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Thailand's Response to AIDS

“Building on Success, Confronting the Future”

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Acronyms

AFRIMS	Armed Forces Research Institute of Medical Sciences
AIDS	acquired immune deficiency syndrome
ART	anti-retroviral therapy
ARV	anti-retroviral drugs
AZT	zidovudine, an anti-retroviral drug
CDC	Communicable Disease Control Department, Ministry of Public Health
CBO	community-based organization
DOTS	directly-observed therapy, short-course (for TB)
HAART	highly-active anti-retroviral therapy
HIV	human immunodeficiency virus
IDU	injecting drug user
MDR-TB	multi-drug resistant tuberculosis
MOPH	Ministry of Public Health
MSM	men who have sex with men
MSW	male sex workers
MTCT	mother to child transmission of HIV/AIDS
NEP	needle exchange program
NESDB	National Economic and Social Development Board
NGO	non-governmental organization
OPM	Office of the Prime Minister
PHA	people living with HIV/AIDS
RTA	Royal Thai Army
RTG	Royal Thai Government
SIP	Social Investment Project
STD	sexually transmitted disease
TB	tuberculosis
UNAIDS	Joint United Nations Program on HIV/AIDS
UNDCP	United Nations Drug Control Program
VCT	voluntary counseling and testing (for HIV)
WHO	World Health Organization

Exchange rate (baht/\$US):

1995	24.92
1996	25.34
1997	31.37
1998	41.37
1999	37.84

Preface

There are very few developing countries in the world where public policy has been effective in preventing the spread of HIV/AIDS on a national scale. Thailand—where a massive program to control HIV has reduced visits to commercial sex workers by half, raised condom usage, curtailed STDs dramatically, and achieved substantial reductions in new HIV infections—is an exception.

This issue of the Social Monitor considers two important questions arising from Thailand's remarkable achievements in controlling HIV/AIDS. First, what are the lessons of this experience for countries in East Asia and the rest of the world? Half of the population of developing countries lives in areas where HIV is not yet widespread. Does Thailand offer lessons that can help these countries avoid catastrophe? The second question looks to the future: what are the new strategic priorities to control the spread of HIV/AIDS in Thailand's changing social and epidemiological environment?

Thailand's signal achievement of reducing the number of new HIV infections over the past decade must be seen in the context of the still enormous impact of this epidemic. Nearly 1 million Thais have been infected with HIV since the beginning of the epidemic, and 289,000 have already died of AIDS. Nearly 700,000 are currently living with HIV/AIDS out of a total population of 61 million, due to the past high infection rates and the long incubation period of HIV. As the epidemic matures, an increasing share of those who are HIV-positive will require medical care, and some households will be pushed into poverty. Thus, as we learn about Thailand's past success, we must also consider priorities for the future, given the large number of people infected and the continued spread of HIV.

This report was commissioned by the World Bank Office in Bangkok as an outgrowth of our participation in the United Nations Thematic Working Group on HIV/AIDS in Thailand. The report is the work of a team of analysts which visited Thailand in June 2000 to consult with government officials, international agencies, non-governmental organizations, and research institutes about their perspectives on the Thai HIV/AIDS control program. The report team consisted of Martha Ainsworth, Ph.D., Senior Economist in the Policy Research Department of the World Bank; Chris Beyrer, M.D., MPH, School of Public Health at Johns Hopkins University; and Agnes Soucat, M.D., Ph.D., Senior Economist for the Africa Region of the World Bank. This report summarizes the results of the consultations and the recommendations of the mission team.

The report concludes that Thailand's efforts to slow the AIDS epidemic have shown the potential impact such programs could have worldwide. However, unless past efforts are sustained and new sources of infection are addressed, the striking achievements made in controlling this epidemic could be put at risk. The report identifies several cost-effective investments that would have a large impact on the future course of the epidemic. The report also recommends that the growing demand for treatment and care be addressed urgently with cost-effective, equitable, and affordable solutions. It is also essential that the Government maintain and expand its focus on prevention if future generations are to be spared the threat of HIV/AIDS.

In preparing this report, the team has had access to a vast body of empirical evidence on the AIDS epidemic in Thailand and has heard from many dedicated Thai and international professionals on how this public health menace can best be controlled. With the stakes so high, and with the suffering of people with AIDS so tragic and compelling, there is no shortage of passionate argument on the complex issues surrounding the control of HIV/AIDS. We have

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done our best to reflect these diverse perspectives and to cite the many contributions to our understanding of the HIV/AIDS epidemic in Thailand.

Given the extensive work already available on HIV/AIDS in Thailand, the approach of this report is strategic and focuses on the big picture. The report seeks to identify the areas in which the Thai Government, building on past efforts and using its limited public resources, can have the largest impact in reducing the epidemic and in helping those living with HIV/AIDS. The report is not a comprehensive roadmap for the control of HIV/AIDS in Thailand, nor is it a detailed operational plan for new interventions. Those tasks are the responsibility of the Royal Thai Government, working in partnership with civil society organizations, the private sector, and international agencies. We hope this report provides useful guidance on priorities, knowing that the operational policies and decisions will come from the hard work and detailed knowledge of those battling this epidemic in Thailand day to day.

On behalf of the team, I would like to thank the many people in and out of government who offered their views and insights as well as valuable data to document the issues. In particular, we would like to thank Dr. Anupong Chitwarakorn and Mr. Chawalit Tantinimitkul (AIDS Division, Ministry of Public Health), Ms. Waranya Teokul (NESDB), and Dr. Ying-Ru Lo (WHO) for their extensive assistance with epidemiological and budget data. The staff of UNAIDS, both locally and in Geneva, and the members of the UN Thematic Working Group on HIV/AIDS here in Bangkok have provided invaluable advice and support.

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Chapter I: Introduction and Summary

This report was commissioned by the World Bank Thailand Office in Bangkok to address two issues of interest to both internal and external audiences concerned with the global AIDS epidemic: (1) What are the lessons learned from Thailand's response to the AIDS epidemic for other countries in the region and the world? (2) What are the highest priority activities for improving the effectiveness of the response to AIDS in Thailand? The report team consulted widely with key informants in Thailand (Annex 1) and drew on current literature and their own areas of expertise to answer these questions.

Thailand has demonstrated to the world the enormous scope for slowing an AIDS epidemic fueled by commercial sex, but there are still cost-effective investments that government can make to have a large impact on the epidemic. While demand for treatment must be urgently addressed with cost-effective and equitable solutions, it is essential for government to maintain and expand its focus on prevention if future generations are to be spared the threat of HIV/AIDS.

The Evolution of the AIDS Epidemic in Thailand

AIDS arrived in Thailand by 1984, but the initial policy response was muted. The prevailing view was that this was an epidemic brought from abroad that would be confined to a few individuals in high-risk groups, like gay men and injecting drug users, and would not spread more widely. In 1988-89 that view was challenged. In the first major wave of the epidemic, HIV infection exploded among injecting drug users, rising from almost nil to 40% in a single year. At nearly the same time, a second wave of infection spread among sex workers. In 1989, the first national epidemiological surveillance found that 44% of sex workers in Chiang Mai, in the north, were infected with HIV and 1-5% of

brothel-based sex workers were infected in all but one of the 14 provinces sampled. The rising infection levels among sex workers, which reached 31% nationally by 1994, launched subsequent waves of the epidemic in the male clients of sex workers, their wives and partners, and their children. In 1993, infection rates among 21-year old army conscripts reached 4% nationally.

The National Response

In 1990-91, the government acted decisively, launching a nationwide campaign to reduce HIV transmission. The key elements of the program were a massive public information campaign launched through the media, government, and NGOs and a program to promote universal and consistent condom use in commercial sex. The response was lead by a multi-sectoral National AIDS Prevention and Control Committee, chaired by the Prime Minister, that actively engaged NGOs and civil society. The results were dramatic. Fewer men went to brothels, condom use in brothels rose to more than 90%, the number of consultations at sexually transmitted disease (STD) clinics was reduced by 90%, and infection rates among army conscripts dropped by half in only a few years. The most recent epidemiological model by the Thai Working Group on HIV/AIDS Projections suggests that the annual number of new HIV infections peaked in the early 1990s and has declined by more than 80%. Since 1993, an estimated 200,000 fewer people have been infected with HIV than would otherwise have been. This is an accomplishment that few other countries, if any, have been able to replicate. It is a result both of sound policy and the determination of the Thai people. Thailand's response is widely cited as one of the few examples of an effective national AIDS prevention program anywhere in the world.

Lessons Learned

The Thai experience shows that a national response that mobilized government, the private sector, and NGO partners and that targeted the highest-risk transmission can be effective in reducing the scope of the epidemic, even when action is delayed. The response was able to draw on strong institutions and traditions: an extensive network of STD services; a successful family planning program that had promoted condoms before the AIDS epidemic; a cadre of trained epidemiologists; health infrastructure with qualified staff; a tradition of evidence-based policy decisions; strong civil society with a tradition of volunteerism; and a pre-existing network of national development NGOs. A number of factors contributed to the success that may have broader applicability to other countries in the region: national leadership and political commitment at the highest levels of government; strong epidemiological surveillance that served as a critical tool for generating public awareness and political commitment; effective pilot projects that led policy to the right outcomes; the NGO role in ensuring non-discrimination, respect for human rights and a broad political dialogue on AIDS; the contribution of STD services to raising condom use in commercial sex; and multi-sectoral implementation of AIDS programs at a local level, coupled with multi-sectoral dialogue and consensus-building at the national level.

The Current Status of the AIDS Epidemic in Thailand

Thailand's successful efforts to reduce transmission of HIV by commercial sex have had an enormous impact on the course of the epidemic. Nevertheless, there is no room for complacency. At the turn of the millennium, there is still no cure for AIDS and no preventive vaccine. Despite the success at lowering new infections, HIV managed to gain a foothold in the population before policy was enacted and the

consequences are apparent: Nearly 300,000 people have died of AIDS and 700,000 people are living with HIV/AIDS, the result of past infection rates and the long incubation period of HIV. Models suggest that in 2000, 55,000 people will develop AIDS and roughly the same number will die from it. Nearly 1 million people have been infected with HIV in Thailand since the beginning of the epidemic and this number continues to grow, albeit at a slower rate. The composition of new infections has changed. A decade ago, virtually all infections were among adults and more than 80% were among sex workers and their clients. In contrast, of the estimated 29,000 people will become infected in 2000, 4,000 will be children. About half of new adult infections will be women infected by their husbands or sex partners, a quarter will be due to injecting drug use, and one in five among sex workers and their clients. HIV prevalence is stable or rising among pregnant women in all regions. The prevalence of HIV in high-risk groups like sex workers, though reduced, is still high. Condom use among indirect sex workers low and there is evidence that HIV prevalence is on the rise among sex workers in some parts of the country, particularly in Bangkok. Infection rates among injecting drug users have continued to rise to over 40% nationally. Some of the riskiest behaviors in Thailand have not been addressed and now stand out as major causes of continued HIV transmission.

The Rising Demand for Treatment and Weakening Prevention Response

As those infected in the past fall ill, the demand for treatment is transforming the policy dialogue. The demand for AIDS-related medical care—palliative care, prevention and treatment of opportunistic infections, anti-retroviral therapies, and end of life care—is rising. At the same time, the sustained response on prevention appears to be in jeopardy. Overall public expenditure on the national AIDS program has declined

by 28% since 1997 and the prevention budget has declined by half. Prevention now accounts for only 8% of the national AIDS program budget, at 2 baht per capita (5 US cents).

