

REACH PROJECT | 2017

Thailand

*Case study:
eliminating mother-to-child
transmission of HIV*



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CHAPTER 1

Eliminating mother-to-child transmission of HIV

Thailand's experience in eliminating mother-to-child transmission of HIV is extraordinary. The country's experience provides important lessons about how to reach those who are hard to reach.

Thailand's history with HIV/AIDS

The first reported case of Human Immunodeficiency Virus (HIV) in Thailand emerged in 1984. Spreading slowly at first, HIV/AIDS became a full-blown national crisis by the early 1990s, gaining shocking momentum in just a few years. Between 1988 and 1990, the number of HIV cases ballooned from roughly 13,000 to almost 300,000. The incidence rate more than doubled again to over 600,000 in 1992.

Since the 1990s, HIV/AIDS has been one of the leading causes of premature death in Thailand. The Asia-Pacific region currently has the second largest number of people living with HIV, behind Africa. As of 2015, Thailand accounted for approximately 9% of HIV-positive people in the region.

During the early 1990s, the spread of HIV in Thailand was most pronounced among sex workers, men who have sex with men, and intravenous drug users. Prevalence among women at the time was relatively small. Unfortunately, this period was short-lived. Some estimates note that by the middle of the decade, approximately 40% of reported new infections were among women, increasing the mother-to-child transmission (MTCT) rate of HIV.

The MTCT rate in Thailand, at its worst, was over 20%. Simply put, thousands of children were being born with HIV.

The Thai government, as well as the public, has worked hard to combat the HIV crisis generally, and the mother-to-child-transmission crisis specifically. They have achieved great success. Estimates suggest that over the past two decades, nearly 10 million potential cases of HIV transmission have been prevented because of measures such as

increased awareness and condom-use campaigns, access to HIV testing, and access to medication.

Thailand saw a tremendous decline in the number of AIDS-related deaths throughout the late 1990s and 2000s. With respect to mother-to-child-transmission (MTCT)

of HIV specifically, reports show that between 2000 and 2015, the MTCT rate in Thailand was reduced by more than 90%.

Over that period, the infection rate among children decreased from 1,000 to 85 infections per year. Furthermore, the infection rate among women was also drastically reduced by 87%, from 15,000 new infections each year to less than 2,000.

“To ensure children are born healthy is to give them the best possible start in life.”

DR. MARGARET CHAN
Former Director-General, World Health Organization

In 2015, the mother-to-child transmission rate in Thailand was just 1.9%. According to World Health Organization (WHO) guidelines, mother-to-child transmission of HIV is considered to be “eliminated” when the transmission rate falls below 2%. Thailand is the first Asian country to achieve this designation, which the WHO recognized in 2016. Dr. Margaret Chan, former Director-General of the WHO, states: “To ensure children are

born healthy is to give them the best possible start in life.” She adds: “This is a tremendous achievement – a clear signal that the world is on the way to an AIDS-free generation.”

Thailand’s experience in eliminating mother-to-child transmission of HIV is extraordinary. Thailand is a model, and its experience provides important lessons about how to reach those who are hard to reach.



HISTORY OF HIV/AIDS

IN THAILAND

1984

First HIV case

First reported case of Human Immunodeficiency Virus (HIV) in Thailand.

600,000 HIV cases

Between 1988 and 1990, the number of HIV cases ballooned from roughly 13,000 to almost 300,000. The incidence rate more than doubled again to over 600,000 in 1992.

1990s

40% of new infections are women

During the mid-2000s, HIV prevalence among women increased rapidly. Nearly half (40 percent) of new HIV infections were reported to be among women.

~ 2005

2000 to 2015

90% of reduced MTCT rate

The mother-to-child transmission rate has been reduced by more than 90%.

2015

1.9 % MTCT rate

The mother-to-child transmission of HIV rate has dropped to just 1.9%.

What is mother-to-child transmission of HIV?

HIV is transmitted through bodily fluids such as blood, breast milk, and genital secretions. The virus cannot be transmitted through saliva.

Mother-to-child transmission of HIV, sometimes referred to as vertical transmission, occurs when an HIV-positive mother transmits the virus to her child. Unlike healthy adults, fetuses in utero and newborns are especially vulnerable, as they do not have fully developed immune systems.

Generally, MTCT can occur in one of three ways:

Pregnancy

MTCT during pregnancy can occur when the virus from the mother is transmitted in utero by crossing the placenta.

Childbirth

Intrapartum transmission occurs when the mother's blood and/or genital secretions infect the baby during labor and/or delivery.

Breastfeeding

Transmission mainly occurs through breast milk.

Prevention of mother-to-child transmission

Prevention of mother-to-child transmission (PMTCT) of HIV includes many different strategies. The main strategy for PMTCT during pregnancy and childbirth is ensuring the HIV-positive mother is on antiretroviral therapy.

To prevent postpartum mother-to-child transmission, the main strategy involves exclusive formula feeding. According to the WHO, in the absence of prevention measures, the risk of mother-to-child transmission of HIV ranges between 15 percent to 45 percent. That risk is reduced to less than 5 percent if HIV-positive mothers are treated with antiretroviral medication and receive appropriate interventions.

However, knowing what needs to be done to prevent MTCT and getting it done are two different things.

Four key obstacles stand in the way of ensuring that adequate preventative measures reach mothers and their children:

Lack of knowledge

A general lack of knowledge about HIV, how it is transmitted and the various risk factors associated with HIV transmission, is often a barrier to the prevention of HIV spread.

Lack of access

Access to antiretroviral therapy is often limited. The procurement and distribution of antiretrovirals can be expensive obstacles to treatment access.

Long distances

Parents might live far from health centers and are thus unable or unwilling to access HIV testing, counselling and treatment. Geographical proximity to health services is a barrier for many people, especially for those who are poor or who live in distant areas.

Stigma and discrimination

Parents need to be aware of their HIV status. They need to be tested. And they need to disclose this information to their partners, families and health professionals. Due to stigma and discrimination, disclosure rates are low, and HIV testing and counselling tends to be underutilized in many countries around the world.

Who is most vulnerable to MTCT?

In general, those who are hardest to reach – those who are poor, geographically distant, and culturally marginalized – are the ones who are most vulnerable to mother-to-child transmission (MTCT), in Thailand and around the world.

Effective prevention of mother-to-child transmission requires the following:

- Knowledge about mother-to-child transmission
- Access to health services
- Access to HIV testing and counselling
- (If HIV-positive) Treatment, early infant diagnosis postpartum, and provision of formula
- Ongoing monitoring and evaluation

Thailand has achieved remarkable success in overcoming obstacles and barriers to preventing mother-to-child transmission (MTCT). During the height of the HIV epidemic, the MTCT rate in Thailand was over 20 percent and the prevalence rate among pregnant women receiving antenatal care was 2 percent. By 2015, the MTCT rate was lower than 2 percent and HIV prevalence among pregnant women was down to just 0.6 percent.

The road to reducing mother-to-child transmission in Thailand has been a long one, and success did not come overnight.

As early as the mid-1990s, the Thai government piloted a program to distribute a short-course oral antiretroviral. Between 1997 and 1999, several prevention of mother-to-child transmission (PMTCT) projects were piloted, including government-sponsored interventions in HIV testing and counselling, the distribution of antiretrovirals, and mother-to-child transmission monitoring protocols.

In 2000, the national government created the first nation-wide PMTCT policy and guidelines, which were issued to all public hospitals. The 2000 guidelines required

hospitals to integrate prevention measures into routine maternal and child health services; implement HIV counselling and testing for all pregnant women; provide access to antiretroviral therapy for prevention of mother-to-child transmission; ensure infant HIV testing, and provide formula milk for infants born to HIV-positive mothers.

The 2000 prevention of mother-to-child transmission (PMTCT) guidelines marked a critical policy watershed but just developing policies is not good enough. How is the policy being implemented? What is happening on the ground? And what other factors are contributing to Thailand's success in PMTCT?

What has worked in Thailand?

Thailand's recipe for success has five main ingredients: antenatal care, antiretroviral therapy, monitoring and evaluation, standardization and adaptation in delivery, as well as the influence of civil society organizations.

Antenatal care

Thailand's prevention of mother-to-child transmission (PMTCT) program is primarily delivered through an extensive antenatal care (ANC) infrastructure, comprising over 800 district hospitals and networks of sub-district health centers in rural and urban areas. The decentralized health delivery system is the first point of contact for pregnant women.

Over 98 percent of all pregnant women in Thailand have at least one ANC visit and 93 percent report at least four visits. Over 99 percent of births are attended by a skilled health professional – a remarkable achievement. Shortly after the implementation of the 2000 PMTCT guidelines, HIV testing and counselling were made available in all ANC facilities. This resulted in an increase in testing and counselling among pregnant women from just 62 percent in 1999 to 93 percent in 2001.

Antiretroviral therapy

The rate of mother-to-child transmission (MTCT) of HIV during pregnancy and childbirth can be reduced when the mother is on antiretroviral therapy (ART). Thailand's universal health coverage scheme has provided free ART since 2005.

As of 2015, almost 96 percent of all HIV-positive pregnant women are receiving ART and 99.6 percent of infants born to HIV-positive mothers are also receiving antiretroviral treatment. Putting this into a comparative perspective, according to the most recent Joint United Nations Programme on HIV and AIDS (UNAIDS) data, only 35 percent of pregnant women in the Asia region have access to antiretroviral medicines to prevent mother-to-child transmission – far less than in Thailand.

Monitoring and evaluation

Precise monitoring and evaluation are key in effectively preventing mother-

to-child transmission. On the one hand, monitoring and evaluation are necessary to collect population-level data. On the other hand, they make it easier to identify and treat individuals who are in need of care. In 2001, for instance, the Thai Department of Health implemented the Perinatal HIV Inventory Monitoring Systems to count and track HIV-positive mothers and their children, as well as antenatal care and HIV service uptake. Subsequently, the National AIDS Program was created to collect individual-level information to monitor prevention of mother-to-child transmission indicators of both mothers and children.

Standardization in delivery

Thailand is a vast country with lots of regional differences. Life in the distant countryside or the Northern hills is different than life in the bustling urban centers. Poverty rates are high. In this regard, achieving prevention of mother-to-child transmission success in Thailand requires service delivery – from testing to care – to be standardized to ensure consistent quality, but also adaptable to address different contexts and circumstances. Strict curricula and standards of care are enforced by the central government through its complex health system.

At the same time, frontline workers adapt practices to optimize health care delivery to suit Thailand's different geographies, demographics, cultures and the local practices of their specific catchment areas.

Civil society

Civil society organizations play multiple roles in preventing mother-to-child transmission in Thailand. Many domestic non-governmental organizations with ties to international organizations deliver services (such as testing and support) to local populations.

Civil society organizations are embedded within networks bridging different communities, health professionals, and the government. Furthermore, civil society organizations have played, and continue to play, a critical activist role in politics. They mobilize citizens and campaign the government. For instance, Thai activist groups were instrumental in pressuring the government to relax its restrictions on HIV medicines and thus reduce the cost of antiretroviral therapy .

Reaching the hardest to reach

Reaching the hardest to reach means delivering knowledge, services, and care to those who are poor, geographically distant, or marginalized in other ways. It's a difficult task. The fact that the HIV epidemic in Thailand was so acute just a few decades ago demonstrates how remarkable Thailand's prevention efforts have been in successfully eliminating mother-to-child transmission of HIV. Almost all women are receiving antenatal care. More and more mothers, partners, and children are being tested for HIV. Those who are HIV-positive have greater access to essential medicines. And their

individual cases are monitored to ensure their long-term health.

The Thai case exemplifies three important aspects of what it takes to successfully reach the hardest to reach.

First of all, “reach” must address supply-side problems. Take antiretroviral therapy (ART), for instance. Thailand’s successful campaign to provide ART for all HIV-positive individuals was aided by the strong role of the government in domestic manufacturing of antiretrovirals (ARVs) and the issuing of compulsory licenses for several key drugs so that generics could be distributed in Thailand. In other words, the provision of ART depended on the ample and cheap supply of ARV.

