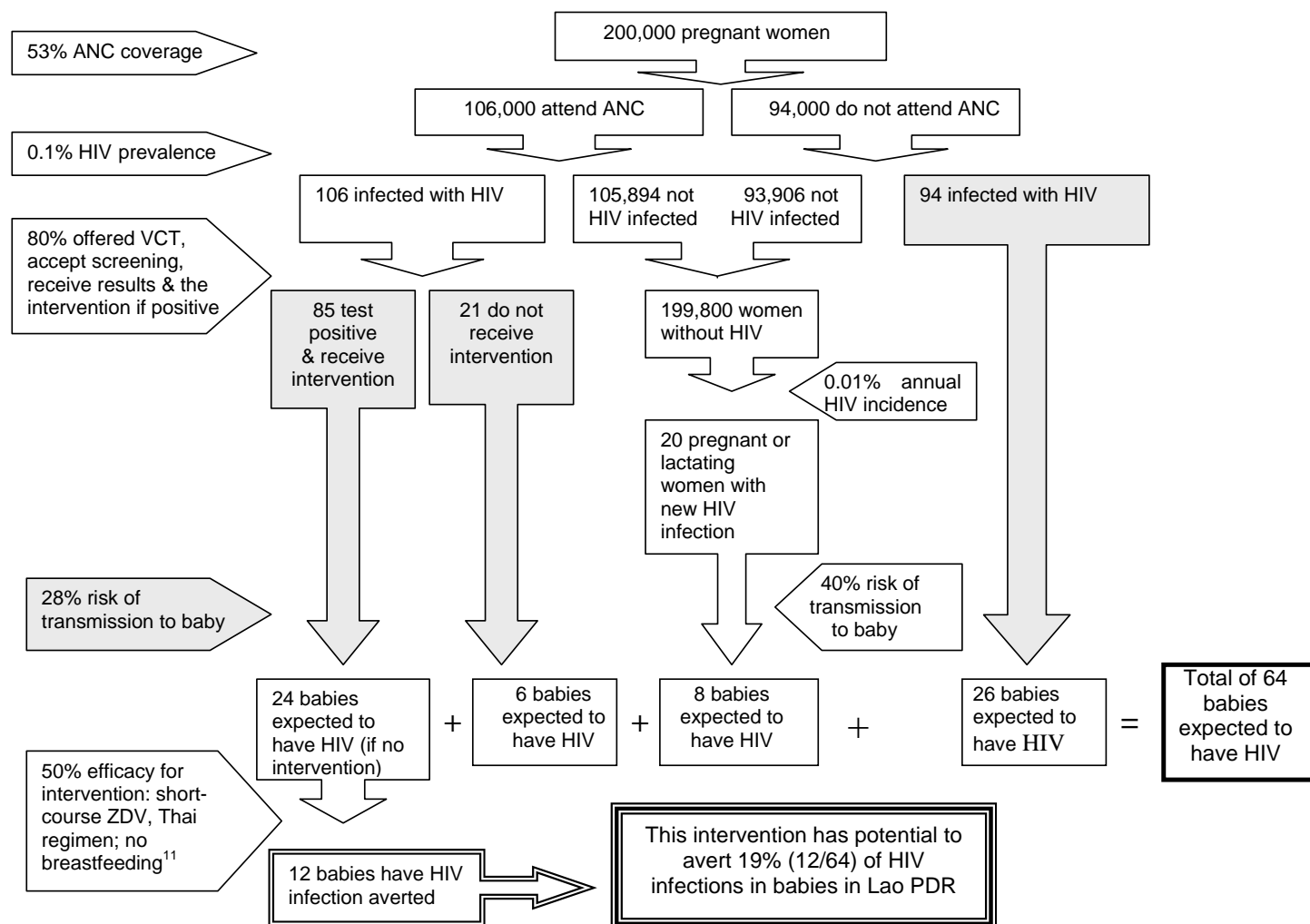


Table to show potential impact of hospital-based MTCT intervention for a range of variables:

No pregnant women	ANC coverage	HIV prevalence	HIV incidence	% coverage intervention	Expected no. of babies with HIV	Number of child HIV infections averted	Proportion child HIV infections averted
Lao PDR							
200,000	53%	0.05%	0.01%	80%	36	6	16%
200,000	53%	0.1%	0.01%	80%	64	12	19%
200,000	53%	0.5%	0.01%	80%	288	60	21%
200,000	53%	1%	0.05%	80%	600	120	20%
200,000	31%	0.1%	0.01%	40%	64	3.5	5%
200,000	53%	0.1%	0.01%	40%	64	6	9%
200,000	53%	0.1%	0.05%	40%	96	6	6%
200,000	53%	1%	0.1%	40%	639	60	9%
Savannakhet Province							
25,000	53%	0.1%	0.01%	70%	8	1.3	16%
25,000	53%	0.1%	0.01%	50%	8	0.9	12%
25,000	80%	0.1%	0.01%	80%	8	2.2	28%
25,000	31%	0.1%	0.01%	50%	8	0.5	7%
25,000	53%	1%	0.1%	50%	80	9	12%
Kh district							
3,400	53%	0.1%	0.01%	70%	1	0.2	16%

Appendix 8. Conceptualising prevention of parent to child transmission of HIV