Strategic Priorities for Improving the Response

The *National Plan for Prevention and Alleviation of HIV/AIDS* sets forth two key objectives—to prevent the spread of HIV in the general public and to reduce the impact of the AIDS epidemic on the population. Success in overcoming the epidemic will require the joint effort of many partners in government, the private sector, and civil society. Each partner brings a comparative advantage in addressing different aspects of the problem. Given the current stage of the epidemic and competing demands from other important development programs, the report team set out to identify the two or three priority activities or objectives for government that would have the largest impact on the epidemic in the whole population if additional resources were made available. These priorities are based on extensive consultation with key informants in Thailand as well as the team's own expertise. This short list is not meant to suggest that other activities should not be undertaken, but rather to draw attention to a smaller set of priority activities that will have the largest impact if undertaken immediately and in addition to ongoing efforts.

1. A renewed effort to sustain condom use in commercial sex and to raise condom use, encourage safer sexual behavior, and behavior change among other groups at high risk and more widely in all relationships. As Thailand recovers from the economic crisis, rising incomes are likely to lead to renewed demand for commercial sex. With 17% of brothel-based sex workers already infected, any lapse in condom use could have an explosive impact on the epidemic, allowing it to regain its

initial trajectory. Condom use has never been universal among 'indirect' sex workers, and sex workers who have been trafficked to Thailand from neighboring countries are a potential gap in the 100% condom program. Behavior change and condom use among other high-risk groups like men who have sex with men, male sex workers, prisoners, fishermen, and others at high occupational risk would have a relatively large impact on the epidemic relative to their cost. Action to promote condom use more widely in all relationships, especially among youth, would be highly complementary to this objective.

2. A major new initiative to prevent transmission by injecting drug use. HIV prevalence has been high and rising among injecting drug users (IDU), now well above 40%. Projections now attribute a quarter of all new adult infections to transmission by injecting drug use. HIV spreads not only among addicts but to their partners and wives, and then to their children. Left unchecked, the high infection rate among IDU will continue to be a reservoir for HIV transmission to the rest of the population. However, HIV prevention for IDU and their sex partners has not been a priority in Thailand or in the region, even though IDU transmission is an important feature of the AIDS epidemic in almost all countries. To have a major impact on the epidemic, the same pragmatic policy toward prevention of HIV among sex workers needs to be extended to drug injectors. There are many international success stories to build on as models for a Thai response. However, it is unlikely that the IDU transmission cycle can be broken unless there is simultaneously a serious effort to prevent HIV in prisons and to improve the legal environment for behavior change among IDU.

3. Ensuring access for people with HIV/AIDS to cost-effective prevention and treatment of opportunistic infections. People with HIV/AIDS can fall seriously ill and die from curable infections that people

with normal immune systems can resist or fight back. The most important of these in Thailand is tuberculosis (TB), but there are many others, including *pneumocystis carinii* pneumonia (PCP), cryptococcal meningitis and other cryptococcal infections, and various other fungal infections. All of these infections are treatable and many are preventable in people with AIDS, and at relatively low cost. Yet it appears that many people with HIV/AIDS in Thailand lack information and access to prevention and treatment. Ensuring access by people living with HIV/AIDS to prevention and treatment of the major opportunistic infections is inexpensive, cost-effective, prevents life-threatening infections, will extend life and improve its quality, and will benefit in particular poor AIDS patients who otherwise might have gone untreated.

Implications for Public Finance

The programmatic implications of this strategic agenda and their costs have yet to be worked out. However, pursuing the agenda will require first and foremost increased public spending on prevention in general and greater targeting of subsidies to NGOs for prevention among hard-to-reach marginalized groups at high risk of contracting HIV and spreading it further. The public finance implications of wider access to prevention and treatment of opportunistic infections are difficult to pinpoint, as there is still uncertainty about the existing level of access, use, and finance. However, given the relatively low costs of most of these measures and the many different sources of finance, the cost is not expected to be insurmountable. Newer treatments for HIV/AIDS—combination antiretroviral therapy (ART)—have had dramatic impacts on lowering AIDS mortality in high-income countries. They are not a cure and must be taken for life. At present, the drugs remain very expensive, at over \$8,100/year, and there are many other costs involved beyond the drug costs. Even were drug prices to decline by two-thirds,

the therapies are unaffordable for use on a wide scale. Problems noted internationally with patient adherence, side effects, viral resistance, and the need for a high level of proficiency of health care providers can compromise their effectiveness. Decisions regarding public subsidies for funding of anti-retroviral therapies or any other AIDS treatment should be subjected to the same criteria as treatments for other medical conditions. Therefore, Thailand urgently needs a thorough, objective and ongoing review of the costs, effectiveness, benefits, affordability, and equity implications of anti-retroviral therapies, as the basis for rational and fair decision-making on the allocation of public resources in this rapidly evolving area of AIDS treatment. As background for assessing the equity and finance implications, better information is needed about the distribution of AIDS patients by economic status, particularly the share that are poor, and the extent to which the poor can benefit from these and other therapies. In the meantime, there are many actions that could be taken to achieve further reductions in drug costs, provide information about the costs and benefits of anti-retroviral therapy, and improve its affordability to patients who wish to purchase it privately.

Organization of the Report

The next chapter reviews the evolution of the HIV/AIDS epidemic in Thailand, the government response and its impact, and the lessons for the international community. The third chapter reviews the current status of the HIV/AIDS epidemic in Thailand, highlighting important trends in the spread of HIV and its impact that are of concern in the next phase of the response. The fourth chapter proposes a framework for setting priorities for government action and identifies three strategic priorities for the next phase of the national response. The concluding chapter summarizes the findings and recommendation.

Chapter II: Building on Success: The Evolution of Thailand's AIDS Epidemic and the National Response

AIDS arrived in Thailand in the mid-1980s, but the initial response was muted. When infection exploded among injecting drug users and sex workers in 1988-89, the government acted decisively, launching a nationwide campaign to reduce HIV transmission via commercial sex. The result—a dramatic increase in condom use, a reduction in demand for commercial sex and a reduction in new HIV infections—is widely cited as one of the few examples of an effective national AIDS prevention program anywhere in the world. The Thai experience shows that a national response that mobilized key government and NGO partners and targeted the highest-risk transmission can be effective in reducing the scope of the epidemic, even when action is delayed.

The Early Spread of HIV/AIDS in Thailand

Thailand's AIDS epidemic spread in a series of epidemic 'waves' in subgroups of the population based on all of the major transmission routes: homosexual, injecting drug use, heterosexual, and from mother to child. The first case of HIV/AIDS was detected in September 1984 among gay men returning from abroad. Substantial spread was not noted until 1987-88, however, when infection among injecting drug users (IDU) in Bangkok skyrocketed, from virtually nil to more than 40% in a single year. Similar jumps among IDU were seen eventually in other countries in the region (box 1). Injecting drug users were the second wave of Thailand's epidemic

Box 1. Injecting drug use and the spread of AIDS in Southeast Asia

Injecting drug users (IDU) have played central roles in the spread of HIV in South and Southeast Asia in every country with a significant HIV epidemic except, perhaps, Cambodia (Beyrer et al 2000). HIV transmission through shared injection equipment is significantly more efficient than through sex, leading to rapid spread among networks of IDU. Asian HIV outbreaks among IDU have had several consistent features:

- They have been explosive: HIV prevalence among Bangkok IDU rose from 2 to 40% in 6 months in 1989, with clear links to incarceration (Weniger et al 1991).
- They have been transnational: the highest prevalence zones in China and India (Yunnan and Manipur States, respectively) are along their borders with Myanmar.
- They have spread among non-injecting sex partners of IDU in China, India, and Thailand.
- They have been proven difficult or impossible to control, given both the state of drug treatment in the affected countries, and the lack of HIV prevention measures among IDU.

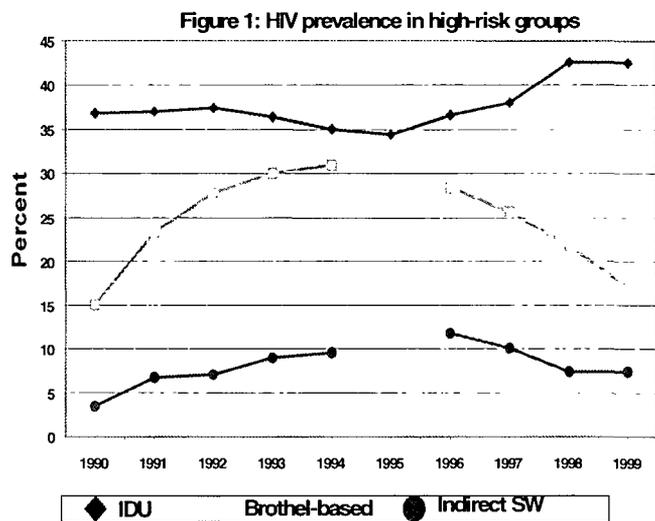
Countries with either initial or predominant IDU-related epidemics include China, India, Kazakhstan, Malaysia, Myanmar, the Russian Far East, Thailand, and Vietnam (Beyrer et al 2000). In Malaysia and Vietnam IDU have remained the predominant risk group since the beginning of the epidemic, accounting for roughly 60-70% of cumulative infections in both countries (UNAIDS 1999). China's three most affected provinces—Yunnan, Xinjiang, and Guangxi, in order of prevalence—all have outbreaks due to needle-sharing among IDU (Yu et al 1999). IDU were the first group in which HIV was identified in Myanmar where the UN Drug Control Program (UNDCP)/Ministry of Health identified drug use rates of 2-25% among adults in 36 townships in 1995. IDU remain at extraordinary risk, with HIV prevalence rates of 60-95% nationwide (Beyrer et al 2000).

HIV does not stay within groups of IDU: In Yunnan Province of China, for example, where HIV first appeared among IDU in the early 1990s, HIV is spreading to female sex partners and children, particularly among ethnic minority communities where drug use rates are high (Wu et al 1997). In Manipur State of India, within two years of the first case of HIV among injecting drug users, 6% of their non-injecting sexual partners became infected (Sarkar and others 1993). The prevalence rate among pregnant women rose to 2% within a few years. Prevention of HIV among IDU therefore prevents the spread of HIV in a wider group of the population.