However, we also know that the supply of antiretroviral therapy (ART) – or any intervention for that matter – does not ensure that people will use it. Reach thus poses a demand-side challenge as well, in that the supply of an intervention only reaches people when it is demanded and used. Some call this the “last mile problem”.

Increasing compliance with an ART regimen, for example, is about resolving the demand-side problem. HIV testing and counselling (HTC) similarly poses demand-side challenges, as the provision of free HTC alone does not necessarily mean mothers – and ideally, couples – will be tested. Stigma and fear of disclosure are obstacles to uptake when it comes to testing, counselling, and treatment. In this regard, reaching

the hard to reach means both supplying services and interventions and ensuring they are used.

Lastly, reaching the hardest to reach requires precision. As the numbers of HIV-positive women and children continue to decrease in Thailand, identifying and finding those at risk is increasingly difficult. Aggregate population-level data, for instance, becomes less useful, when the goal is to reach the last 2 percent. Precise data, continually updated information, and sophisticated monitoring and surveillance systems have been critical for Thailand to eliminate mother-to-child transmission (MTCT). To be sure, notwithstanding the World Health Organization’s (WHO) designation, Thailand has not in fact completely eliminated MTCT of HIV.

The last section of this report focuses on the prevailing challenges of “getting to zero” – getting the MTCT rates from two percent to zero percent. Obstacles remain, such as stigma and discrimination, limited access to health facilities, and the lack of knowledge and awareness of HIV/AIDS and the prevention of MTCT. Specifically, migrants, ethnic minorities, young people, men, and infants continue to fall through the cracks.

In recent years, HIV prevalence among youth has also been on the rise as the collective memory of the harrowing epidemic of the 1980’s subsides, increasing the risk of mother-to-child transmission.

About this research

The following report is the result of a year-long research project, carried out by Professor Joseph Wong of the Munk School of Global Affairs and the Department of Political Science at the University of Toronto, and four student researchers: Joy Dawkins, Simran Dhunna, Andrea Macikunas, and Aylin Manduric.


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Research was conducted from September 2016 through July 2017, including primary fieldwork in Thailand in June 2017. Interviews and site visits were conducted in the cities of Bangkok, Chiang Mai, and the town of Phrao.

The authors of this report would like to express our gratitude and appreciation to those we met and interviewed in Thailand, including government officials, front-line health professionals, civil society activists, and scholars. Your work and dedication are inspiring.

This research project, including fieldwork, was vetted and received approval by the Ethics Review Board of the University of Toronto.

This report is the fifth in a series of case study reports on the concept of development reach, and specifically innovative programs that are successfully reaching populations that are the hardest to reach. Our earlier reports, as well as various blog and insight pieces, can be retrieved on the Reach Project website (<http://reachprojectuoft.com>).



From left to right:

Lalita Kaewwila (local research assistant), Simran Dhunna, Joseph Wong, Kanjana Thalaengkit (Thai NGOs Coalition on AIDS), Aylin Manduric, Andrea Macikunas, Joy Dawkins.

CHAPTER 2

Antenatal care

Thailand has integrated interventions for the prevention of mother-to-child transmission (PMTCT) of HIV within its maternal and child health system. Antenatal care is the main point of access through which PMTCT services are delivered. With

extensive investments over time to address both supply and demand side challenges, Thailand has ensured PMTCT services are both reaching and being accessed by pregnant women across the country.

Health access

When the prevention of mother-to-child transmission program was introduced in 2000, Thailand had already established comprehensive and quality maternal and child healthcare services. In 2000, 92 percent of pregnant women in Thailand accessed antenatal care at least once. This was in large part due to consistent and extensive investments in the health system by the government, beginning in the 1960s. Guided by successive five-year National Health Plans, Thailand's health system was developed with an emphasis on primary healthcare and the inclusion of rural areas and the poor.

The health system involves a network

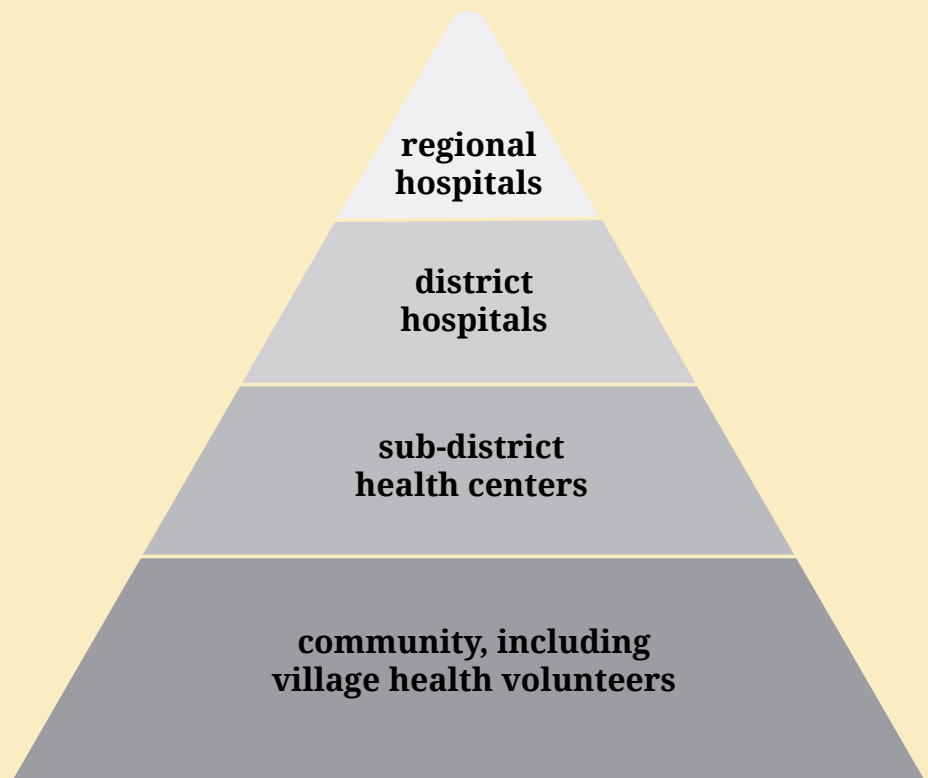
of health facilities across regional, provincial, district, and sub-district levels, as well as metropolitan areas. The majority of these facilities are within the public sector. The delivery of quality healthcare services across facilities was enhanced through further investments in public infrastructure (e.g. roads) and the education of health workers.

Thailand's health workforce is made up of healthcare professionals such as doctors, nurses, pharmacists, and medical technologists, and supporting personnel such as village health volunteers and peer educators. The comprehensive network of health facilities and high-quality health personnel ensures front-line consistency in health access and care.



Ministry of Public Health

Thailand's public health infrastructure: Healthcare service delivery facilities overseeing the prevention of mother-to-child transmission program.



A progressively comprehensive health insurance scheme

The four decades of health system development involved the establishment of progressively comprehensive health insurance schemes that helped move the country toward universal health coverage.

Prior to 2000, different public health insurance schemes, together with a small fraction of private health insurance, covered about 75 percent of Thai citizens.

In 2000, the government expanded health insurance coverage to all Thai citizens through the “30 Baht treat all diseases”-scheme. This was followed by the piloting of the Universal Coverage Scheme in 2001, which became law in 2002 as the National Health Security Act.

The Universal Coverage Scheme expanded access to healthcare insurance to the current coverage rate of 99.5 percent of the Thai population.

By the 1990s, after 25 years of infrastructure development, Thailand achieved near-universal coverage of health facilities at the district and sub-district level. Healthcare reforms over the next decade played an important role in strengthening the district health system, improving the collaborative relationship between district hospitals and networks of 10 to 15 sub-district health centers within their catchment area.

The district health system plays an especially important role in the prevention of mother-to-child transmission, as district hospitals are the primary site where maternal and child health services are implemented, including the delivery of antenatal care services. District hospitals across the country provide localized access while also being large enough to have adequate human resources and capacity.

Early prevention efforts

In addition to ongoing reforms to the health system in the 1990s, early responses to address the emerging HIV epidemic set the stage for the introduction of the national prevention of mother-to-child transmission (PMTCT) policy in 2000.

Following the first case of mother-to-child transmission in 1988, the Thai government and civil society actors recognized increased prevalence of HIV among pregnant women.

They moved to action with early prevention efforts, which included building health workers' capacity, e.g. training nurses to provide HIV testing and counselling services; engaging in research studies, e.g. trials to

build evidence on antiretroviral therapy; launching education campaigns, e.g. the 100 percent Condom Use Program; and piloting the prevention interventions that would later become the basis of the national PMTCT program.

These supply-side investments came about alongside demand-side shifts in cultural norms towards acceptance of healthcare and normalization of HIV. Healthcare services, including antenatal care, became the established norms.

Women typically seek healthcare services during pregnancy and almost all women go to hospitals to deliver. National HIV education, such as the condom use campaign, played a significant role in raising awareness of HIV and the importance of prevention and effective health solutions. These education efforts had a large impact on behavioral and societal norms, such as wearing condoms, or getting tested for HIV. They laid the foundation for ongoing efforts to normalize HIV and reduce stigma and discrimination.

In the new millennium, prevention of mother-to-child transmission (PMTCT) became clearly a priority, backed by political and public will. On the supply side, the system was in place to incorporate prevention services supported by the growing evidence base in prevention science and effective treatment. On the demand side, women were motivated to access services

through established antenatal care practices to ensure their newborn babies were healthy. There has also been broad public support for PMTCT, as women and their babies are seen as victims of the HIV epidemic.

Integrating PMTCT into antenatal care

The prevention of mother-to-child transmission program was implemented nationally in 2000. It was formulated with the involvement of multiple sectors, backed by significant government commitment, including the allocation of resources, and was responsive to evolving prevention science.

“PMTCT became a priority because, one, it was easy to get a policy commitment from everyone: newborns are the most vulnerable and also innocent. And two, there was an obvious solution: HIV positive people need ART treatment.”

Prominent Civil Society Leader

The policy is made up of six core components: (1) testing and counselling; (2) treatment for HIV-positive mothers; (3) provision of infant formula; (4) early infant diagnosis; (5) infant treatment; and (6) monitoring and surveillance. Over the past 17 years, the specific guidelines of each component continue to be updated based on new findings in prevention science, through expert consultation, and with the inclusion of local knowledge. These changes include, for example, novel models of care and treatment regimens.

Immediately following the introduction of the prevention of mother-to-child transmission program in 2000, HIV prevention interventions were quickly and consistently integrated into routine antenatal care (ANC) across the country. By 2001, 100 percent of ANC facilities provided HIV testing and counselling (HTC), and 92.9 percent of pregnant women received HTC, a marked increase in testing and counselling of pregnant women from 61.9 percent just two years prior.

The established antenatal care model within the comprehensive and accessible health system allowed mother-to-child transmission prevention activities to be integrated with relative ease. The prevention of mother-to-child transmission program outlines clear guidelines with well-defined roles for health facilities and healthcare workers,

allocates resources, ensures the necessary processes for implementation and delivers services through the existing antenatal care system. The mechanisms for training healthcare workers and volunteers ensure the HIV care continuum, or “cascade of care”, is translated from national policy to local delivery with impressive results.

“In this work, we cannot work alone. The whole healthcare team needs to provide care together. Village health volunteers are well respected by hospital staff. Healthcare workers understand the role and the importance of VHV, and so they value and respect them.”

Peer educator & village health volunteer

Pathway of antenatal care

Antenatal care (ANC) services are delivered through the district health system, centered primarily on the district hospital. With the integration of prevention of mother-to-child

The Pink Handbook

The Maternal and Child Health (MCH) Handbook, known as the Pink Handbook for its distinctive cover, was first published in Thailand in 1985.

The Pink Handbook is an important health promotion tool to inform and monitor the health of pregnant women and their children. It serves as both an accessible source of health information and as a monitoring tool for maternal and child health care.

The Pink Handbook is given to all pregnant women during their first antenatal (ANC) visit, to take home, read over, self-record milestones, and bring back to subsequent ANC visits.