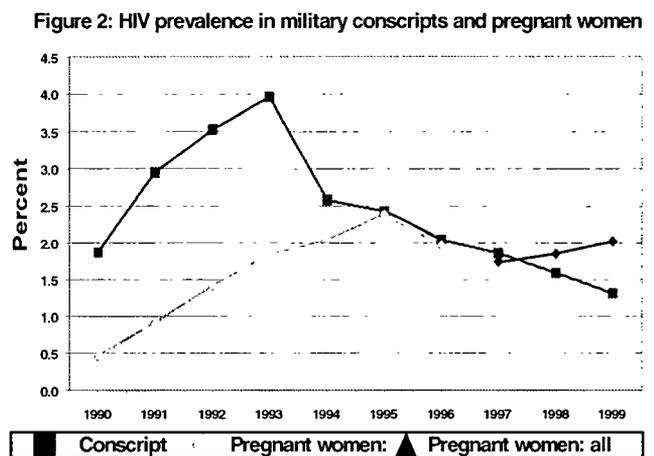
In parallel, HIV found its way into the population of sex workers and their clients, the third and fourth waves. In June 1989, the first round of national epidemiological surveillance found that 44% of brothel-based sex workers in the town of Chiang Mai in Northern Thailand were infected with HIV. Infection was not limited to the North: it was detected in brothel-based prostitutes in all but one of the 14 provinces sampled, at levels of 1-5%. By 1994, HIV prevalence—the percent of the population currently infected—reached 31% nationally among brothel-based sex workers (figure 1) and 38% in the North. Use of commercial sex was widespread: a national behavioral survey in 1990 found that 22% of men 15-49 and 37% of men 20-24 had visited a sex worker in the last year (Sittitrai et al 1992). Condom use in commercial sex was quite low—only 38% of men who frequently used sex workers in the 1990 study used condoms all of the time. HIV thus spread rapidly between sex workers and their clients. HIV prevalence in successive cohorts of 21-year

old conscripts in the Royal Thai Army—a nationally representative sample of young men who are prime clients of commercial sex—rose from 0.5% in 1989 to peak at 4% nationally (figure 2) and nearly 13% in the North in 1993. Because army conscripts are young, their infections can be assumed to be recent. Thus, trends in HIV prevalence among cohorts of conscripts are often considered as a proxy for trends in HIV incidence, the number or rate of new infections annually.

While the infection rates among conscripts have declined since 1993, the large cohort of men infected early in the epidemic served as a launching pad for the most recent waves of infection among spouses and their children, through transmission from mother to child. These last waves are still expanding. At present, about 2% of women attending antenatal clinics are infected with HIV, and they give birth to an estimated 4,000-5,000 HIV-infected children annually.



Source: AIDS Division, MOPH.
 Note: Figures are mean HIV prevalence. In 1995, data for direct and indirect sex workers were pooled and cannot be separated. SW: Sex workers



Source: AIDS Division, MOPH, and AFRIMS data.
 Note: Figures are mean HIV prevalence. Data for pregnant women from 1990-96 are from sentinel surveillance sites; from 1997-99 they represent antenatal women at all provincial hospitals in the three months prior to the observation.

The Policy Response

Thailand is now well known for its progressive approach to control of HIV/AIDS, but this was not always the case. Understanding how this response emerged is as important as the policies themselves, in terms of extracting lessons for other countries.¹

Prior to 1989, government policy on HIV/AIDS control followed a standard public health approach, which emphasized case reporting of AIDS through the medical system (Phoolcharoen et al 1998). As has been the case in many countries, AIDS was largely thought of as a foreigner's disease, a point of view that was supported by the fact that the first cases were among gay men returning from abroad. The standard reporting system did not discover many cases: in the five years after the first case was reported, only 43 AIDS cases and 145 cases of AIDS-related

complex were reported to the Ministry of Public Health's AIDS Control Center (Phoolcharoen et al 1998). The system failed to detect the rapid spread of HIV infection, which is asymptomatic for many years before the onset of AIDS disease. Further, the small surveys of HIV seroprevalence in Bangkok through 1987 found little evidence of HIV. There was very limited information on the extent of risky behavior that might spread HIV in the general population. Policies were put into place early, however, to ensure that the country's blood supply was protected (box 2). Government representatives initially down-played the significance of the epidemic to the general population, encouraged or at least did nothing to correct the public perception that AIDS was likely to affect only marginal groups like gay men, male sex workers, and IDU, and focused their preventive activities on those groups (Porapakkham et al 1996).

Box 2: Thailand's early success in ensuring a safe blood supply

Thailand was among the first Asian nations to reform its blood banks to prevent HIV transmission in the health system. Screening of blood donations for HIV antibodies was introduced in 1986. The Ministry of Public Health made anti-HIV screening of all blood units mandatory in 1989 (Chiewsilp et al 1993). Most blood banks were using the Abbott ELISA system with automated ELISA reading equipment. All blood specimens are now tested for hepatitis B and C, syphilis, and HIV, using both HIV antibody and the more sensitive p24 antigen test, which can detect HIV before newly infected persons develop antibodies (Wongsena et al 1997).

In parallel, Thailand reduced the share of HIV-positive donors by discouraging higher risk paid and professional donors, encouraging voluntary donation, and screening potential donors to discourage those with risk factors for HIV from donating (Sawanpanyalert et al 1996). Since 1992, no paid donors have been used in Thailand. The prevalence among donors in the north declined from 4% in 1991 to 0.7% in 1998, due in significant part to the reduction in higher risk donors. Most blood banks now use computer systems to enter and store demographic and screening data on all donors and use a self-administered questionnaire to screen out donors who are at risk for infectious diseases.

These reforms have reduced the rate of HIV transmission through blood products in Thailand to one in 80,000 transfusions, among the lowest in any developing country. The rate in the United States, for comparison, is estimated at one in 300,000 transfusions. The difference is accounted for by the higher prevalence of HIV in Thailand in the general population, which raises the likelihood that donors are in the acute (pre-antibody or antigen) phase of infection when HIV is difficult to detect.

¹ The material in this section draws heavily on several excellent reviews of AIDS policy in Thailand, by Phoolcharoen et al (1998), Porapakkham et al (1996), and Teokul (1998), as well as an excellent overview of STD policy in Thailand by Chitwarakorn et al (1998).

The implementation of the national 'sentinel' surveillance system to monitor HIV infection in key population groups in 1989 and the public dissemination of results made it difficult to maintain an official position of denial and helped initiate the change in social norms necessary to change behavior. The first evidence that HIV could spread rapidly in the Thai population did not occur until 1988, when HIV testing was introduced into government methadone treatment centers for heroin addicts (Phoolcharoen et al 1998, Weniger et al 1991). This coincided with the development of a short-term AIDS plan developed by the Communicable Disease Control (CDC) Department of MOPH and supported by the World Health Organization (WHO). The explosive spread of HIV in IDU in that single year prompted both the Royal Thai Army and the Epidemiology Division of the MOPH to launch HIV surveillance of specific groups of the population, in 1989. In mid-1989, testing was launched in samples of 100-200 persons from each of several 'sentinel' groups of the population—IDU; brothel-based, 'indirect'², and male sex workers; male patients at sexually transmitted disease (STD) clinics; blood donors; pregnant women; new prisoners and ex-prisoners. Beginning with 14 provinces in mid-June, the testing was expanded to 31 provinces by the end of 1989 and all 73 provinces in 1990. Late in 1989, the Royal Thai Army launched biannual testing of the 60,000 21-year old army conscripts chosen annually by national lottery, finding an HIV prevalence rate of 0.5% during the first round (Phoolcharoen et al 1998). The first national survey of behavioral risks for HIV infection (Partner Relations Survey) was launched in 1990, sponsored by WHO and conducted by the Thai Red Cross and Chulalongkorn University (Sittitrai et al 1992).

² "Indirect" sex workers are in restaurants, massage parlors, and hotels, and are believed to be 'higher class' than brothel-based workers. They often do not self-identify as sex workers, but do engage in sex for pay.

The finding that HIV infection already had a foothold in the Thai population transformed the perception of the disease to one that posed a threat to the whole population (Porapakkham et al 1996). The public availability of the epidemiological surveillance results helped NGOs accelerate their prevention, treatment, and human rights activities in key populations and created an important constituency and lobbying group for expanded AIDS policy (Porapakkham et al 1996). An NGO consortium on AIDS was formed in 1989. Nevertheless, there were still segments of the media that wanted to downplay the danger because of possible impacts on tourism (Phoolcharoen et al 1998) and most financial support for the AIDS program came from abroad. In addition, several repressive measures had already been implemented or were under discussion: Physicians were required to report the names and addresses of all HIV-positive or AIDS patients to the government. An amendment to the Immigration Act forbade HIV-positive and AIDS patients from entering the country. A proposed "AIDS Bill", under discussion since 1990, would have required reporting of all newly discovered cases within 24 hours, compelled any member of a high-risk group to be tested without their consent, and made it a crime for an HIV positive person to donate blood, engage in prostitution, have medical procedures without informing medical staff, and have sex without a condom (Porapakkham et al 1996).

It wasn't until 1991, under the short, transitional government of Prime Minister Anand Panyarachun (1991-92), that AIDS prevention and control became a national priority at the highest level, emphasizing progressive policies to encourage safer behavior, and galvanizing the efforts of many sectors as well as NGOs. There were four important developments during the Anand administration that had a profound and lasting effect on AIDS policy beyond his short tenure:

1. AIDS policy was brought under the coordination of the Office of the Prime Minister (OPM), with an officially multi-sectoral National AIDS Prevention and Control Committee, chaired by the Prime Minister. This signaled political commitment at the highest level but also ushered in the formal participation of NGOs in the policy-making process. The NGOs lobbied strongly for wider public information, protection of human rights, and compassionate care for AIDS patients. Their participation formally opened up the dialogue to those outside the health sector. While on paper this was a multi-sectoral program with participation by all ministries, and was embraced as such by the international community, in fact the main players were the OPM, the Ministry of Public Health (MOPH), and the NGO community (Porapakkham et al 1996, Teokul 1998). The other ministries, even when allocated resources, initially had little expertise with which to conduct these programs, which went beyond their sectoral mandates. The National Economic and Social Development Board (NESDB) was given responsibility for planning the national AIDS strategy, a responsibility formerly with the MOPH. The NESDB drew up the first five-year AIDS control program and budget, allocating resources to other ministries besides MOPH and to NGOs (Teokul 1998). The plan emphasized mobilization of society and communities to participate in prevention of HIV, to care for those who are sick, and to reduce stigma and discrimination facing those who are living with HIV/AIDS. (Phoolcharoen et al 1998, Porappakkham et al 1996, National AIDS Committee 1997, Teokul 1998)

2. A massive public information campaign on AIDS was launched under the leadership of cabinet member Mechai Viravaidya, a well known national figure with deep roots in past family planning campaigns and strong ties to non-governmental and community groups. Intensive public information on HIV/AIDS prevention was launched through the mass

media, including mandatory 1-minute AIDS education spots every hour on TV and radio. These messages emphasized prevention, behavior change, condom use, and AIDS as not just a health problem but a social problem. All ministries were actively involved in providing education and training to their staff and population groups they work with. The Ministry of Education launched peer education programs among students and an annual national competition among schoolchildren at different levels in essay writing on HIV/AIDS, greatly raising their level of awareness. Government efforts were complemented by private initiatives, such as the Thailand Business Coalition on AIDS (TBCA), formed in 1993 to promote HIV/AIDS education and prevention in the workplace and other appropriate HIV/AIDS workplace policies. A program was launched to discourage young girls from entering into prostitution, by providing scholarships for continuing their education and enhancing their employment opportunities.

3. The “100% Condom Program” was adopted nationwide to promote universal use of condoms in commercial sex all of the time (Rojanapithayakorn and Hanenberg 1996). Originally piloted in Ratchaburi Province in 1989, the program was expanded for national replication in 1991-92 (Chitwarakorn et al 1998). Prostitution was and still is illegal. However, authorities adopted a more pragmatic approach of encouraging widespread condom use to prevent HIV transmission, rather than attempting to suppress commercial sex. The program involved collaboration at the provincial and local levels between public health officials, brothel owners, the local police, and sex workers. By ensuring compliance in all sex establishments, those that enforced condom use would not lose business to those that did not. The mechanisms to monitor compliance already existed—Thailand’s extensive network of STD treatment clinics and the public health service’s list of sex establishments. Under the program, sex

workers were screened for STDs weekly or biweekly at government STD clinics, treated, and provided with a box of 100 free condoms (Chitwarakorn et al 1998, Chamratrithrong et al 1999). Male patients presenting at the government STD clinics were considered evidence of non-use of condoms. Compliance could be checked through tracing the STD patients back to the brothels where they were infected. Health workers could then follow up with visits, providing additional information and condoms. The cooperation of the police was also sought, and potential sanctions included the threat of closure of the sex establishment. However, it appears that police action was rarely invoked (Chamuatrithrong et al 1999).