The Pink Handbook is used by both public and private hospitals across Thailand to help standardize maternal and child health information and care. It is revised every three to five years to ensure it has the most up to date information in an accessible format, e.g., through pictures, multiple languages.

transmission services into the ANC model, nurses who provide antenatal care have the additional responsibility of providing HIV prevention services, including testing, counselling, and treatment.

However, before pregnant women have their first ANC visit at the district hospital, the first point of entry into the health system for most women is via the village health volunteer.

In Thailand, village health volunteers (VHVs) work at the community, or sub-district, level. They play an important role in health education and communication, health promotion, and in some cases can provide basic health interventions. VHVs provide a vital link for women and their families to healthcare professionals and the formal health system. They are community members themselves, which means they usually know when women nearby become pregnant and encourage them to go to the district hospital to access antenatal care services. Village health volunteers possess tremendous local knowledge and are well respected both in the community and by healthcare staff.

Once in the formal health system, women follow Thailand's established antenatal care model, which typically consists of five to six visits. The first visit ideally takes place during the first trimester around the 12th week of pregnancy. Voluntary prevention services such as HIV testing and counselling are initiated during the first antenatal care (ANC) visit, regardless of when that visit occurs.. This means that even women who enter ANC services late (beyond the first trimester) are offered HIV testing and counselling.

The Role of peer educators

The role of peer educators grew directly from HIV-positive people, with support from the civil society sector for organizing, training, and funding.

Over time, the role became a highly respected and a valued part of the healthcare team, and this past year the government began funding these roles directly. The work of peer educators is recognized as important and necessary, particularly to address individual-level disclosure and antiretroviral treatment adherence.

When an HIV test for a pregnant woman comes back positive, the next step of care is initiated. Post-test counselling with a nurse involves education and support to help women cope with the diagnosis and the implications for her and her baby's health. It often involves referrals for ongoing support, including consultations with peer educators. Peer educators are staff who provide support based on their own lived experiences with HIV/AIDS. In some districts, post-test counselling nurses will immediately connect women with a peer educator. Peer educators work one-on-one with HIV-positive people to help with stigma and disclosure concerns and to remove additional barriers to ongoing care. By providing support to newly diagnosed pregnant women, peer educators play a valuable role in ensuring women continue with antenatal care, and begin antiretroviral therapy.

With ongoing investments in maternal and child health - including the prevention of mother-to-child transmission program - antenatal care (ANC) coverage in Thailand continues to increase. Currently, an impressive 98.3 percent of pregnant women have at least one antenatal visit; 93 percent have four or more ANC visits during pregnancy.

Thailand's rate of delivery by a skilled birth attendant - another important indicator for maternal and child health - is nearly universal, with over 99 percent of births in Thailand being delivered by health professionals. Often following delivery, there is a drop-off in postnatal care, although early infant diagnosis (EID) in Thailand is now very high at 94 percent. Increasing health

coverage during the postnatal period is supported by bundling services, such as timing visits to baby clinics with the national vaccination schedule.

Counselling and testing

As outlined by national guidelines, trained health professionals conduct HIV testing and counselling (HTC) at the district hospital. Nurses initiate HTC during the first antenatal care visit by providing pre-test counselling. The test is then performed by medical technologists. When the results are available, women return to the nurse for post-test counselling. To increase convenience and to ensure follow-up, HTC (including receiving the results) can be done in one visit through same-day testing.

When HIV testing and counselling was first rolled-out through the prevention of mother-to-child transmission

program, a new model for pre-test counselling was developed that included a group education component. The group counselling model was used to help reach the most number of women in busy antenatal care (ANC) clinics. In addition, as ANC involves comprehensive testing, the group-counselling model treated HIV as part of routine care. This helped to normalize the need for, and the importance of, HIV education during ANC.

An example of how Thailand's guidelines are responsive and have evolved over time is the updates to the model of care for HIV testing and counselling (HTC).

In 2010, the HTC model was updated in an effort to address concerns with HIV-positive women not

disclosing their status to their partners and with HIV discordant couples. HIV discordant couples are those in which one partner is HIV-negative and the other partner is HIV-positive.

“[The group counselling] model was successful, and later adapted by the WHO. As Thailand had good infrastructure for ANC already in place, they just had to develop the curriculum for prevention services and train the staff. After piloting the HCT model, they scaled up training through existing mechanisms, just adding HIV into the routine care.”

Ministry of Public Health staff

With HIV discordant couples, a woman who initially tests HIV-negative may seroconvert (go from HIV-negative to HIV-positive) during pregnancy.

To help address these concerns, the new model outlined HIV testing and counselling practices to include men, by targeting the male partners of pregnant women through couples HIV counselling and testing (CHCT). Couples counselling aims to involve men in the provision of antenatal care and extend counselling and testing services to them.

However, CHCT is not implemented as consistently as other preventative care practices, with quite variable rates depending on the region and health facility.

Summary

The prevention of mother-to-child transmission (PMTCT) program has been built on supply-side investments in maternal and child health and demand-side interventions to normalize antenatal (ANC) and HIV care. In response to the HIV epidemic in the 1990s, early prevention activities informed the 2000 national PMTCT policy and guidelines. The policy integrated prevention interventions seamlessly into the existing district health system and quality antenatal care services. Within one year, HIV testing and counselling was made available in all ANC facilities with high uptake by pregnant women. Today, access to antenatal care is virtually universal for pregnant women across the country, enabling PMTCT interventions to be a part of routine care.

CHAPTER 3

Antiretroviral therapy: life-saving access to drugs

Access to antiretroviral therapy (ART) is necessary for prevention of mother-to-child transmission, yet it is often hard to achieve. Drugs used in ART are generally expensive and the regimen requires careful and consistent attention to be effective.

The use of antiretroviral therapy (ART) has been instrumental to Thailand's successful elimination of mother-to-child transmission. ART use in Thailand is near universal. In 2015, 95.6 percent of HIV-positive pregnant women and 99.6 percent of infants born to HIV-positive mothers received ART prophylactically. This was not always the case. In 1998, only 64.6 percent

of HIV-positive pregnant women were being treated with ART. In less than 20 years, Thailand has improved ART access for prevention of mother-to-child transmission (PMTCT) by 30 percent. Access to an affordable supply of antiretroviral therapy for PMTCT was dramatically improved over the span of several decades through global and domestic aid, government programs, and inclusion under the Universal Coverage Scheme. On the demand side, effective antiretroviral therapy requires strict adherence to treatment, which has been improved by efforts to reduce stigma and discrimination.

What is compulsory licensing?

For Thailand to manufacture a generic version of a drug, the government needs to issue a compulsory license

Thailand is a member of the World Trade Organization, whose agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) includes intellectual property protections for patented products, such as some anti-HIV drugs. For Thailand to manufacture a generic version of a drug, the government needs to issue a compulsory license. This would allow Thailand to manufacture a patented drug domestically if deemed necessary for a public health emergency, such as an HIV epidemic.

Overcoming financial barriers for access to antiretroviral therapy

The growing global HIV epidemic in the 1990s was an impetus for technological advances in HIV treatment. These included the discovery that antiretroviral therapy (ART) lowers the viral load in HIV-positive pregnant women to prevent mother-to-child transmission. However, the cost of ART was prohibitive for low- and middle-income countries. Thailand was no exception.

With a growing epidemic and increasing awareness about the potential of prevention of mother-to-child transmission the Thai government was faced with the challenge of making antiretroviral therapy financially accessible on a large scale.

Until coverage was achieved under the Universal Coverage Scheme in 2005, antiretroviral therapy (ART) was provided to HIV-positive pregnant women through a variety of channels.

Government programs have supplied zidovudine since 1992. The Health Ministry, along with several partners such as the Centers for Disease Control and Prevention (CDC) Thailand Office and the Thai Red Cross AIDS Research Center, created the Clinical Research Network in 1998 to provide antiretroviral therapy through enrolment in clinical studies. With the adoption of the nationwide prevention of mother-to-child transmission policy and guidelines in 2000, the Thai government used evidence gained from the Clinical Research Network to create the Access to Care Initiative, which supplied public hospitals with ART.

The Didanosine patent

Didanosine is an important anti-HIV drug for which Bristol Myers Squibb held a patent.

In 1999, the Thai Government Pharmaceutical Organization submitted a request for a compulsory license for Didanosine to the Thai Department of Intellectual Property. The request was rejected, but it marked the first attempt at using the flexibility of Trade-Related Aspects of Intellectual Property Rights (TRIPS) to improve antiretroviral therapy access in Thailand.

The Thai civil society coalition then claimed that an amendment to the patent for Didanosine had been “unlawfully granted”. They contested this in patent court while staging multiple demonstrations outside the Ministry of Public Health. In a landmark decision, the amendment was ruled unlawful, although a compulsory license was not granted.

In 2003, following a second challenge to the patent in court, Bristol Myers Squibb dedicated the patent to the Thai people.

In 2001, the Thai Rak Thai party was elected on a platform of Universal Health Care, which initially excluded antiretroviral therapy (ART). That same year, the Thai Government Pharmaceutical Organization (GPO) began manufacturing GPO-vir, a cost-effective, fixed-dose medicine for antiretroviral therapy. The availability of GPO-vir improved the feasibility of ART inclusion under the Universal Coverage Scheme, although concerns remained about cost and the need for a variety of anti-HIV drugs.

Given the difference in cost between brand-name and generic drugs, one avenue to reduce the cost of antiretroviral therapy (ART) was for the Thai government to manufacture generics by issuing compulsory licenses.

Despite pressure from the United States, Thailand issued compulsory licenses for several important drugs used in HIV treatment. Compulsory licensing lowered drug prices and made ART inclusion feasible under the Universal Coverage Scheme (UCS). Civil society organizations played a large role in generating public interest and advocating for the inclusion of antiretroviral therapy, which was finally included in the UCS in 2005.


In addition to government programs, aid from partners like The Global Fund to Fight AIDS, Tuberculosis, and Malaria (The Global Fund) supported increased access to antiretroviral therapy (ART). The Thai Royal Family also contributed. For instance, her Royal Highness Princess Soamsawali donated 1 million Thai Baht to the Thai Red Cross Society in 1996 to support ART access.

Encouraging patient compliance to antiretroviral therapy

Patient compliance with the antiretroviral therapy (ART) regimen is necessary for prevention of mother-to-child transmission of HIV. Many factors impact adherence. For instance, poor adherence can be due to possible side effects. Adherence also varies with the patient's level of awareness about the regimen or with personal schedule limitations and logistical barriers. Stigma and discrimination also influence ART initiation and adherence.

The Ministry of Public Health and civil society organizations have tried to reduce stigma and discrimination.

Healthcare infrastructure has been improved since the start of the HIV epidemic, including advances in training of healthcare workers in HIV testing and counselling. Better training has equipped healthcare providers to offer more welcoming and informative encounters with patients. Educational efforts have also played a role in reducing stigma and discrimination around HIV and sexual health (e.g. the 100 percent Condom Use Campaign). Furthermore, peer educators and peer support groups have helped to build patient knowledge about ART, removing barriers to initiation and adherence.



Antiretroviral drugs to treat HIV infection.

Photo by: NIAID

Summary

Access to antiretroviral therapy is essential for the prevention of mother-to-child transmission. Despite supply and demand side challenges with antiretroviral therapy (ART), Thailand has achieved near-universal use of ART in HIV-positive pregnant women. This impressive example of reach has been achieved by improving access to ART. A combination of global and domestic aid,

government programs, and inclusion in the Universal Coverage Scheme ensure that Thailand can feasibly distribute an affordable and adequate supply of ART. In terms of patient demand, adherence to antiretroviral therapy is encouraged by efforts to reduce stigma and discrimination.

CHAPTER 4

Monitoring, surveillance, and Active Case Management

Thailand's success in eliminating mother-to-child HIV transmission (MTCT) is partly attributable to the country's robust monitoring and surveillance systems. The generalized HIV epidemic of the 1980s provided the Thai government with the initial impetus to implement monitoring and surveillance, after which MTCT-specific systems were introduced with the 2000 prevention of mother-to-child transmission policy.