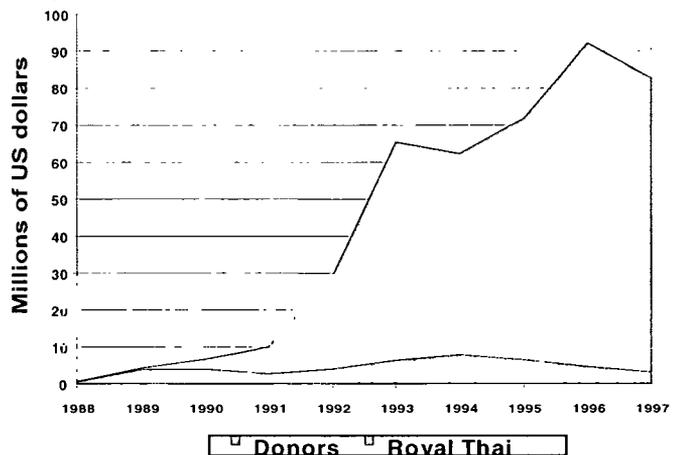
4. A number of repressive policies were repealed and those that were under discussion gradually faded from the policy dialogue. Activist NGO members of the cabinet succeeded in abolishing the mandatory reporting of names and addresses of AIDS patients and in getting the regulations that prohibited immigration of HIV-positive people reversed. Following several public hearings, the AIDS Bill made no further progress and was never adopted (Porappakham et al 1996). The principle of voluntary, anonymous, confidential counseling and testing was established.

Between 1987 and 1997, public spending on AIDS prevention and control in Thailand expanded dramatically, a sign of the greatly increased commitment of the Royal Thai Government (RTG). Total AIDS spending by donors and government rose from \$684,000 in 1988, most of which was financed by WHO, to \$10.1 million in 1991, more than 72% of which was financed by the RTG (figure 3).³ By 1997, total

³ These figures do not include expenditures by private households on prevention (condoms), counseling and testing, STD treatment or AIDS-related health care, nor do they include outlays by government for TB treatment, which is the main opportunistic infection nationally and an important component of AIDS treatment. However, at least in the early years, private

spending from the government AIDS control budget had reached \$82 million annually—more than \$1 per capita—of which 96% was financed by the Royal Thai Government. Even this understates the magnitude of the mobilization: in 1991, private business contributed an estimated \$32 million (800 million baht) for education programs in the workplace and \$48 million (1.2 billion baht) in free commercial air time for AIDS messages—a total of \$80 million more (Viravaidya et al 1993).

Figure 3: Government and donor spending on AIDS, 1988-97



Source: WHO, AIDS Division/MOPH, NESDB.
 Note: Government spending includes only spending out of the AIDS budget and excludes expenditure on health care related to AIDS from the general MOPH budget.

The progressive policies and broader participation in AIDS policy formulation launched during the Anand government were sustained after his short tenure, although the pace of change slowed. The key elements of policy were already in place. Periodic surveys to monitor risky behavior in the population (“behavioral surveillance”) were launched in 1995 in 19 provinces (Phoolcharoen et al 1998). The number of NGOs involved with AIDS increased from 23 to 184 between 1992 and 1997, and the number of groups of people living with HIV/AIDS (PHA) rose from 11

and public expenditure on AIDS-related health care should have been relatively low, as most infections were asymptomatic.

to 108 between 1994 and 1997. The NESDB again developed, with broad participation from NGOs and civil society, the second “National Plan for Prevention and Alleviation of the AIDS Problem” for the years 1997-2001, in parallel with the National Development Plan for the same years (National AIDS Committee 1997, Teokul 1998). This new plan, while maintaining the effective programs of the past, represented a more holistic approach, mobilizing the efforts of communities and people living with HIV/AIDS (PHA), to strengthen human development and a supportive environment for prevention, care, and mitigation of the impact of AIDS. Many of these enabling activities are in fact already in the mandates of other ministries and reinforce ongoing programs in terms of their importance to the AIDS epidemic. A larger share of resources is allocated to NGOs for implementation and ministries have latitude to request funds for activities beyond ‘prevention’ and ‘treatment’. Nevertheless, in terms of the allocation across sectors, both the “budget and talent are ... skewed toward the health sector” (Teokul 1998).

The Impact

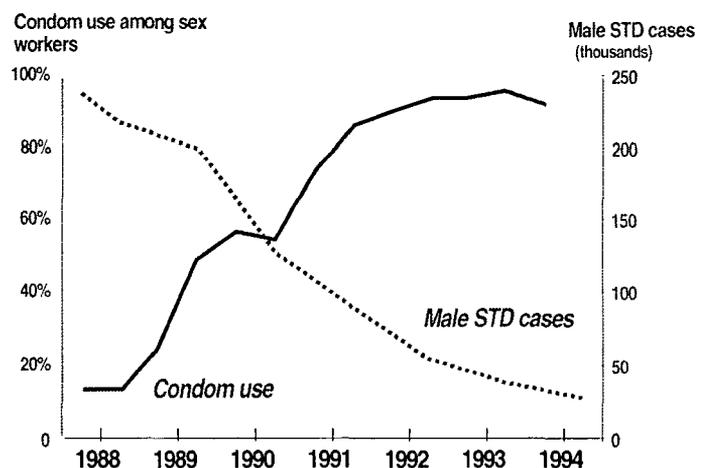
The demand for commercial sex declined, condom use in commercial sex rose, STD cases plummeted, and the prevalence of HIV among army conscripts dropped by more than half. Condom use in brothels rose from about 14% to more than 90% between 1988 and 1992 (figure 4). High condom use has been maintained: a 1997 survey of nearly 2,000 sex workers (mostly brothel-based) in 24 provinces found that 97% of sex workers always used condoms with casual customers and 93% always used them with regular customers (Chamratrithirong et al 1999).

The number of male STD patients reporting to public clinics fell precipitously, from about 220,000 per year in 1988 to about

20,000 in 1995.⁴ The number of new cases of STD declined from 6.5/1000 in 1989 to 3.2/1000 in 1991 and 1.6/1000 in 1993. At the same time, two-thirds of the drug stores surveyed in 24 provinces reported a decline in the sale of antibiotics for STD treatment and a sustained increase in sale of condoms, confirming that patients were not simply diverted to private treatment sources (Chamratrithirong et al 1999).

Between 1990 and 1993, the percent of men reporting any premarital or extramarital sex dropped from 28% to 15%, the percent visiting sex workers dropped from 22% to 10%, and the percent consistently using condoms in commercial sex rose from 36% to 71% (Phoolcharoen et al 1998). HIV prevalence among 21-year-old army conscripts, which had risen to 4% in 1993, began a steady decline to 1.56% in 1999 (refer back to figure 2).

Figure 4: Rising condom use and declining STDs, 1988-94



Source: Rojanapithayakorn and Hanenberg (1996) as reported in World Bank (1999).

The decline in HIV prevalence among army conscripts was even more pronounced in the Upper North, falling from more than 12% (similar to levels found in Sub-Saharan

⁴ The drop in STD cases is even more remarkable, considering that 507 new district-level STD clinics were established between 1991-95 as part of the policy to integrate STD services with primary health care, a development that should have improved reporting (Chitwarakorn et al 1998).

Africa) to less than 2% between 1992-99. The annual incidence of HIV among army conscripts in 6 provinces of northern Thailand during their 24-month military service declined from 2.48% in 1991-93 to 0.55% in 1993-95 (Celentano et al 1998). Further, there was a very strong association between increased condom use, reduction in visits to sex workers, and reduced incidence of STDs and HIV over a relatively short period of time. The prevalence of HIV among young women (<25) giving birth to their first child at Chiang Rai hospital rose from 1.3% in 1990 to 6.4% in 1994, then declined to 4.6% in early 1997 (Bunnell et al 1999).

Since 1993, behavior change in Thailand has prevented an estimated 200,000 HIV infections that would have otherwise occurred by 2000. The most recent estimates of the cumulative number of infections in Thailand in 2000, by the Thai Working Group on HIV/AIDS Projections, are 29% less than what was projected to be the case by the NESDB Working Group in 1994. Of this difference of 395,000 infections, about half can be attributed to difference in the models and half to real differences in behavior (Tim Brown, personal communication). The number of new HIV infections in Thailand has dropped from about 137,000 per year in 1990 to 29,000 per year in 2000 (Thai Working Group 2000).

Lessons Learned

In responding to AIDS, Thailand clearly was able to draw on strong institutions and traditions that may not be present in other countries: an extensive network of STD services; a strong and successful family planning program that had promoted condoms before the AIDS epidemic; a cadre of trained epidemiologists supported by the field epidemiology training program;⁵ health

⁵ The Field Epidemiology Training Program is sponsored by the U.S. Centers for Disease Control and Prevention.

infrastructure with qualified staff; a tradition of supporting basic and applied research and making decisions informed by data; civil society with a tradition of volunteerism; and a pre-existing network of national development NGOs. Nevertheless, the evolution of Thailand's AIDS policy and the impact of programs in reducing HIV transmission in commercial sex suggests important lessons that may be of use for other countries in the region and the world.

1. Effective action requires national leadership and political commitment at the highest levels. How can such leadership be encouraged as early as possible and how can it be sustained? In Thailand, the leader with commitment to the most progressive AIDS policies served during a short, transitional and unelected government that was not beholden to special constituencies. The Anand government had far-reaching powers that elected governments do not have. This was somewhat unique and clearly not generalizable; many unelected governments might equally implement repressive policies if given the opportunity, and some have. Political majorities can also lead to repressive or ill-informed policies in democratic societies. Is there any lesson that can be gleaned from this experience for other countries? The results of discussions with our informants suggest that there are some factors that may be more likely to result in greater and sustained commitment of political leadership:

a) Epidemiological surveillance is a critical tool for generating public awareness, political commitment and action. The fact that HIV can spread widely through the population with initially very little obvious morbidity has made it extremely difficult in most countries to convince policymakers to launch adequate measures early enough to prevent a serious epidemic. In Thailand, the extensive epidemiological surveillance system was critical to demonstrating the rapid and far-reaching spread of asymptomatic HIV through the population, even while there

were very few AIDS cases. Equally important is the fact that the Thai sentinel surveillance system had national coverage—detecting, for example, the high levels among sex workers in the North—and many different groups at high risk of contracting HIV/AIDS, in addition to low-risk populations. In contrast, other countries have found it less controversial and more convenient to monitor infection trends in pregnant women, where infection rates are likely to show up last. Once infection rates are made available to the government and the public, it becomes very difficult for either to deny the potential for a large-scale epidemic. Epidemiological surveillance also provides important evidence of the outcome of different policies; in the case of Thailand, the availability of epidemiological data for each province provided information for decentralized decision-making.

b) Effective programs may ‘lead’ policy to the right outcomes. This is a point made in the review by Porapakkham and colleagues (1996) that is compelling. In Thailand, good policy arose from the example of good programs. The decision to collect extensive sentinel surveillance data, for example, can be justified on purely public health, technical grounds, which may not be controversial and does not necessarily require strong political leadership to launch. Opportunities may exist to pilot excellent programs and demonstrate their impact before national policy is solidified. For example, the feasibility and potential success of the 100% condom program was established before leadership agreed to national replication. In Thailand there is an environment that is conducive to operational research and evidence-based decision-making. We believe that such pilot programs are likely to have the largest influence on policy when the impact is well documented, which often is not the case.

c) Non-governmental organizations can play a key role in ensuring non-discrimination and respect for human rights and in sustaining progressive

policies of behavior change. Early in an AIDS epidemic, there are many social forces at work that would rather deal with the spread of HIV/AIDS through draconian measures against those at greatest risk of contracting and spreading the virus. Thailand was no exception. The existence of well-established development NGOs, like the Population and Community Development Association (PDA), the Thai Red Cross Society, and the Planned Parenthood Association of Thailand (PPAT) meant that there were already organizations to speak on behalf of marginalized constituencies. They were rapidly joined by new AIDS NGOs, like EMPOWER and ACCESS. In many countries, these organizations also have a key role in implementing prevention and care interventions among those at highest risk. However, as the epidemic matures and NGOs increasingly represent those who are infected, their priorities may shift from prevention to care; this is already happening in Thailand (Teokul 1998).

These three factors are not sufficient to guarantee the emergence of active, committed, progressive leadership on AIDS, but in the Thai case they encouraged and reinforced it, and thus are aspects that other countries would do well to emulate even in the absence of strong leadership.

2. Thailand’s experience shows that a nationwide program that reduces transmission via commercial sex—the engine of the Thai epidemic—can have a potentially great impact on the course of the epidemic, even if enacted late. Given the high resort to commercial sex in Thai society, low condom use, and rapidly growing HIV among sex workers, the focus on reducing transmission in commercial sex clearly had a large impact on reducing transmission to the rest of the population. Equally important was the decision to work with sex workers and their clients to increase safe sex, rather than to attempt to marginalize them further. This is a very important message for other countries in the

region where commercial sex is also illegal but has traditionally been dealt with through enforcement actions and incarceration. Although action was too late to prevent spread from the infected clients to their wives, an estimated 200,000 infections have been averted since 1993. The impact would have been much greater had the 100% condom program and information and education activities been launched five years earlier. In addition, while the change in sexual behavior and condom use is well documented, it is far more difficult to establish which activities among those launched had the greatest impact on this outcome. The 100% condom program and mass media campaigns were clearly important components, but many other activities were also simultaneously launched. Their scope is not well documented and their independent impacts are unknown. Unfortunately, this successful principle of working with high-risk groups to make their behavior safer has not been adopted in Thailand nor in most other Asian country to prevent HIV transmission among injecting drug users.

3. Good STD services are not insurance against an AIDS epidemic, but they were very important to the success of the 100% condom program. There has been a great deal of international research on the role of STD treatment in HIV transmission, suggesting in one case that syndromic treatment of STDs can lower HIV incidence by 40% or more (Grosskurth et al 1995, Wawer et al 1998). Based on these findings and the plausible arguments for a biological role of STDs in enhancing HIV transmission, expanded and improved STD treatment has been promoted in many of the poorest countries as a primary intervention to prevent HIV/AIDS. In the case of Thailand, however, one of the best networks of public STD clinics in any developing country was not sufficient to prevent a sexually-spread AIDS epidemic (Chitwarakorn et al 1998).⁶ Without

⁶ Government STD services date back to 1930, when

denying that Thailand's AIDS epidemic may have been less severe because of its excellent STD services, it wasn't until condom use rose and the demand for commercial sex declined that HIV and STD incidence dropped dramatically (Chitwarakorn et al 1998).⁷ However, the extensive STD services were clearly critical elements to the success of the 100% condom program: for providing information, free condoms, and treatment to sex workers; for monitoring compliance among sex workers and clients; and for measuring the impact of the program. While it might have been possible to provide the information, condoms and treatment to sex workers through other points of access (had there not been this network of extensive services), it would have been very difficult to monitor and enforce compliance without an objective indicator of non-use of condoms, such as contracting an STD. Ensuring adequate compliance in 100% condom programs in countries without a network of STD services will be more difficult.

4. The 100% condom program exemplifies the potential success of multi-sectoral collaboration at the provincial and local levels when local leaders have the political mandate, a well-defined objective, support from the center, and benchmarks for measuring success. While the recent evaluation of the 100% condom program emphasizes that there were many variants on implementation in different provinces, there are some common elements. Such a program probably could not have been implemented successfully

the VD treatment unit was created at Bangrak Hospital in Bangkok. In addition, STD clinics are offered in 7 hospitals in Bangkok, health centers of the Bangkok Metropolitan Authority (BMA), 50 general clinics, 12 regional, 75 provincial, and 40 provincial and district-level hospitals, and 507 district-level centers. In addition, there are 3,500 private clinics and hospitals in Thailand where people can get treated (Chitwarakorn et al 1998).

⁷ One informant pointed out that the condom program has saved the Thai government 73 million baht by preventing 260,000 STD cases/year and the related treatment costs.

without the local collaboration of a select number of sectors—health (AIDS and STD), the police, brothel owners, and some NGOs—under the leadership of the provincial governor. What made this effective collaboration possible? There are certainly many views on this, but we would like to highlight a few that stand out. First, the limited objective of raising condom use in commercial sex was clear and well understood by all parties, and methods for monitoring success were available locally through the sentinel surveillance and STD clinics. Second, there was a strong political mandate from the national government and support in the form of technical advice, free condoms and the public information campaign that complemented actions directly with sex workers. The recent evaluation emphasized that the 100% condom program was largely implemented through better coordination of existing resources in the provinces and aside from these inputs did not involve large resource transfers from national government for implementation (Chamrathirong et al 1999). Local administrators sometimes raised additional resources locally to implement the program. Third, programmatic decision-making on how to allocate resources and coordinate the effort was decentralized, and could therefore respond to local circumstances. Fourth, the involvement of a smaller group of ‘core’ actors at the provincial level—rather than all sectors—clarified the role of each participant and minimized the potential for duplication of activities and wasted energy to coordinate sectors not central to these specific objectives (Porapakkham et al 1996).⁸

5. The main contribution of the multi-sectoral approach at the national level in Thailand has been to raise the profile of the AIDS problem across

⁸ In Phitsanuloke province, for example, this ‘core team’ consisted of the Provincial Chief Medical Officer, the regional CDC office, the Army regional headquarters, and the regional office of the Population and Community Development Association.

society, to engage new participants in the policy dialogue, and to set national priorities. Despite the fact that many ministries and sectors are represented in the Thai response and have budgeted activities, the key actors in terms of program implementation in this multi-sectoral alliance at the national level are the MOPH and OPM (Porapakkham et al 1996, Teokul 1998). The review by Porapakkham et al (1996) maintains that the initial adoption on paper of a multi-sectoral AIDS program in Thailand in 1991 was largely symbolic; it responded to the popular movement in international circles for a ‘multi-sectoral approach’ emphasizing impacts and responses across all sectors, but in fact was used to justify a shift of control of resources from the MOPH to the OPM and NGOs, with the NESDB as the agency charged with planning.⁹ There was initially low ownership by other ministries, which were given budgets and then asked to develop programs. These ministries had other mandates; budget allocations did not come from a reasoned program and the staff lacked the necessary expertise to design it (Porapakkham et al 1996, Teokul 1998). Much of the budgetary allocation for other ministries was therefore used for training the staff in the basics of AIDS transmission and prevention, rather than on specific programs (Teokul 1998). Technical expertise was and still is concentrated in MOPH. Nevertheless, the multi-sectoral organization of Thailand’s response since 1991 has been highly successful in engaging NGOs, civil society, and other sectors in policy formulation and priority setting at the national level, giving direction and political mandate to local, decentralized, multi-sectoral implementation of key programs. **This role in priority**

⁹ Porapakkham et al (1996) note that the basis for change in control of the AIDS program did not have to do with the multi-sectoral approach or competing priorities: “the NAC tended to be dominated by communicable disease control experts who excluded not only NGOs but other departments of the MOPH from the national program effort”. This had not happened with the successful family planning model, in which NGOs and government worked together.

setting and consensus building at a societal level is extremely important to the process of political mobilization and may be the most important contribution of national-level multi-sectoral organizations.

Chapter III: AIDS in Thailand at the Turn of the Millennium

Thailand's successful efforts to reduce transmission of HIV, especially by commercial sex, have had an enormous impact on the course of the AIDS epidemic. Models of the spread of HIV run in 1991 predicted that by 2000 there would be more than 3 million cumulative infections in Thailand in the absence of action (Virvaidya et al 1993). The NESDB Working Group projections from 1994, which took into account the behavior change that had already occurred in the early 1990's, predicted that there would be 1.4 million cumulative infections in 2000, with no additional behavior change. The Thai Working Group on HIV/AIDS Projections estimates that as of this year there have been 984,000 cumulative HIV infections. Some of these differences in the projected number of cumulative HIV infections have to do with modeling techniques, without a doubt. But it is clear that risk behavior in Thailand—at least with respect to commercial sex—has changed dramatically since the late 1980s and has been sustained, saving many lives. According to the most recent model, the number of new infections annually has dropped by 80% since 1990. This is an enormous accomplishment that few other countries, if any, have been able to replicate. It is a result both of sound policy and the determination of the Thai people.

Nevertheless, there is no room for complacency. At the turn of the millennium, there is still no cure for AIDS and no preventive vaccine. Despite the success at lowering new infections, HIV managed to gain a foothold in the population before policy was enacted and the consequences are severe: Nearly 300,000 people have died of AIDS and 700,000 people are living with HIV/AIDS, the result of past infection rates and the long incubation period of HIV. The Thai Working Group model suggests that in 2000, 55,000 people will develop AIDS and roughly the same number will die from it. The number of people infected continues to grow, at a slower rate. HIV infection rates in many high-risk groups in Thailand remain unacceptably high. Condom use outside of brothel-based sex is low, and there is evidence

of rising HIV prevalence among sex workers in some regions, especially Bangkok. Preventing a new outbreak in the population requires sustained behavior change as new cohorts of young people enter adulthood. Some of the riskiest behaviors in Thailand have never been addressed and now stand out as major causes of continued HIV transmission. In the meantime, HIV continues to spread outward to the lower-risk population of wives and children. As those infected in the past fall ill, the demand for treatment is transforming the policy dialogue. Public expenditure on prevention, which was already low, has declined by half in recent years, while expenditure on treatment is rising rapidly.