Three MTCT surveillance systems are of particular importance: the Perinatal HIV Inventory Monitoring System (PHIMS); the Perinatal HIV Outcome Monitoring System (PHOMS); and the National AIDS Program (NAP), which was implemented in 2006. Several Thai government departments manage the three systems.

Other external monitoring and surveillance systems managed by intergovernmental organizations alongside national agencies also operate in Thailand, such as the Integrated Biological Behavioral Sentinel program, which monitors national HIV and sexually transmitted infections (STI) prevention indicators.

Data collection in Thailand has to be precise. The Active Case Management Network, used to track new perinatal HIV infections during initial antiretroviral therapy stages and to investigate causes of new infections, exemplifies this. Data on non-Thai migrants is collected either through the NGO-run Prevention of HIV/AIDS among Migrant Workers in Thailand surveillance system and to a lesser extent through the formal Thai monitoring and surveillance systems.

Perinatal HIV intervention monitoring system

The Perinatal HIV Intervention Monitoring System (PHIMS) is a web-based, centralized data system established during the introduction of the prevention of mother-to-child transmission (PMTCT) policy in 2000. The program is managed by the government's Department of Health, along with technical support from Global AIDS Program Thailand and the United States Centers for Disease Control and Prevention (CDC) office in Thailand within the Ministry of Public Health. The aim of PHIMS is to monitor the process and service uptake of the PMTCT program. It uses routine monthly data reports aggregated from district antenatal care facilities, labor rooms, and nursery logbooks.

The two primary variables tracked by the Perinatal HIV Intervention Monitoring System are the number of HIV-positive pregnant women and the number of infants born to HIV-positive mothers. For these two groups, data is collected about antenatal care visits, HIV testing and counselling, pre- and post-test couples counselling, and antiretrovirals provision. PHIMS captures information from all public hospitals; several private healthcare facilities also input data into the system.

Perinatal HIV outcome monitoring system

The Perinatal HIV Outcome Monitoring System (PHOMS) program, established

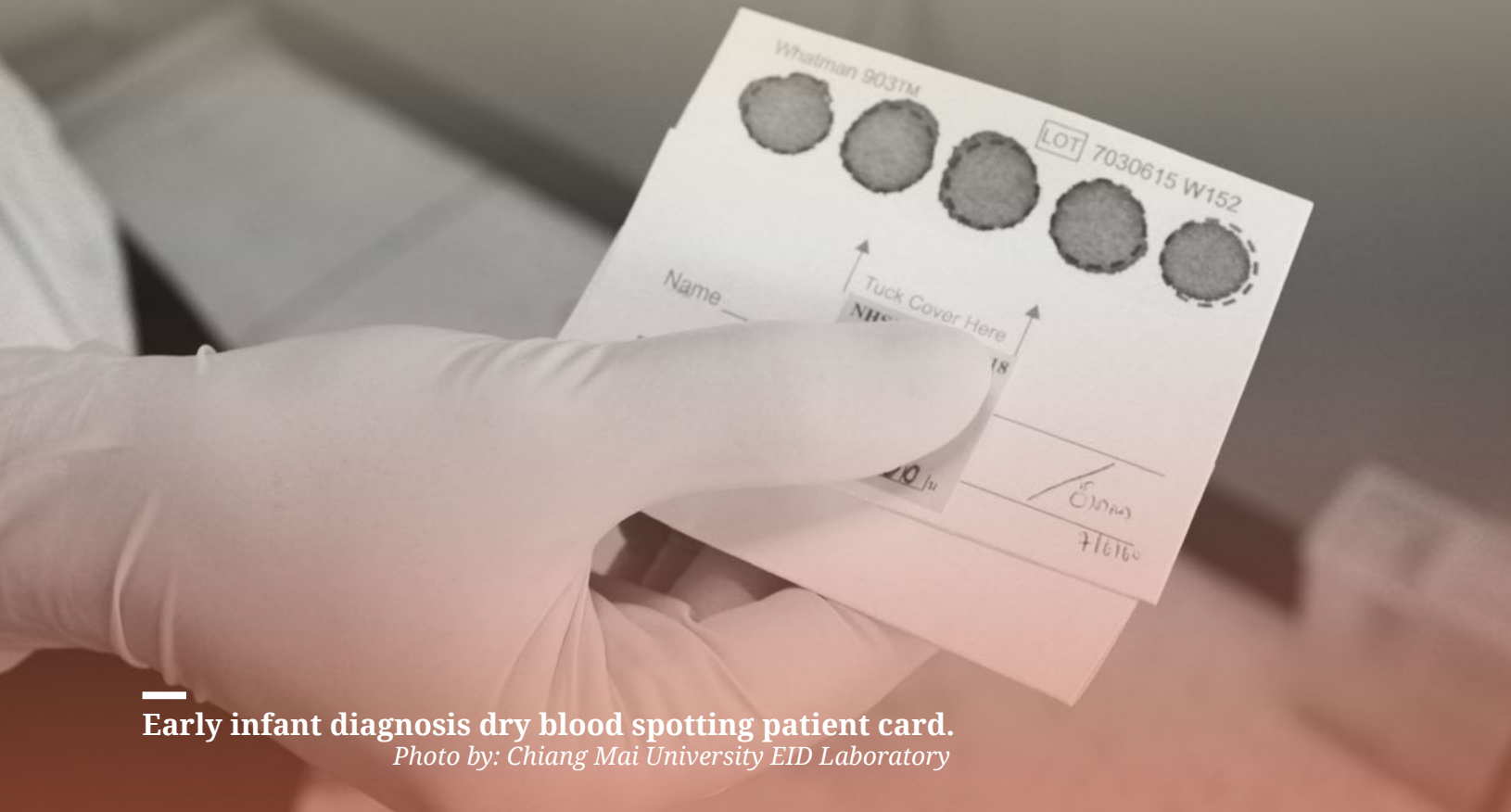
in 2001, initially covered several of Thailand's provinces. Implemented and managed by the Bureau of Epidemiology, it monitors the outcomes of the prevention of mother-to-child transmission program. Specifically, it measures the number of infants born with HIV (the mother-to-child transmission rate).

By 2004, PHOMS had been implemented in 14 provinces. PHOMS uses individual case reports for each baby, once at birth and again when the infant's HIV status is confirmed. The PHOMS ended recently because data on infants can now be retrieved through the National AIDS Program.

National AIDS program

The National AIDS Program (NAP) is the central computerized information system that collects data on individual profile characteristics for PLWHA (People Living with HIV/AIDS) uptake in treatment services and medical care related to HIV/AIDS.

The NAP was established in 2007 by the National Health Security Office (NHSO) with technical support from the Global AIDS Program in Thailand and the US Centers for Disease Control and Prevention (CDC) between 2010 and 2014. The NAP currently operates independently of external support. In addition to NAP's overall objective to monitor HIV/AIDS prevalence and services in the general population, the program's data variables can be used to monitor the impact of the prevention of



Early infant diagnosis dry blood spotting patient card.

Photo by: Chiang Mai University EID Laboratory

mother-to-child transmission (PMTCT) policy on reducing the mother-to-child transmission (MTCT) rate in Thailand. The NAP program collects individual-level data on the following PMTCT indicators: the MTCT rate; Early Infant Diagnosis (EID) coverage rate; antiretrovirals received by HIV-positive pregnant women; and HIV testing results of HIV-positive women.

Precise data: early infant diagnosis and Active Case Management

Early infant diagnosis and Dried Blood Spotting

Early infant diagnosis (EID) refers to the molecular Polymerase Chain

Reaction (PCR) HIV/AIDS testing of an infant born to an HIV-positive mother. Early infant diagnosis for HIV/AIDS was introduced in 2006. According to national guidelines, the post-delivery diagnostic test for the baby must take place at birth, one, two and four months for high-MTCT-risk babies, and at one and two to four months for standard-risk babies. A central laboratory in the city of Bangkok processes both whole-blood and dried spot test results from around the country. The Ministry of Public Health (MOPH) also manages labs in many regions in Thailand that provide EID services.

Several early infant diagnosis (EID) laboratories, that are supported by the

The pathway of antenatal care communications

Case managers play an important role in providing technical support.

When HIV-positive infant cases are confirmed by one of the early infant diagnosis (EID) laboratories, a case manager at the Department of Medical Sciences is notified, who then liaises with the Hospital HIV Coordinator and alerts a regional case manager about the hospital where the mother-to-child transmission case has taken place.

Case managers at the regional level provide technical support, facilitate timely antiretroviral therapy (ART) initiation, and promote effective adherence to the ART regimen for HIV-positive mothers and infants.

Follow-up timelines move along quickly thanks to the innovative mode of communication used by personnel.

National Health Security Office, exist across Thailand, and amongst them, the majority of EID testing is done at the Ministry of Public Health central lab and Chiang Mai University. In particular, the EID laboratory at Chiang Mai University has spearheaded a novel technique in EID called dry blood spotting.

Hospital nurses collect dry blood spot samples of infants and mail them to Chiang Mai University's lab for processing. The process takes ten days from the point of blood withdrawal to receiving test results. The Chiang Mai University lab receives roughly 30 samples per day. It also offers free official EID testing for non-Thais who are not covered by insurance.

Moving the goal post: Active Case Management

Early infant diagnosis rates hovered around 75 percent a few years ago, but the rate has dramatically improved in recent years to roughly 94 percent. This is partly due to precise data collection through the Active Case Management (ACC) Network, established in 2014. The ACC Network specifically focuses on tracking and managing individual mother-to-child transmission cases. The ACC mechanism identifies, categorizes and tracks high-risk HIV-positive infants, and promotes early antiretroviral therapy initiation.

The Thai government's goal is to reach the last remaining cases of mother-to-child transmission cases by 2020 and eliminate all new perinatal HIV infections by 2030. The government aims to achieve the UNAIDS-promoted 90-90-90 goal by 2020: 90 percent of all people living with HIV will know their

status, 90 percent of all people with HIV will receive antiretroviral therapy (ART), and 90 percent of all people receiving ART will have viral suppression. In addition to commitments to early infant diagnosis and antenatal care for mothers, a pediatric antiretrovirals program was introduced in 2010 to treat all infants under the age of one.

Innovation in Active Case Management

An example of innovation in Active Case Management is the use of the popular Asian social media communication mobile application “Line”. Using Line’s chat group function, one group of over 90 healthcare providers, researchers, health officials, and professionals keep each other up-to-date on individual mother-to-child transmission cases. When case-specific issues or lab concerns arise, these are communicated immediately through the Line app so

that they can be dealt with in a prompt and systematic manner.

Summary

From the early implementation of the Perinatal HIV Intervention Monitoring System, the Perinatal HIV Outcome Monitoring System and the National AIDS Program surveillance programs to the more recent Active Case Management

Network, Thailand has demonstrated a remarkable commitment to collecting and managing precise data on cases and individuals to reach the last 2 percent of mother-to-child transmission (MTCT) cases. Monitoring and surveillance systems, especially precise case-by-case data collection, are fundamental tools used by the Thai government to reach the final cases of MTCT.

CHAPTER 5

Standardization and adaptation

Prevention of MTCT requires service delivery to be both standardized and adaptable. However, standardization and adaptation are fundamentally in tension with one another. The former requires rigidity in healthcare protocols to ensure everyone receives a comparable quality of care; the latter involves a flexible healthcare system that is tailored to marginalized and hard-to-reach populations. Despite this tension, both are necessary to realize the goal of elimination.

Backed by ongoing investments in its health system, Thailand enforces standardized delivery of health servic-

es through national policy and guidelines. Informed by these standards of care, healthcare is delivered consistently. At the same time, healthcare delivery is adaptable to different contexts and circumstances. Within the district health system, frontline workers adapt practices to optimize healthcare delivery specific to community needs. Reaching the hardest to reach, thus, requires Thailand's health care system responding to its country's different geographies, demographics, cultures and local norms.

Ensuring a consistent standard of care

Health infrastructure and personnel

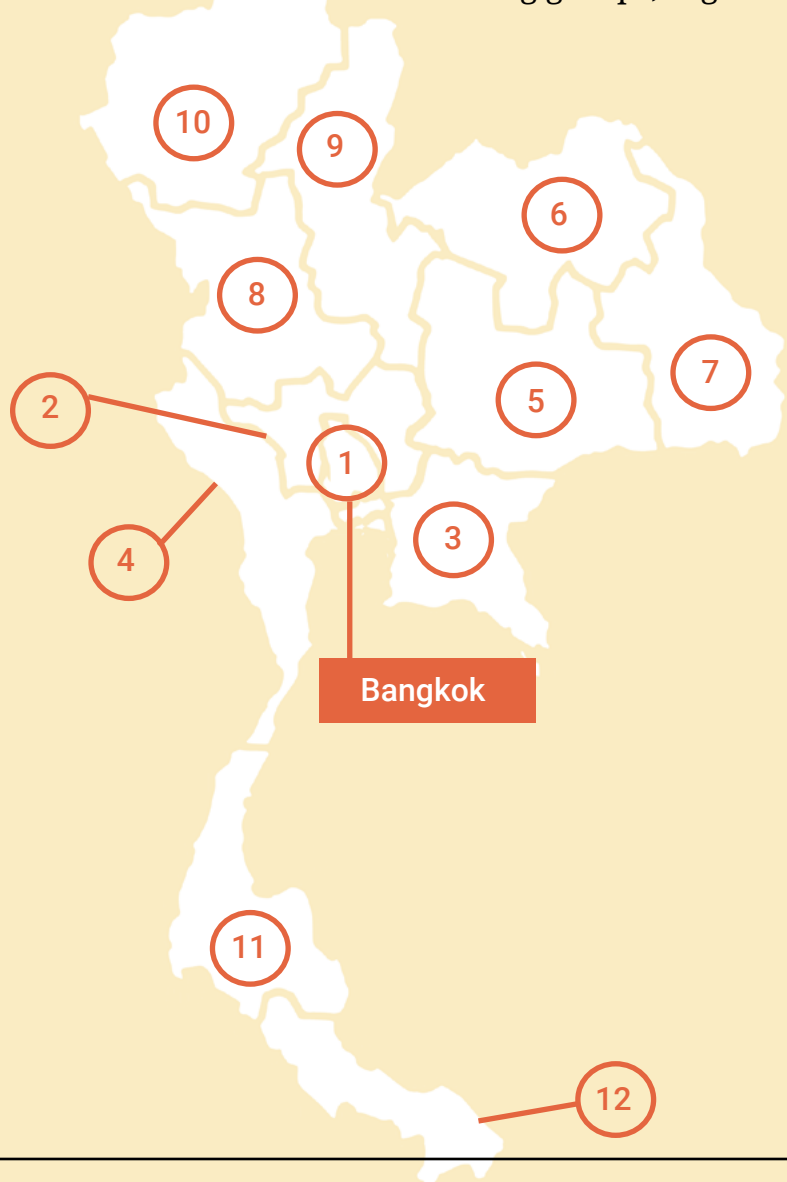
Thailand's health care system comprises a comprehensive network of health facilities that together ensure consistent quality of care. For instance, nearly 99 percent of all Thai women deliver their babies in hospitals and receive standardized maternal and antenatal healthcare. Even in distant and poorer areas, where access to such facilities might be difficult (such as in Northern Thailand where many live

in the highland mountains), access to transportation is relatively available.

In addition to health infrastructure, Thailand's health system features a standardized and well-connected health care workforce. Key health workers (e.g., administrators, doctors, nurses, counsellors) are organized strategically across the health system to ensure consistent quality of care, reaching populations in remote regions.

One example of this is the use of "clusters" or working groups, organized

Healthcare is delivered through the 12 Thai administrative regions spanning 76 provinces across the country.



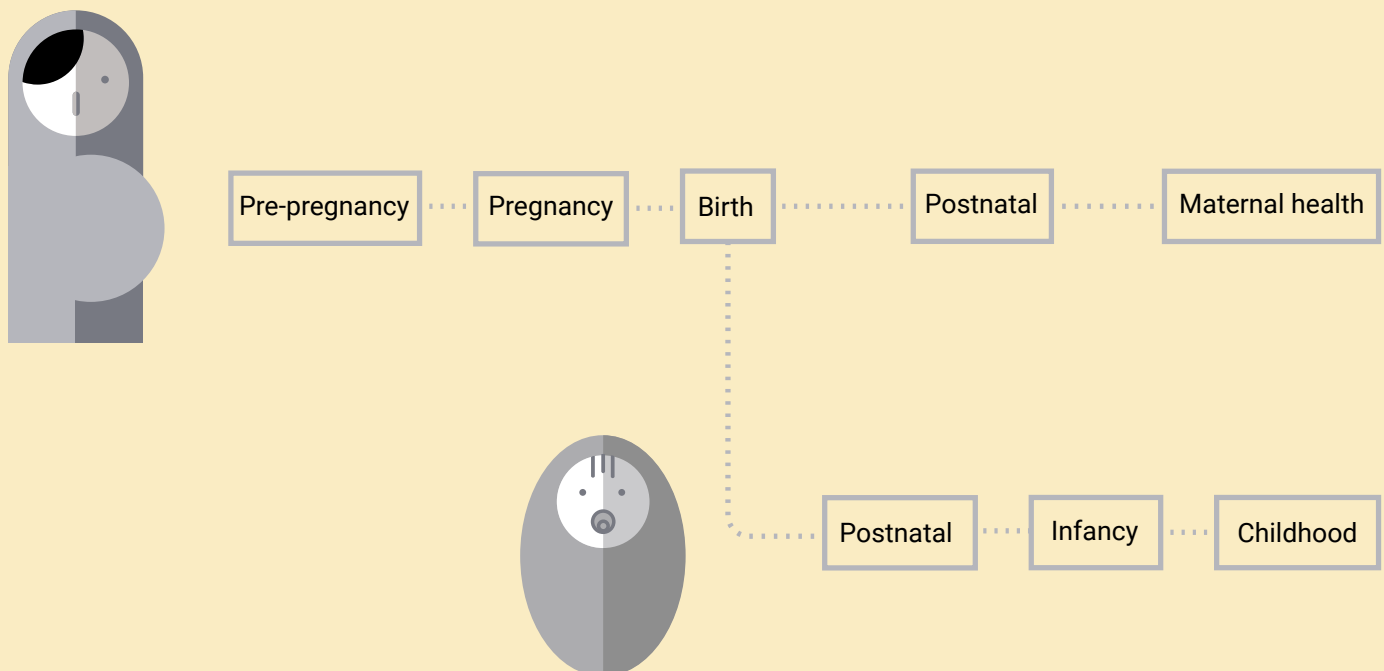
across health promotion centers in the 12 Thai regions. Each cluster has a specific focus, such as a particular population group or health issue (e.g., adolescent health, maternal child). Leaders of these clusters come together when new policies are rolled out to optimize and promote standardized practices specific to an area of practice, such as HIV counselling curriculum. Through networks such as these, with healthcare leaders in regular communication and training, health policies are consistently translated into practice and delivered across the Thai provinces.

Public health policies and agencies

Thailand outlines health policies and guidelines to create a pathway of standardized healthcare service

delivery. For the prevention of mother-to-child transmission (PMTCT), for instance, women access antenatal care at the district hospital and receive HIV testing and counselling, antiretroviral therapy, infant formula provision, and early infant diagnosis. These components of PMTCT policy are translated into practice through the vertical delivery of curricula and enforced through government agencies that retain oversight over service delivery.

Government health policies, including those that ensure certain specific maternal and child health (MCH) services, are provided only at district hospitals to reinforce a consistent quality of care. For example, HIV testing and counselling (HTC) is technically voluntary, yet providers employ an



Crucial time periods in the maternal and child health continuum of care.

The role of the Centers for Disease Control and Prevention (CDC) Thailand office in prevention of mother-to-child transmission

The involvement of the United States CDC Thailand Office in the prevention of mother-to-child transmission (PMTCT) policy and programming cannot be understated.

In 2000, the US CDC office in Thailand supported the Ministry of Public Health (MOPH) in scaling up PMTCT initiatives across the country. This included curriculum development, training and coaching, and monitoring. As described in Section 4, the collaboration between the US CDC and the MOPH has been fruitful for monitoring and evaluation systems, including the Active Case Management Network. The US CDC has also provided technical assistance for implementation and development in other areas: couples HIV counselling and testing training curricula and pilot programs and preparation for the elimination of MTCT validation process.

opt-out policy to encourage high uptake rates. Furthermore, government regulations mandate that only licensed medical technologists carry out HIV testing in district hospitals.

Relevant government agencies hold periodic meetings at multiple levels in the healthcare system to ensure services function efficiently across multiple regions. The Department of Disease Control, for instance, communicates regularly with community health centers and district hospitals. For mother-to-child transmission, the Maternal and Child Health Board (MCHB) is active at every level of the healthcare system.

The MCHB is made-up of health professionals and annually reviews antenatal care standards to ensure up-to-date and consistent health policies. Another example of standardization is the Office of Health Accreditation Institute. This Institute operates the hospital accreditation system to ensure specific Key Performance Indicators are being met and reported on for maternal and child health and antenatal care objectives.

When new policies come into place, government agencies send out new curricula and manuals about standards of care. Additionally, they train personnel in hospitals about capacity building in their facilities. For example, Thailand is currently developing an interactive video to train healthcare personnel about understanding and addressing stigma and discrimination against HIV/AIDS patients.

International and non-governmental actors

In addition to the Thai government, international and non-governmental organizations (namely, the United States CDC Thailand office, UNICEF, UNFPA, and the Program for HIV Prevention and Treatment Thailand) are instrumental in the development and uptake of PMTCT policies and practices. For instance, the WHO provided voluntary counselling and testing (VCT) national guidelines and the plan for an HIV “Test-Treat-Retain cascade”.

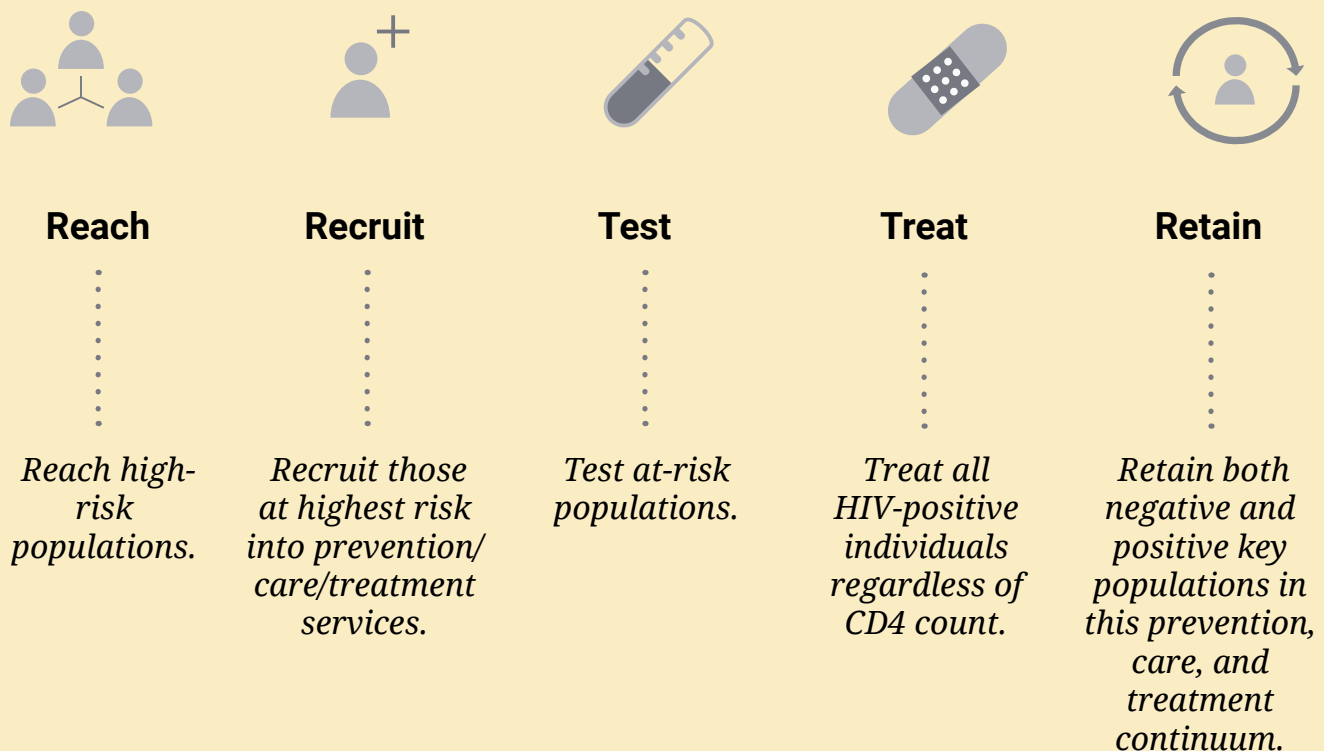
The Test-Treat-Retain cascade is a model continuum of care for HIV-positive people, used by healthcare providers to suppress viral infection and prevent vertical transmission. Thailand has adapted this model into

its own continuum, known as “Reach-Recruit-Test-Treat-Retain” (RRTTR), which applies to both HIV/AIDS and Tuberculosis.