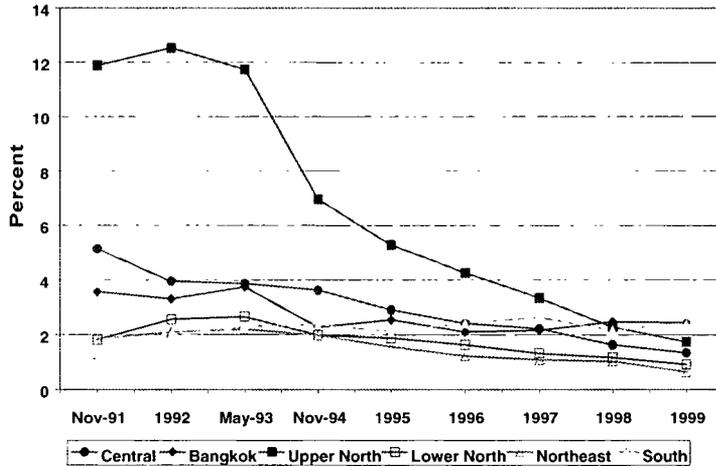
A Severe Epidemic that Continues to Spread

The Thai Working Group on AIDS Projections estimates that 29,000 people in Thailand will become newly infected with HIV in 2000—25,000 adults and 4,000 children. A decade ago, virtually all infections were among adults and more than 80% were among sex workers and their clients. However, the composition of new infections has changed. About half of new adult infections will be women infected by their husbands or sex partners, a quarter will be due to injecting drug use, and one in five will be among sex workers and their clients. The share of infection due to injecting drug use, including women infected by needle-sharing partners, is projected to increase to 41% of new infections by 2005 in the absence of action.

The decline in HIV prevalence among army conscripts—a proxy for incidence—has slowed in some regions, stalled in others and has increased in Bangkok (figure 5). While overall infection rates among army conscripts have fallen from roughly 4% in 1993 to 1.3% in 1999, most of this decline can be attributed to dramatic changes in the Upper North, where prevalence among conscripts peaked in the 1992 cohort at more than 12% and has since dropped to 1.7%. Since 1996, prevalence has continued a

very slow decline among conscripts from the Central, Lower North and Northeast regions, but has stagnated in the South at a high level—about 2.4%—and has increased from 2.11% to 2.44% in Bangkok.

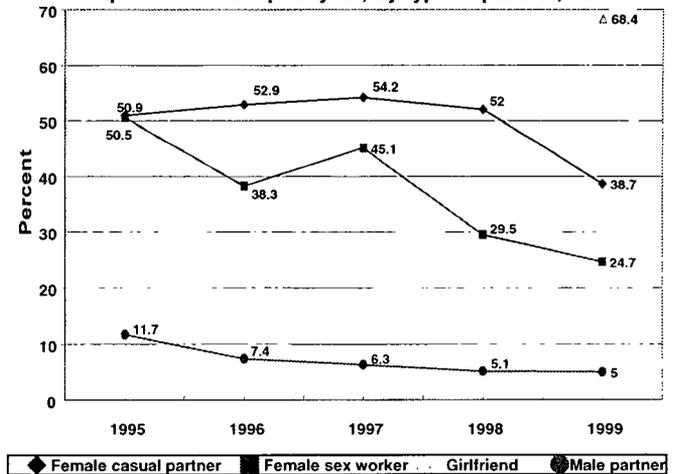
Figure 5: Declining HIV prevalence in 21-year old Thai conscripts, 1989-99, by region



Source: AFRIMS data.

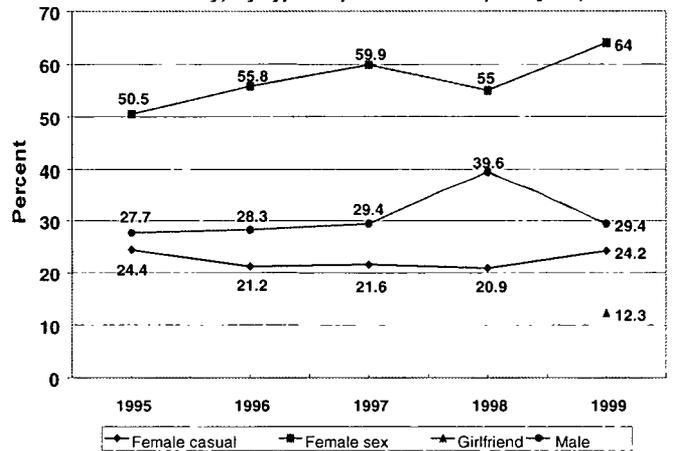
The share of young men engaging in commercial sex has declined. However, they use condoms in commercial sex only about two thirds of the time and are engaging in many other types of sexual relationship for which condom use is even lower (figures 6 & 7). Nearly a quarter of conscripts visited a female sex worker in the past year—half the rate in 1995—but only 64% of them consistently used condoms (Epidemiology Division 2000b). This is far less than might be implied by the 100% condom program, but this category includes both brothel-based and indirect sex workers, with whom condom use is lower. An even greater share (38.7%) had sexual relations with a casual female partner for which condom use was even lower—only 24%. About 5 percent of conscripts had sex with men in the past year, using condoms only 29% of the time—a figure of great concern, given the very high risks of HIV transmission of unprotected anal intercourse. Condom use is increasing only very slowly in commercial sex and shows no sign of increasing among male partners or casual female partners.

Figure 6: Percent of 21-year old conscripts with sexual experience in the past year, by type of partner, 1995-99



Source: Division of Epidemiology, MOPH (2000b).

Figure 7: Percent of 21-year old conscripts using condoms consistently, by type of partner in the past year, 1995-99



Source: Division of Epidemiology, MOPH (2000b).

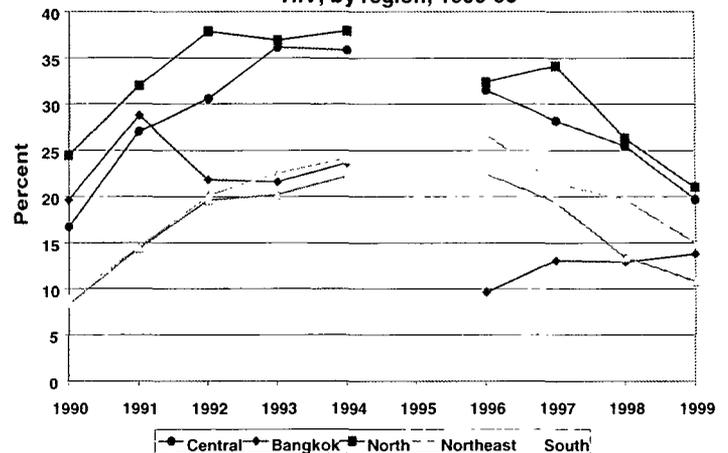
The behavioral surveillance surveys have not charted sex with steady girlfriends in previous rounds. However, it is widely believed that young men have compensated for the decline in demand for commercial sex by an increase in casual female partners or steady girlfriends. The June 1999 round of behavioral surveillance found that 68% of conscripts had had sex with a lover in the past year, but only 12% consistently used condoms—the lowest condom use rate of any group. While use of sex workers is on the decline, young Thai men clearly still have many different types of sex partners in overlapping relationships with low levels of condom use.

These lovers are therefore at very high risk of acquiring HIV if their male partner is infected.

HIV infection among sex workers has declined but is still very high, raising the risk of HIV transmission when condoms are not used consistently in commercial sex or between sex workers and their regular partners or spouses. There are now fewer sex workers than in the 1990s and a very high share of commercial sex acts among brothel-based sex workers are protected by condoms. The level of infection among sex workers has declined over time—whether as a result of greater condom use, mortality of HIV-positive sex workers, and/or turnover. Nevertheless, because of their large number of partners and occasional lapses in condom use or breakage, many sex workers eventually become infected (Kilmarx et al 1999). In 1999, about 17% of brothel-based sex workers and 8% of sex workers in massage parlors, restaurants, and hotels ('indirect' or high-class sex workers) were infected with HIV. Because of these high infection rates, inconsistent condom use, even if rare, is much more likely to result in HIV transmission.

Further, these national averages hide very large regional differentials: roughly one in five brothel-based sex workers is infected in the North and Central Regions compared to one in ten sex workers in the Northeast (figures 8 & 9). The infection rate has been declining over time *except for Bangkok, where HIV is increasing among brothel-based sex workers.* In most regions the infection rates among brothel-based sex workers in 1999 were still higher than in 1990. Among indirect sex workers, infection rates range from 5-9% and *in three regions—the South, Northeast and Bangkok—infection rates in indirect sex workers are rising.* Any decline in condom use with these high infection levels could re-ignite the explosive epidemic in commercial sex of a decade ago.

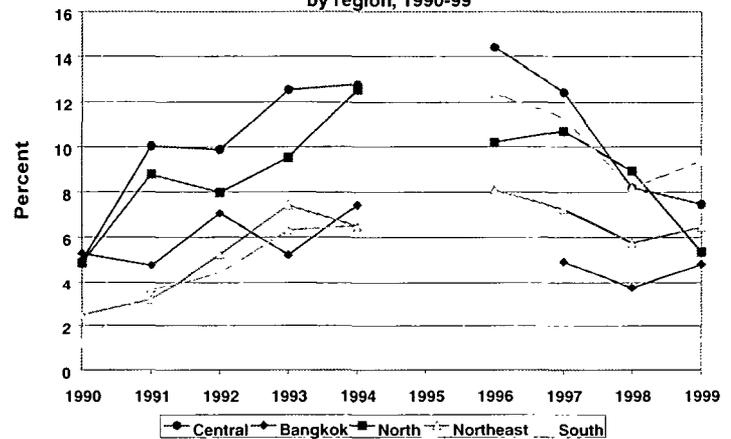
Figure 8: Percent of brothel-based sex workers infected HIV, by region, 1990-99



Source: AIDS Division, MOPH.

Note: In 1995, data for direct and indirect sex workers were pooled and cannot be separated.

Figure 9: Percent of indirect sex workers infected with HIV, by region, 1990-99



Source: AIDS Division, MOPH.

Note: In 1995, data for direct and indirect sex workers were pooled and cannot be separated.

The prevalence and incidence of HIV among male sex workers (MSW)—a group not explicitly targeted by the 100% condom program—have remained very high. HIV prevalence in male sex workers in Phuket and Chonburi (Pattaya) was 12.4% and 9.3%, respectively, in 1999.¹⁰ The largest study of male sex workers to date, in Chiang Mai city between 1991-96, found that male sex workers

¹⁰ The total number of MSW sampled in Phuket was 296 and in Pattaya 227. Because of relatively small sample sizes, the infection rate has fluctuated between 10 and 20% in these two cities, as well as in Chiang Mai.

have a very high turnover rate and, for the 18% remaining in the industry 6 months or more, a very high and steady rate of new HIV infection (incidence) of 11.6% per year (Kunawarak et al 1997). Information on condom use among male sex workers is scarce, but appears to be much lower than for brothel-based female sex workers: In the Chiang Mai survey, consistent condom use with clients was reported by just over 50% of MSW, and with non-commercial partners (male partners, girlfriends and wives) was markedly less (Kunawarak et al 1997).

Other high-risk groups have high infection rates and low access or use of condoms. Sex workers from Myanmar and other neighboring countries, many of whom have been smuggled to Thailand illegally, are at high risk of contracting HIV and spreading it, but have low access to prevention and are threatened by deportation if they contact public services (box 3). Prisoners are at high risk for both sexual and injecting transmission. In 1991, the median

infection rate among newly-admitted male prisoners was 12% in 20 provinces and 19% among those about to be discharged in 10 provinces (Weniger et al 1991). Since the beginning of the epidemic, 2% of all AIDS cases among men have been diagnosed in prison (AIDS Division). Commercial fishermen who go out for 5-10 day excursions in the Gulf of Thailand and Andaman Sea had an infection rate of 15.5% in 1998: 46% visited sex workers in the past year, including 21.6% who used sex workers 6 or more times (Entz et al 2000). Only 76% used condoms. A high share of these fishermen (29%) were from Myanmar and Cambodia, highlighting the need to include non-Thai nationals in effective domestic programs and to help raise the priority of HIV/AIDS in neighboring countries.