The RRTTR approach has been applied successfully to standardize HIV diagnosis and treatment services in Thailand.

UNICEF, along with UNAIDS and the WHO, formed a regional task force in 2000 to provide technical and capacity-building support for the delivery and implementation guidelines of the prevention of mother-to-child transmission program.

This UNICEF-sponsored “Prevention of



The HIV Test-Treat-Retain continuum of care model.



In the case of the Phrao District hospital, the pharmacy retains donated antiretrovirals alongside the official supply of HIV/AIDS medications.

Parent-to-Child Transmission of HIV Task Force” standardized program trains government personnel in preparation for the elimination of mother-to-child transmission (eMTCT). In 2014, the WHO finalized guidelines about eMTCT validation.

These guidelines informed Thailand’s validation process of eMTCT in collaboration with UNICEF.

Adaptation: localizing the prevention of mother-to-child transmission

Not only is the Thai healthcare system standardized across multiple levels of healthcare provision, it has also proven to be adaptable to local situations. This is important in a country with

many regional differences. 30 of the 76 provinces account for 75 percent of the total HIV burden. Adaptation in the delivery of care is most notable on the frontlines, where healthcare personnel tailor healthcare delivery to meet local challenges.

Antiretroviral delivery mechanisms illustrate many of the ways in which health workers take into consideration patients’ local context. For instance, women who live in Northern Thailand may face barriers in accessing the district hospital, which can be too far to travel for their monthly antiretroviral (ARV) medication.

Women may also experience HIV/AIDS stigma and don’t want to risk disclosing

their status to their community by regularly going to the hospital. In such cases, pharmacists at district hospitals will administer ARV medication differently, on a case-by-case basis. Instead of providing medication for one month, they might administer a two-month dosage of ARVs so that the patient doesn't have to travel to the hospital as frequently. Some hospitals in Thailand provide ARV in three- to four-month dosages.

HIV testing and counselling (HTC) also presents unique challenges due to stigma and discrimination and can vary in severity depending on the region. In Northern Thailand, for instance, several highlander families traverse

the mountainous landscape to reach their district hospitals. Cultural norms and gender dynamics can differ among hill tribes, where men are the decision-makers and women may require permission from their husbands to get HIV testing. In the Northern district hospital of Phrao, nurses use culturally sensitive techniques to educate husbands and encourage them to allow their partners to come to the hospital for care and couples HTC.

Peer educators – personnel who use their own experiences with HIV/AIDS to support HIV-positive patients – are integral to ensuring the healthcare system is adaptable and responsive to local needs. Peer educators offer support



Blood Test vials at Phrao District Hospital, Chiang Mai.

The role of peer educators in reaching the hardest to reach

In the Northern province of Chiang Mai, Phrao District Hospital employs two peer educators – one male and one female.

These two peer educators support 246 patients in total, of which roughly 30 are migrants and 60 are highlander community members. Peer educators work to ensure these priority populations are not lost to follow-up and have access to treatment despite transportation barriers.

In one instance, the Phrao peer educator had to deliver antiretrovirals by mail to a Malaysian migrant who could only come back for a checkup every six months.

to HIV-positive pregnant women during hospital visits, on the phone, and through home visits. They help to remove or mitigate barriers to ongoing care and treatment. For example, in Northern Thailand, peer educators will mail antiretrovirals.

In addition to frontline personnel who take measures to ensure they are reaching the hardest to reach, other policy measures also help make the healthcare system adaptable. For instance, the Chiang Mai University Research Institute for Health Sciences manages a Community Advisory Board that meets every 3-4 months to discuss how community needs can best inform academic work, including HIV/AIDS research. The community board consists of people living with HIV/AIDS, Buddhist monks, Christian priests, and healthcare staff.

Thailand's Ministry of Interior and the Ministry of Public Health have also trained police officers to become skilled birth attendants who can intervene in cases of emergency, such as responding to women in labor who cannot get to the hospital.

The Pink Handbook

A good example of how both standardization and adaptation contributed to the elimination of mother-to-child transmission in Thailand is the Maternal and Child Health Pink Handbook. Launched in 1985, the Pink Handbook is a colourful and accessible booklet containing important information about maternal and child health. The handbook is distributed to all pregnant mothers during their first antenatal care (ANC) visit. Mothers bring the Pink Handbook to all ANC appointments and

Buddhist monks and community-oriented approaches

Buddhist monks in Northern Thailand were fundamental to community outreach programs during the early years of the HIV/AIDS epidemic.

Monks were closely embedded in village communities. They organized to carry out a variety of supportive activities for People Living with HIV/AIDS: conducting home visits with food and counsel, cooperating with local hospitals, facilitating HIV/AIDS disclosure, and bolstering social norms that combat stigma and discrimination. They also managed hospices and looked after orphaned children and the poor.

The Sangha Metta Project is a long-standing example of this: a group composed of monks and nuns who educate communities about HIV/AIDS and provide “HIV-friendly” temples for holistic approaches to care.

Located in the Muang District of Chiang Mai, the Sangha Metta Project also conducts vocational training, provides milk to orphaned infants, and maintains an alms and medicine bank.

healthcare facilities.

The Pink Handbook is revised every three to five years. The handbook has been translated into the languages of neighbouring countries to address the influx of migrants from countries such as Burma and Cambodia. To supplement the handbook, technical support by telecommunication network companies means that maternal and child health mobile text messages can be sent to expecting mothers. In an effort to make the communication system more adaptable, individualized messages and antiretroviral therapy reminders are being delivered, particularly to high-risk patients, who are otherwise hard to reach.

Summary

Standardization and adaptation work hand-in-hand. To reach the majority of the population, a comprehensive and adequate standard of care must be implemented in the 76 Thai provinces. To reach these hard to reach populations, an understanding of local contexts and circumstances must also be integrated into service delivery approaches.

CHAPTER 6

Civil society: keeping treatment on the agenda

Humanitarian organizations, advocacy groups, professional associations, and patient support groups have played a vital role in bringing about the social and systemic changes that helped Thailand eliminate mother-to-child transmission. Collectively, these groups are referred to as civil society organizations (CSOs). Since the 1980s, CSOs have helped delivering HIV services, connecting people to healthcare, and advocating for patients' rights. They drew

attention to the need for HIV treatment and advocated for policy that emphasized equity and human rights considerations over pure cost-effectiveness. CSOs played vital roles in the legislation of Universal Health Coverage (UHC) under the Universal Coverage Scheme (UCS). They were also key in expanding access to treatment.

Patient support groups' contribution to eliminating MTCT

Patient support groups played a valuable role in extending the reach of the Thai healthcare system by helping connect patients to services.

Activist professionals leveraged their networks and connections to find allies within the Thai government. By effectively mobilizing within and outside formal channels, these activists helped secure formal space for civil society involvement in health policy development.

In addition, global trends at that time favored local CSOs' positions on HIV treatment access. International NGOs, agencies, and foundations all helped provide resources for the local movement and create external pressure for the Thai government to support HIV treatment access. From above and from below, the pressure to reach vulnerable HIV patients helped drive the push for elimination of mother-to-child transmission.

From the 1990s to early 2000s, Thailand's Ministry of Public Health (MOPH) increased HIV prevention efforts and began expanding access to antiretroviral therapy.

In 1994, the MOPH asked the World Health Organization (WHO) to report on the effectiveness and affordability of different HIV/AIDS treatment policies. Based on the projected prevalence of HIV/AIDS in the Thai population, the WHO concluded that using zidovudine (AZT) prophylaxis to reduce mother-to-child transmission (MTCT) was more cost-effective than using limited and expensive drugs for other therapeutic purposes. This same report suggested that the financial costs of providing universal free access to antiretrovirals (ARVs) would be prohibitively high. Conversely, MTCT prevention with zidovudine would only use 16 percent of the budget allocated to addressing HIV.

Instead of tailoring the budget to the policy, the policy was tailored to the budget, with equity taking the backseat as a policy driver.

Activist professionals

The government's position to prioritize cost-effectiveness changed over time with the help of progressive Thai physicians and bureaucrats - many of whom had been student activists during the pro-democracy movement in the 1970s. Involvement in student protests and movements equipped many young professionals with activism experience, a network of other activists, and a strong commitment to welfare and health as citizens' rights.

Thai doctors complete three years of service

The Thai constitution of 1997

Another factor that helped empower civil society organizations (CSOs) was the Thai Constitution of 1997, which emphasized participatory democracy and accountability of the government to its people.

The constitution also created more opportunities for CSOs to actively participate in government decision-making. This encouraged those running for office to take more nationally popular positions.

The Thai Rak Thai (TRT) party championed Universal Health Coverage (UHC) during its campaign for the 2001 elections. Led by Thaksin Shinawatra, the TRT used existing activist networks to connect with reformist bureaucrats who had policy experience and a strong vision for an ambitious, yet feasible, UHC. The campaign, boosted by civil society organizations supporting Universal Health Coverage, garnered widespread support across the country.

in a hospital chosen by the Ministry of Public Health (MOPH). This is a requirement for all medical students after graduation. Many of these young doctors were placed in remote or rural areas for their service, which prompted them to form support networks, such as the Rural Doctor's Society (RDS). These professional associations served as networks that kept young doctors connected to each other and what they witnessed in rural and remote areas. Many of these doctors went on to work at the MOPH and brought their experiences with them. In this way, a bridge between government agencies and civil society organizations was partially built from peer relationships.

Politics and universal coverage

The Thai Rak Thai Party, led by Thaksin Shinawatra, won the January 2001 elections on a platform supporting Universal Health Coverage (UHC). The national rollout of UHC, under the Universal Coverage Scheme (UCS), began in October 2001, after pilot versions of the scheme proved to be successful. As the government implemented the plan, civil society organizations (CSOs) were busy maintaining public interest about the program and supporting the legislation of UHC into Thai law. Draft bills incorporated the views and perspectives of groups like the Rural Doctors' Society (RDS) and reflected the policy experience of Ministry of Public Health bureaucrats with activist backgrounds.

Among the suggestions forwarded by CSOs were: the elimination of all co-payments for completely free coverage; the creation of separate entities to make purchasing and health care implementation decisions; and

Including antiretroviral therapy in the Universal Coverage Scheme

The Thai Government Pharmaceutical Organization (GPO) began producing its own antiretroviral drugs domestically in October of 2001.

By November of the same year, civil society organizations (CSOs) sent an open letter to the government suggesting that antiretroviral therapy should be included in the Universal Coverage Scheme (UCS). CSOs then mobilized around World AIDS Day activities in Bangkok to listen to the government's reply.