Box 3: Undocumented sex workers: A 'gap' in the 100% condom program?

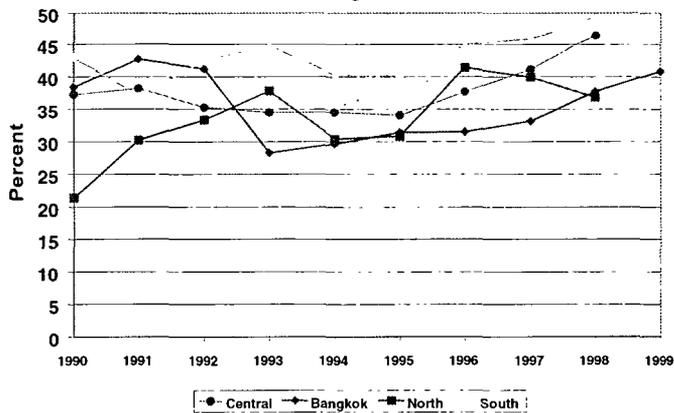
While the 100% condom program and public awareness programs on AIDS prevention have reached many brothel-based sex workers and their clients, there is an important group of sex workers and their clients who are at continued risk of infecting themselves and their partners: women and girls (and, in some cases, men and boys) trafficked from neighboring countries or from ethnic minority and tribal groups, either in Thailand or her neighbors, whose legal status is less than full Thai citizenship. These "undocumented" sex workers, mainly from Myanmar, Cambodia, China, and Laos as well as hill tribes in Thailand have clear risks for HIV infection, including illiteracy, vulnerability to trafficking, low levels of HIV and STD awareness, limited access to health care, very limited ability to negotiate with clients, and a reluctance to seek services even when they are available because of fear of arrest and deportation. Since these women are breaking two sets of laws (prostitution laws and illegal entry and work in Thailand) they are highly vulnerable to arrest, detention, and abuse from male guards.

The number of undocumented sex workers is difficult to quantify because of the illicit nature of the industry and their need to avoid detection. In a study done in three northern provinces in 1995 (Chiang Mai, Lamphun, and Phayao), more than 40% of brothel-based sex workers were from Myanmar, mostly ethnic Shans (Beyrer et al 1995). A recent study along the coast of Myanmar in the fishing areas of Ranong Province, found that more than 80% of women in the sex trade were from Myanmar (Pyne 1998). NGOs active in Thailand put the number at perhaps 10,000 to 20,000. In addition, significant numbers of women from Cambodia, Laos, China's Yunnan Province, and Russia work in the Thai sex industry. Recently, women from CIS States, including Uzbekistan, have been trafficked as well. (Personal communication, International Organization for Migration/Bangkok.) Undocumented male sex workers are probably a relatively small group. One investigation in Chiang Mai in 1995, however, found (mostly Shan) boys from Myanmar working in 3 of 17 gay bars in Chiang Mai City (Fairclough 1995).

The presence of a large number of sex workers not reached by current efforts may hinder Thailand's sustained success in promoting 100% condom use. No information is available about the number of partners or condom use rate of these undocumented sex workers. However, given the nature of their job and the large number of sexual partners, in the absence of condom use they are at very high risk of acquiring HIV and in turn transmitting it to clients, whether Thai or foreign, thus spreading the epidemic more widely. A further challenge for migrant women and girls in the sex industry is in preventing HIV in detention centers and prisons. The International Detention Center in Bangkok, as an example, has significant numbers of detained women from the sex industry, almost exclusively male guards, and no condom distribution program.

Infection rates among injecting drug users have remained extremely high—at 35-50% and are rising in Bangkok, the Central region, and the South (figure 10). Only in the North is there some initial indication of a decline, although the reason remains unclear.¹¹ Nevertheless, a multi-year study of HIV risks among northern Thai military conscripts found that the share of HIV due to injection drug use increased from less than 2% of infections in 1991 to 27% of infections in 1998 (Nelson et al 1999). Among HIV-infected 21-year olds with a history of IDU behavior, more than 95% also reported being sexually active. However, the pragmatic approach followed in preventing HIV transmission in commercial sex, which is also illegal, has not been followed for IDU, who remain highly stigmatized, and frequently incarcerated. Yet IDU will continue to be a reservoir of infection and will pass HIV not only to other IDU, but their sexual partners and children. The last study to estimate the number of IDU, in 1994, estimated 100,000-250,000 nationwide.

Figure 10: Percent of injecting drug users (IDU) infected with HIV, by region, 1990-99



Source: AIDS Division, MOPH.

Sex between men is a growing risk factor for HIV infection. In 1991, all HIV infection among Northern army conscripts could be attributed either to commercial sex (90.9%) or sex with girlfriends (9.1%)(Beyrer et al 1998). However, by 1995, the share attributable to

commercial sex had dropped to 72.8%, while the share attributable to sex between men accounted for 12.6% of the risk—nearly twice the percent of sexually active conscripts who reported ever having sex with a male partner (6.7%). Controlling for the presence of STDs, sex with women, and sex with prostitutes, conscripts entering the military in 1995 who reported same sex behavior were significantly more likely to be infected with HIV (Beyrer et al 1995).¹² Thai men who have sex with men (MSM) are a ‘bridge’ population in transmitting HIV between other MSM, women, and male and female sex workers.¹³ Almost all (97%) of the conscripts reporting male sexual partners also reported having female partners and had nearly double the number of lifetime female sexual partners (32.5) compared to heterosexual men (17.8). MSM were more likely to have visited a female sex worker than were heterosexual men (95.5% vs. 84.9%), and more than a third (36.6%) had visited a male sex worker. A study of Northern army conscripts in 1993 also found that MSM were significantly more likely to be married and to have a girlfriend than were heterosexual men (Beyrer et al 1995). Thus, Thai MSM are not only at very high risk of becoming infected, but also passing HIV on to many male and female partners in other high- and low-risk groups if condoms are not used consistently. However, condom use among MSM is very low.

The delayed implementation of programs to reduce transmission in commercial sex set the stage for the inevitable outward spread of HIV to low-risk partners and children. This was initially reflected in the rising level of prevalence among pregnant women attending antenatal clinics (refer back to figure 3). Up until

¹¹Trends in IDU infection are not reliable for the Northeast because of the small samples for some years (<100).

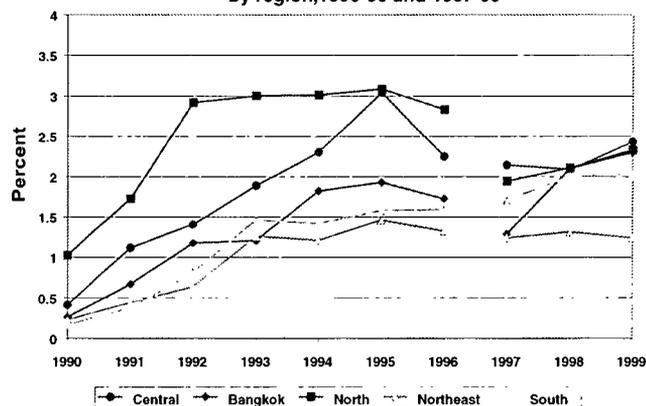
¹² A further finding of the study was that reporting of same-sex behavior among Thai MSM is heavily dependent on study methods. Two studies using different interview methods among conscripts found rates of MSM ranging from 3% to 14%, depending on the phrasing of questions and confidentiality assurances. This suggests that risk data on “heterosexual” men and male STD patients must also be interpreted with caution.

¹³ This behavior pattern is similar to that found among MSM in Brazil, where roughly 40% of MSM in Minas Gerais reported bisexual activity in the previous two years (De Lima e Costa et al 1990).

1996, trends in HIV prevalence in this group were monitored by the 'sentinel' surveillance system that monitored women in selected antenatal clinics. This series showed a slow increase of HIV in pregnant women, shadowing the increase among army conscripts, and an apparent 'peak' of infection among pregnant women in 1995 at 2.3%, followed by a decline in 1996. Beginning in 1997, the CDC started monitoring women attending antenatal clinics in all provincial hospitals for a period of three months prior to each round. As a result, the number of women tested for each round nearly doubled to around 62,000 annually. The data on pregnant women from 1997 onward are thus from a different and much larger sample that is more representative of all pregnant women.

The new series of women attending antenatal clinics, in contrast to the sentinel data, tells a very different story: HIV prevalence among pregnant women continues to rise, from 1.74% in 1997 to 2.02% in 1999.¹⁴ HIV infection is climbing among pregnant women in every region except the Northeast, where it has stabilized at between 1-1.5% (Figure 11). In Bangkok, the infection rate in pregnant women jumped one percentage point since 1997, from 1.3% to 2.3%. There is no region in Thailand where infection rates among pregnant women have declined recently.

Figure 11: Percent of pregnant women infected with HIV by region, 1990-96 and 1997-99



Source: AIDS Division, MOPH.

Note: Prior to 1997, data are from sentinel surveillance sites, which may not be representative of the population of pregnant women. From 1997 onward, the data are from all women attending antenatal clinics in provincial hospitals, for 3 months before the observation.

Urgent Need to Address Treatment Issues

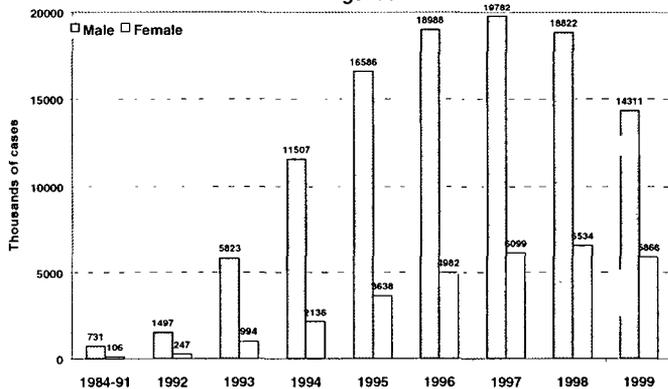
Thailand's epidemic is entering a new phase, as many of the people infected during its explosive start are becoming ill with symptomatic disease. People with HIV/AIDS (PHA) can be asymptomatic for 8-10 years before the immune system begins to fail and the first opportunistic illnesses appear. Thus, AIDS morbidity and mortality do not tend to rise dramatically until several years after the start of an epidemic. Between 1984 and the end of March 2000, a total of 142,072 AIDS cases were reported in Thailand. More than 80 percent of these have occurred since 1995. Between 1994 and 1996, the annual number of reported AIDS cases nearly doubled, from 12,005 to 22,542, before leveling off at roughly 24,000 new cases annually in 1997-98. However, this is surely an underestimate based on those who report to the health system with an AIDS-defining illness. The Thai Working Group on AIDS Projections estimates that the true number of new AIDS cases in 2000 will be 55,000 (more than double the officially reported number) and that cumulatively there have been 358,000 AIDS cases since the beginning of the epidemic. The overwhelming number of AIDS cases to date are among men, reflecting the transmission pattern of a decade ago among (primarily male) IDU

¹⁴ Trends in the mean infection rate for pregnant women. The epidemiological surveillance system uses medians, but this actually increases the volatility of the measures over time. For the 1999 figure, we use the national mean for ANC women, provided by the AIDS division (2.02); the published mean for the 17th round of HIV sentinel surveillance was slightly higher—2.07%.

and the male clients of commercial sex. However, the share of female cases is increasing, reflecting the later outward spread to the low-risk female partners of higher-risk men (figure 12).