The government met with CSOs and resolved to ensure access to treatment for everyone who needed it. Treatment was rolled out gradually, with 6,500 patients receiving antiretroviral therapy (ART) in 2002. This number increased to 50,000 in 2004. Treatment was paid for through a special funding pool at the Ministry of Public Health until ART was finally included in UCS benefits package.

the establishment of formal channels for CSO representation on decision-making boards. These suggestions, among others, were put forward in a draft bill circulated by NGOs with grassroots ties, quickly gathering the 50,000 signatures required for the bill to be presented to parliament. That bill, while not passed in its original form, became a launching point for the National Health Security Act (NHSA) that was passed in 2002 and legislated UHC under the Universal Coverage Scheme.

Civil society organizations push for access to treatment

Drugs for antiretroviral therapy (ART) were not covered under the initial Universal Coverage Scheme benefits package. They were added in 2005. Civil society organizations played an important role in this change. They argued that ART is cost-effective when generic drugs are made available and that many costs associated with providing antiretrovirals may be recuperated as treated patients avoid costly complications and opportunistic infections. Groups of people living with HIV/AIDS (PLWHA) unified under the Thai Network of Positive People (TNP+) to campaign for treatment access until it was granted. TNP+ and other NGOs formed a Buyers' Club to provide necessary medication to patients, while local PLWHA support groups helped ensure these medicines reached those patients. In this way, civil society organizations formed a stopgap branch of the formal healthcare system and provided treatment access until ART was officially added to the Universal Coverage Scheme (UCS).

This campaign did not begin with the arrival of the UCS. TNP+ was established in 1998 as a network of several existing patient-led support groups and their advocates. While TNP+ was formed from local groups, treatment access in Thailand found many global allies throughout the campaign, including NGOs like Médecins Sans Frontières/Doctors Without Borders (MSF) and ACCESS; the Global Fund to End AIDS, TB, and Malaria (The Global Fund); and UN agencies like UNAIDS.

While NGOs provided on-the-ground assistance with demonstrations and funding for infrastructure development, the Global Fund helped provide financial support to create a formal role

for PLWHA groups in the health system.

Some of the most newsworthy activism surrounded the legal and political battles for the licensing and manufacturing of generic drugs. The Thai Lawyers Association, individual scientists, and researchers from the Thai Government Pharmaceutical Organization (GPO) supported the campaign, with international NGOs and Thai lawyers joining forces to support PLWHA legal actions to relax intellectual property related restrictions on generic manufacture of drugs.

These types of actions helped reduce the costs of antiretroviral therapy by allowing for domestic production.



Educational posters on HIV at the Raks Thai Foundation Office in Chiang Mai.

Demonstrations, protests, and open letters helped keep treatment access on the government agenda.

Civil society organizations as healthcare service allies

In addition to creating protests and applying pressure on the government, civil society organizations (CSOs) also benefit from government assistance and have proven to be helpful healthcare partners. The National Health Security Office (NHSO) and the Thai Royal Family provides funding to a variety of CSO initiatives related to HIV. This includes staffing and funding support for programs like patient peer support groups and other NGO-run activities in hospitals. CSOs like the Raks Thai Foundation and TNP+ help run peer educator and support groups for people living with HIV/AIDS. Representatives from the broad-reaching Thai NGO Coalition on AIDS also meet with hospital officials and the Ministry of Public Health on a regular basis to ensure that funding for these programs remains a priority.

Summary

Civil society organizations play an important role in delivering HIV services and in acting as advocates pushing for the realization of HIV patients' rights.

In leveraging existing networks and making use of both domestic and global resources, civil society organizations helped to keep HIV treatment access on the Thai government healthcare agenda. They also made the case that providing treatment would be feasible and desirable. This was achieved through campaigns, involvement in court cases, mass mobilization activities, and peer-to-peer or professional networks.

Civil society actors supported elimination of mother-to-child transmission by offering a vision for a more inclusive healthcare system, pushing for necessary changes, and holding decision-makers accountable for keeping this inclusive vision on the agenda.

CHAPTER 7

Getting to zero

Thailand has made incredible progress in eliminating mother-to-child transmission (MTCT). Despite meeting the WHO's definition of "elimination" of MTCT, there are still cases – about 1.9 percent of them – in which mother-to-child transmission of HIV has not been prevented. While in Thailand, we repeatedly heard that precision is needed in order to reach the last 1.9 percent of cases – to get to zero. This precision requires identifying and describing the remaining 1.9 percent and taking targeted action to remove existing final barriers and bridge the last gaps.

Who are the remaining 1.9 percent of cases? What are the challenges to reaching zero?

Many population groups face barriers to entry into the formal healthcare system, including migrants working in the informal sector and ethnic minorities living in remote areas. Young people and men are also identified as a group in need of targeted health promotion. Additionally - and despite the improvement Thailand has seen over the last decade - early infant diagnosis (EID) remains an important gap that needs to be addressed in working towards complete elimination.

Migrants

Migrants in Thailand travel from the neighbouring countries of Myanmar, Cambodia, and Laos. Some are legally registered, while many are undocumented.

Compared with Thai citizens, migrants face unique barriers to accessing the healthcare system, including language, fear of arrest and deportation, denial of access due to migrant status and lack of transportation to healthcare facilities.

The primary challenge that migrants face, however, is a lack of coverage under the Universal Coverage Scheme. Migrants who register with the Thai

government must purchase a 1300 Thai Baht (roughly US\$40) “Migrant Insurance Card.” This card allows migrants to access some basic healthcare services. For instance, Thai government policy provides free antiretroviral treatment for HIV positive pregnant women, regardless of citizenship status, for those with a migrant insurance card.

It is unclear whether this is enforced uniformly in each region of Thailand. Anecdotal evidence suggests that access for migrants is limited. Outside of government programs, migrants can access care through civil society organizations and charitable clinics. However, access is quite limited.



Reach Project students interviewing a nurse councillor in Chiang Mai.

Prevention of mother-to-child transmission data on migrants and highlanders

Only hospital births are counted in the mother-to-child transmission (MTCT) rate. As 100 percent of Thai births are in hospital, the rate is representative of the country's MTCT rates.

However, experts have suggested that non-Thai rates of hospital birth (including migrant and highlander) are much lower. This may mean that highlanders and migrants are not included in many statistics and may have a higher MTCT rate than Thai citizens.

Ethnic minorities

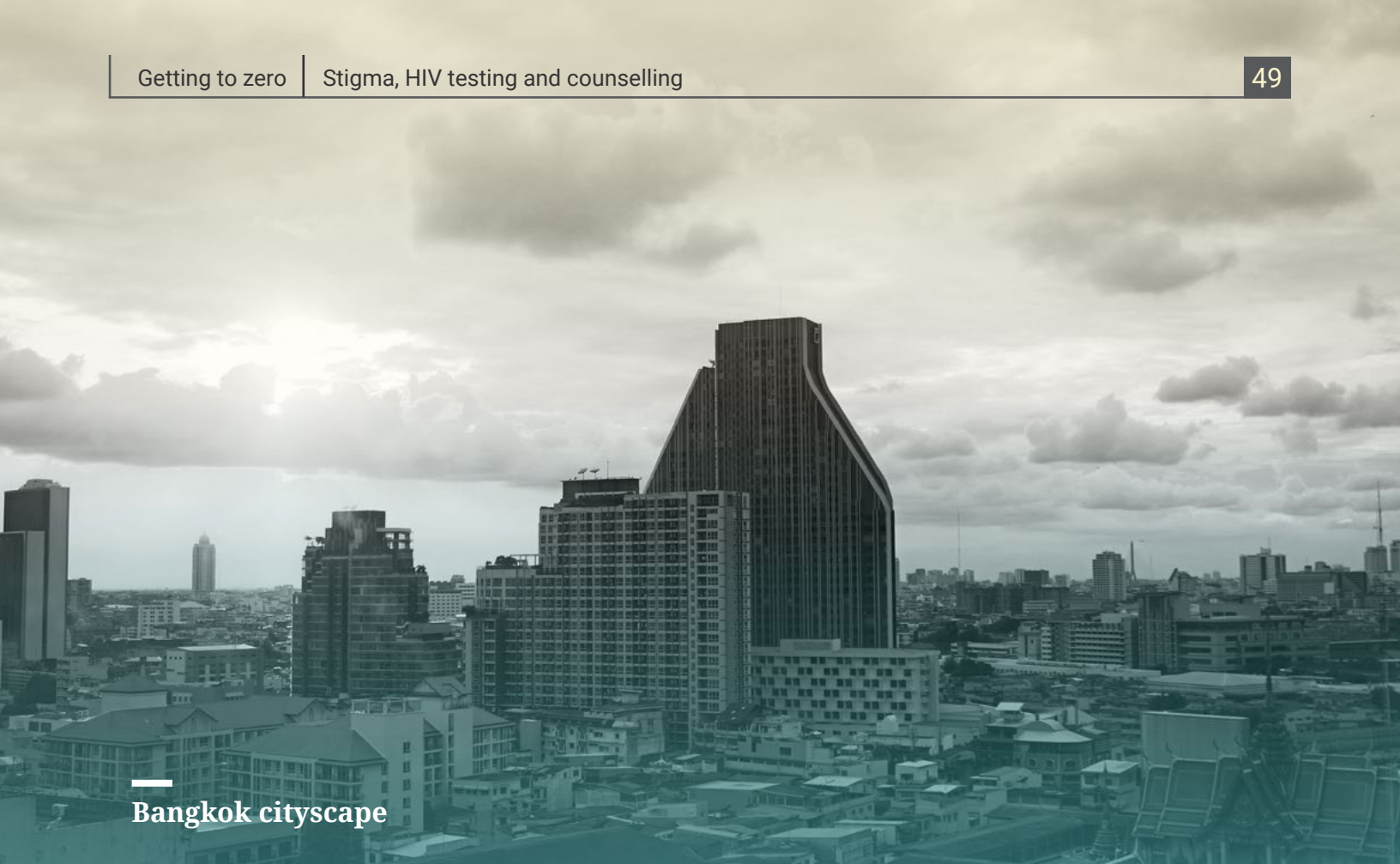
The highlanders (also called hill tribes) refer to a group of distinct ethnic minorities living throughout Laos, Myanmar, Thailand, and Vietnam. In Thailand, there are an estimated 1 million highlander people. They are marginalized, both economically and socially. Some are Thai citizens or permanent residents, while many are stateless. Statelessness impacts minorities' access to healthcare under the Universal Coverage Scheme. Highlanders face additional barriers to accessing care, such as language, discrimination and prejudice and geographic remoteness.

Policymakers and healthcare workers frequently describe HIV care for highlanders on a case-by-case basis, and NGOs play a large role in providing services not covered by the government. Existing data suggests a high HIV prevalence rate and little access to health services among the highlanders, although reliable data collection on highlanders in itself is a challenge.

HIV-positive youth

UNICEF has identified teenagers and youth as key populations requiring expanded research and data collection, as well as targeted service delivery. Thailand has a high teen pregnancy rate, which can be a barrier to prevention of mother-to-child transmission due to stigma, discrimination and a lack of knowledge about HIV and safer sex practices.

Thailand recognizes that teenagers might be reluctant to speak with their parents or guardians about HIV testing or safe sex.



Bangkok cityscape

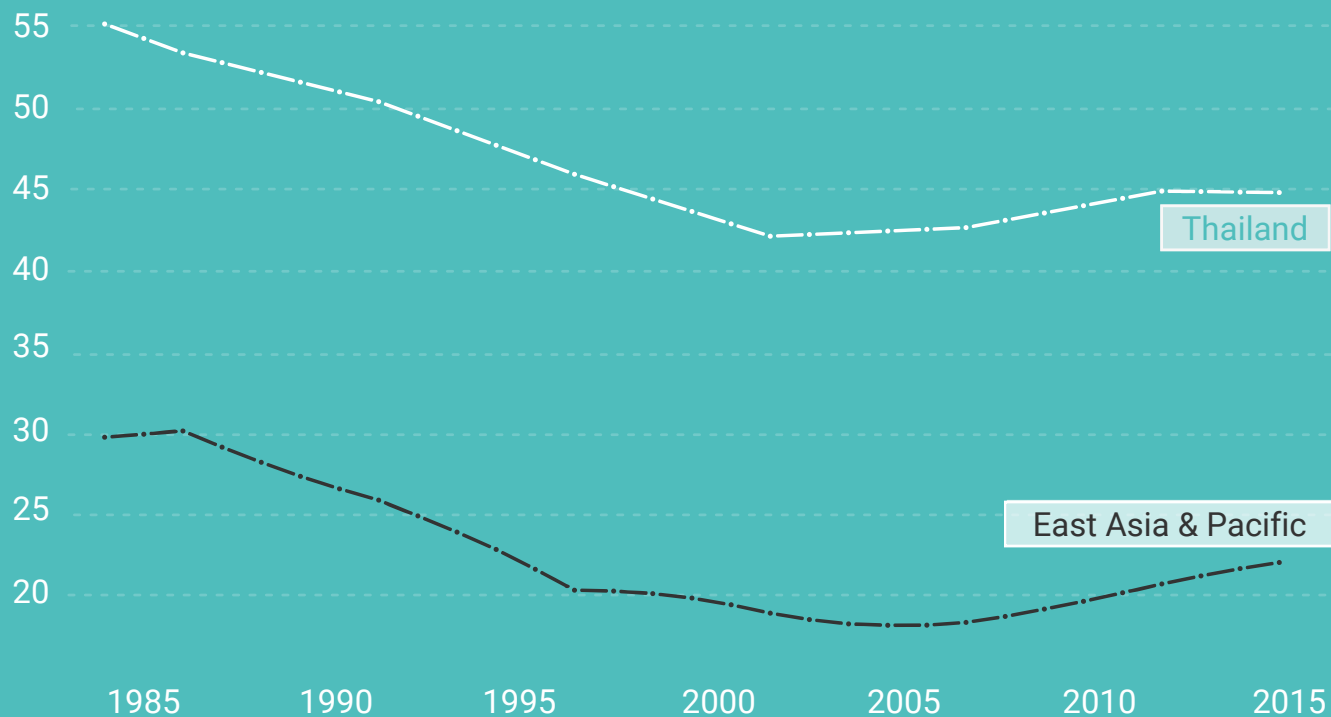
Because of this, the Thai government has made efforts to reach out to young people directly with HIV services. For example, the Thai government decided in 2012 to allow teens under the age of 18 to be tested for HIV without parental permission. Previously, underage teens needed parental consent for HIV testing. Although these efforts are a step in the right direction, teen pregnancy rates remain high and many young people continue to fall through the cracks of HIV services.

Stigma, HIV testing and counselling

National education campaigns from the 1990s onwards, in addition to ongoing routine counselling practices, have raised awareness of HIV and

normalized HIV testing in Thailand. Despite this, stigma remains a challenge. Societal stigma and self-stigma are important issues that negatively impact the prevention of mother-to-child transmission.

Research shows that stigma negatively affects individuals' motivation to seek antenatal care, disclose their HIV status to their partners, or access and adhere to treatment. While the role of peer educators in addressing self-stigma is highlighted in this report, gaps remain in terms of public education and awareness activities, which continue to influence the norms and attitudes of the general public.



Adolescent Fertility Rate: births per 1,000 women aged 15-19, Thailand versus East Asia and Pacific

Source: World Bank

Stigma, discrimination, and prejudice also influence the involvement of men in antenatal care (ANC) and HIV testing and counselling. Couples HIV testing and counselling (CHTC) is important to prevention of mother-to-child transmission because it reduces the risk of seroconversion during pregnancy or the postnatal period.

Furthermore, integration of CHTC in antenatal settings with other maternal and child health programs is expected to reduce stigma and increase the likelihood of disclosure. However,

the rate of couples' HIV testing and counselling in Thailand is overall low, though with high variability from region to region. CHTC in Thailand is impacted by many factors including prevailing social norms that discourage male participation in ANC. The Ministry of Public Health has identified couples' HIV testing and counselling as an area for improvement to push mother-to-child transmission below one percent by 2030.

This system was implemented under the dedicated leadership of a key team of doctors, nurses, and healthcare workers.

Innovation in couples HIV testing at Bangkok's Taksin Hospital

Couples HIV testing and counselling (CHTC) is a recognized gap in Thailand for the achievement of zero percent MTCT.

The Taksin Hospital in Bangkok has developed an innovative approach to improve CHTC and male participation in antenatal care.

In 2013, Taksin Hospital implemented an integrated couples counselling system that has seen great success – currently, Taksin Hospital has a mother-to child transmission rate of zero.

The system was designed around accessibility of testing for both women and men. HIV testing and counselling (HTC) was integrated across different services in the hospital, such as ultrasound appointments and at birth. These multiple testing points enabled the system to draw men in for testing at key points of care such as the birth of the child, where men were more likely to be present (versus antenatal care appointments).

Early infant diagnosis and postnatal care

Early infant diagnosis (EID) is important for prevention of mother to child transmission (PMTCT). The Universal Coverage Scheme (UCS) covers EID only at the first and second visit. The UCS does not cover EID at birth, or the third and fourth visits. This has been identified as a limitation of current Thai policy. Infants should be tested and diagnosed at birth so that immediate antiretroviral (ARV) treatments can be provided, decreasing the viral reservoir and improving prevention of mother-to-child transmission.

Although EID and postnatal care remain a challenge, Thailand has made great strides in the past several years. In 2011, the average EID coverage rate was 76 percent. This rate has now increased to 94 percent. The improvement of EID in Thailand is the result of tremendous efforts in implementing an Active Case Management system, progressive training of healthcare workers in HTC, and the portability of benefits through the National AIDS Program (NAP).

Summary

As Thailand works towards getting to zero percent mother-to-child transmission, some challenges still need to be addressed and gaps need to be bridged. Migrants, ethnic minorities, young people, men, and infants continue to fall through the cracks of Thailand's health care system. Although Thailand has made remarkable progress in prevention of mother-to-child transmission, getting to zero is a challenge for the future that will require further precision, resources and innovation.

CHAPTER 8

Lessons learned

A generation ago, Thailand was in the midst of an HIV/AIDS epidemic. Between 1988 and 1992, the incidence rate of HIV exploded from about 13,000 reported cases to over 600,000. During the mid-2000s, HIV prevalence among women increased rapidly. Nearly half (40 percent) of new HIV infections were reported to be among women. Mother-to-child transmission (MTCT) of HIV, or vertical transmission, grew as a consequence. At its worst, the MTCT rate in Thailand was over 20 percent.

However, between 2000 and 2015, the mother-to-child transmission rate was reduced from 1,000 infected

children per year to just 85 new infections annually. The infection rate among women dropped by 87 percent. The MTCT rate also decreased by more than 90 percent. By 2015, the MTCT rate in Thailand was just 1.9 percent, which according to the World Health Organization's (WHO) definitions, was tantamount to the elimination of mother-to-child transmission of HIV. Dr. Margaret Chan, former Director-General of the WHO noted that this "is a tremendous achievement."

This report highlights several factors that have together contributed to Thailand's remarkable success in eliminating mother-to-child transmission of HIV. These factors include antenatal care delivery, access to antiretroviral therapies, effective monitoring and surveillance, standardized and adaptive healthcare delivery, and the role of civil society organizations in advocating for patients' right and delivering health services. Together these factors ensured that government efforts to reduce MTCT not only impacted the general Thai population but also reached those who are otherwise difficult to reach.

Three general lessons can be learned from the Thai experience:

First, reducing mother-to-child transmission and reaching those who are difficult to reach – the poor, geographically distant and marginalized – requires an integrated, decentralized health delivery system. Thailand has built a progressively more inclusive and universal health system from the sub-district level to the national center. Village health volunteers, peer educators, and community health workers operate on the frontlines, ensuring pregnant women enter into the health system and receive the information and care they require.

Antenatal care in Thailand is essentially universal in its reach. HIV testing and counselling among pregnant women have also become universal. Nearly 100

percent of deliveries occur in a health facility.

Thailand's success depends on a comprehensive and integrated health delivery system rather than a fragmented one.

Second, Thailand's success in reducing mother-to-child transmission (MTCT) highlights the importance of not only comprehensive monitoring, evaluation, and surveillance, but also precise monitoring, evaluation, and surveillance.

It is not enough to provide access to antenatal care, HIV testing and counselling, and medicines. Precise monitoring and surveillance are needed to ensure that interventions are reaching those in need and that the interventions are effective in addressing MTCT.

Precision becomes even more important as Thailand now seeks to completely eliminate MTCT. As this report highlights, health officials are aware – down to the individual level – of specific cases and where treatment is needed. To eliminate mother-to-child transmission of HIV we need precision to find, identify, and care for those who are otherwise hardest to reach.

And third, prevention of mother-to-child transmission in Thailand reflects extraordinary political will.

In many contexts, reaching the hardest

to reach can be expensive, inefficient and politically unpopular. Yet, in Thailand we see the government taking extraordinary steps to ensure all citizens have access to health services under the Universal Coverage Scheme. As detailed in this report, the government, with intense pressure from civil society, issued compulsory licenses to allow domestic manufacturing of generic

antiretroviral medicines - a move that was initially opposed by the global (and American) pharmaceutical industry. In other words, reaching the hard to reach requires public and political will-to action among government and non-governmental actors.

OUR TEAM



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Simran Dhunna received her Honours B.Sc. in Molecular Genetics/Microbiology and Ecology/Evolutionary Biology at the University of Toronto. In the past, Simran has conducted qualitative research on social service responsiveness to young Maori mothers who have experienced Intimate Partner Violence in Aotearoa, New Zealand. Currently, she is the lead administrative assistant at U of T's Post-Graduate Medical Education Global Health Education Initiative (GHEI) program, and a research assistant on a Transgender Immigrant Health project at the Dalla Lana School of Public Health. She is interested in sexual health and reproductive justice, socioeconomic inequities, and health systems strengthening.



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Joy Dawkins received her Master of Public Health (MPH) in Social and Behavioural Health Sciences at the University of Toronto in 2017, completing Collaborative Programs in both Community Development and Public Health Policy. She most recently worked with the Special Program on Sustainable Development and Health Equity at the Pan American Health Organization. Following her passion for equity and social justice, her career interests are focused on promoting the health and well-being of communities through upstream action that incorporates social, economic, and political dimensions.

The Reach Project

It has been said that development is about delivery: the will and ability to deliver interventions to very poor and vulnerable people in order to help improve their lives. The development “space” is filled with great ideas and innovative solutions, from technological interventions to new policy initiatives. But the effects of these potentially game-changing ideas are severely mitigated if they do not actually get to the people they are intended to benefit. We think of this challenge in terms of “reach.” Solutions can only solve problems if they reach those who need them most.

The Reach Project focuses on the delivery of development interventions to those who need them most and who are hardest to reach. We are a research initiative supported by a partnership between the Munk School of Global Affairs at the University of Toronto and the Mastercard Center for Inclusive Growth. The Reach Project is led by Professor Joseph Wong, along with other faculty members from various disciplines at the University. The Reach Project team is composed of researchers from across the University of Toronto. Together, we examine the delivery of social services to those who are hardest to reach in countries around the world.

The Munk School of Global Affairs

The Munk School of Global Affairs at the University of Toronto unites people who are passionate to address the problems of a fast-changing world. Our aspiration

is to create a unique, world-leading centre of teaching, research and public engagement that builds the new field of global affairs from Canada. We are the home of students from all over the globe, world-renowned researchers, and more than 40 academic centres, labs and programs. From cyber-security and innovation policy to those seeking justice in a world of conflict, urban development and sustainability, the Munk School is projecting Canada’s voice onto the world stage and expanding the boundaries of global affairs.

The Mastercard Center for Inclusive Growth

The Mastercard Center for Inclusive Growth advances sustainable and equitable economic growth and financial inclusion around the world. Established as an independent subsidiary in 2014, we leverage the company’s core assets to drive action on inclusive growth through: research and insights, data philanthropy, global programs and knowledge-sharing. Through our partnership with the Reach Project and the Munk School of Global Affairs, the Center is committed to advancing actionable insights on programs and policies that successfully reach hard to reach low-income populations to help drive inclusive growth in developing countries.

The Reach Project



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