An important research priority is to learn more about the socio-economic profiles of people with AIDS. Aside from the age and gender of AIDS cases, little is known beyond their occupation. Since the beginning of the epidemic, 47% of reported AIDS cases have been among laborers and 21% among those working in agriculture. Five percent were unemployed, 3% were housewives and 2% were prisoners. Nearly 9% were government officials, businessmen, office employees or shop keepers. This pattern reflects infections that occurred much earlier in the epidemic, so does not reveal the distribution of new infections by occupation. There's an urgent need for more information on the socioeconomic profile of AIDS patients and the impact of AIDS on the poorest households, to design efficient programs for prevention, care, and social support that target the neediest individuals and families.

Figure 12: Number of reported AIDS cases, 1984-99, by gender



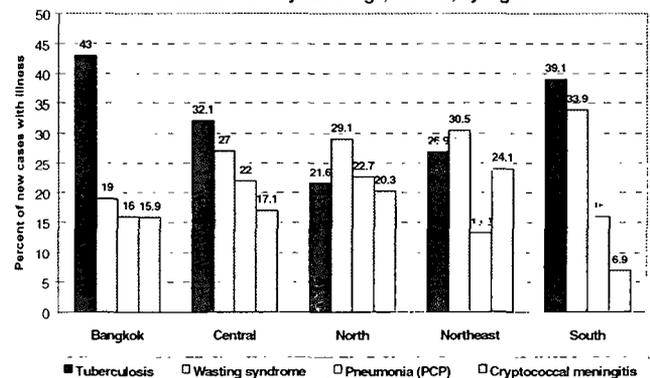
Source: AIDS Division, MOPH.

Note: Figures for 1999 are incomplete due to delayed reporting.

People who develop AIDS get life-threatening opportunistic infections (OI) that people with healthy immune systems can suppress. The most common OI in Thailand is tuberculosis (TB)—of the 24,654 newly diagnosed AIDS cases reported in 1998 among those 10 years of

age and older, 31.1% were diagnosed with AIDS because of a clinical diagnosis of TB (figure 13). TB is especially common among AIDS patients in Bangkok (43%), and much more common among IDU (47.6% present with TB) than among patients who acquired HIV through sexual transmission (27.5%). This is even more pronounced in Bangkok, where 75.7% of AIDS patients among IDU present with TB, compared to 38.8% of those who acquired HIV sexually. More than a fifth (21.8%) of the newly diagnosed AIDS cases nation-wide presented with a strain of pneumonia—*pneumocystis carinii* pneumonia (PCP)—very common among AIDS patients but uncommon in people with healthy immune systems. Cryptococcal meningitis and other cryptococcal infections rank third most common (17.6%), followed by esophageal *candidiasis* (4.4%). *Penicillium marneffei* has also emerged as an important AIDS associated opportunistic infection in Thailand (about 2.4% of cases, but much more common among patients from the North). These last three OIs are fungal infections—cryptococcal meningitis is a fungal meningitis, *candidiasis* is a fungal infection that presents itself as a white coating on the mouth, tongue, and the lining of the esophagus, and *P. marneffei* is a fungal yeast. Many AIDS patients will eventually suffer from more than one of these OIs, so these figures are an underestimate of their prevalence among AIDS patients in the course of the disease.

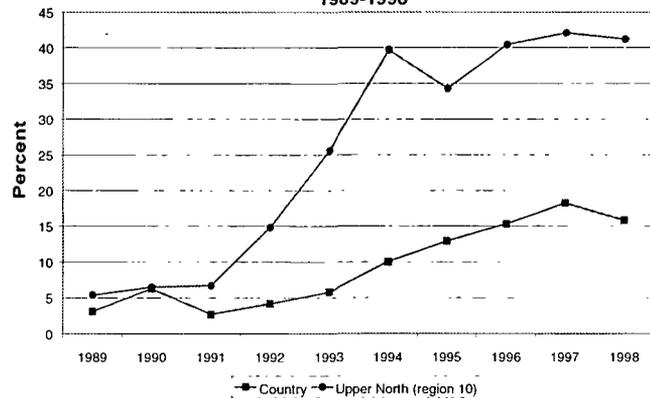
Figure 13: Common AIDS-defining illness among reported AIDS cases over 10 years of age, 1994-98, by region



Source: Chariyalertsak et al 2000.

After years of progress in reducing the incidence of TB, there has been a resurgence in cases due to AIDS. As of 1998, 15.8% of all new TB cases are HIV-positive and thus due directly to the impact of the AIDS epidemic (figure 14).¹⁵ The impact on TB has been particularly severe in the Upper North. In Chiang Rai province, the incidence of TB dropped from about 50 cases per 100,000 population in the early 1980s to 30 per 100,000 by 1991. However, in the next two years TB incidence rose back up to over 50 per 100,000, surpassing levels of the 1980s (Yanai et al 1996). At Chiang Rai hospital, the share of TB patients who were HIV-positive rose from 1.5% in 1990 to 45.5% in 1994 (Yanai et al 1996). Since the number of HIV-negative TB patients has remained stable, the increase in TB incidence in the region is entirely attributable to HIV. Also as a result of AIDS, new TB patients are now considerably younger than they once were: in Chiang Mai, for example, the share of TB patients under 45 rose from 34% in 1989 to 51% in 1992 (National TB Program). Multi-drug resistant (MDR) TB is a growing problem: at the Central Chest Clinic in Bangkok, MDR-TB rose from 1.9% of all cases in 1991 to 6.2% in 1994 (Sawert et al 1997). A study in the same clinic in 1995-96 found that HIV-positive TB patients had a risk of MDR-TB 12 times higher than HIV-negative TB patients (Punnotok et al 2000). In provinces highly affected by HIV, like Chiang Rai, MDR-TB levels are three times the national level. As many as 10% of patients seen with TB and AIDS at the Chiang Mai University Hospital are infected with MDR-TB (T. Sirisanthana, personal communication).

Figure 14: Trends in HIV infection rates among new TB patients, 1989-1998



Source: Tuberculosis Division, Department of Communicable Diseases Control.

Despite the mounting burden of AIDS morbidity, there has been no systematic review of the access of AIDS patients in Thailand to different types of treatments or therapies provided by the public or private sectors, the likely benefits and gaps. AIDS is a fatal condition, but there are treatment options that can extend the length and quality of life of AIDS patients (box 4). The AIDS Division of MOPH has published clinical guidelines for health providers for treatment. However, there is currently no recommended package of cost-effective treatments for people living with HIV/AIDS covered by all insurance schemes. As a consequence, the type of care that PHAs receive is highly variable from health facility to health facility and large variations in OI treatment are observed. **There is limited but disturbing evidence that many, if not most PHAs in Thailand, are not currently reached by cost-effective prevention, treatment and care programs for opportunistic infections.**

Voluntary counseling and testing (VCT)—an important service to identify those who can benefit from early treatment—is widely available in Thailand but underutilized; the quality of counseling services and their link to care programs has not yet been evaluated. VCT is available at nearly all provincial and community hospitals, through the private sector and (in the northern region) at health centers. Nevertheless, VCT can only be beneficial to those who seek it; most people with HIV/AIDS

¹⁵ The higher prevalence of TB due to AIDS also poses increased risk among the HIV-negative population of contracting TB. Thus, improving the detection, treatment, and prevention of TB among PHA is not only beneficial to PHA but to the population at large by lowering their risk of contracting TB.

find out that they are infected only when their health begins to fail; many who could benefit from earlier detection are not getting tested. Fear of social stigma, harm, and isolation were also cited frequently by Thai PHAs and care givers as reasons for not seeking VCT. This appears to be a particular concern in rural areas, and the Southern and Northeastern regions,

where social stigma may be more prevalent. **A broader awareness among the public and health providers of the potential benefits of early diagnosis would likely lead to greater demand for VCT, prevention and treatment of OI, and improved health outcomes for PHA.**

Box 4: Lengthening and enhancing the quality of life of AIDS patients

There is no cure for AIDS, but there are services or treatments that can help AIDS patients to live longer lives in better health, and reduce their pain and suffering in the final stages.

Voluntary counseling and testing (VCT). Because HIV infection is asymptomatic for many years, people who might benefit from early treatment or who should be taking extra precautions to prevent spreading the virus are often not aware that they are infected. Voluntary counseling and testing for HIV can help those who seek it to arrange for early clinical management of their disease *before* presentation with an AIDS-defining condition. VCT has also been shown to encourage sexual behavior change to prevent HIV, particularly in stable sexual partnerships (Coates et al 2000).

Treatment and prevention of opportunistic infections. All of the major opportunistic infections—TB, PCP, and the fungal infections—can be treated and prevented successfully in AIDS patients, extending both the quality and length of life. The life-extending benefits of TB prevention and treatment in HIV-positive patients are real, since those with active untreated TB will most likely die of it. And there are public health benefits to this approach, since TB in patients with HIV can be highly infectious for others. PHA can be treated successfully for TB and cured, using the same 6-month course of treatment as for HIV-negative patients. *Prevention of TB requires screening PHA for active TB, treating active cases, and providing treatment for 9 months with Isoniazid (INH) for those without active TB disease.* Primary prevention against PCP is recommended by the World Health Organization (WHO) for all HIV-positive patients with diminished immune systems (CD4 T-cell counts below 200), for any patient with an AIDS-defining illness. A single daily dose of TMP-Sulfa (Bactrim, Co-Trimoxazole) can prevent this common and potentially fatal infection, but must be taken for life at a cost of \$10/year. The three major fungal infections—*candida*, cryptococcal meningitis, and *pennicilin marfei*—respond well to prevention with anti-fungal drugs (Supparatpinyo et al 1998).

Anti-retroviral therapy (ART). ART suppresses HIV, maintaining the integrity of the immune system and postponing development of deadly opportunistic infections. First introduced in 1986, ART has evolved from mono (single)-drug therapy (AZT, or zidovudine) to dual drug regimens (including AZT plus ddI, or AZT and /or ddI with d4T and 3TC) to triple-drug therapy, usually adding a protease inhibitor, in 1996. Protease inhibitors are a new class of anti-viral drug that prevents the HIV virus from making the proteins it needs to make new viruses in HIV-infected cells. Single drug therapy has been shown to have little effect on morbidity and mortality and is no longer used for treatment. Two-drug regimens are only moderately effective in reducing morbidity, add less than one year of disease-free survival and have no real benefit on length of life (Concorde 1994). Effective ART generally requires a minimum of three agents used in combination to show real benefits in disease-free survival times and quality of life. 'Highly-active' ART (HAART), which is used in high-income countries, is advanced anti-viral therapy that includes combinations of 3 and as many as 5 drugs, usually from 1-3 different classes of drugs, including protease inhibitors, multiple regimens and combinations, and intensive monitoring of patients for resistance. HAART is a highly individualized treatment that evolves over time as patients develop resistance or side effects that cannot be tolerated, requiring alternative drug combinations. As far as is now known, ART must be taken for life, and must be used with high physician and patient compliance to be effective. For those who can comply with the therapy, it can greatly enhance the length and quality of life.

End of life care and management of pain and suffering. Palliative care aims to reduce suffering and enhance quality at the end of life. This includes home-based and hospice-based care for the dying and the management of pain, symptoms like diarrhea, and prevention and treatment of bedsores for patients no longer ambulatory. The Soros Foundation is funding several investigations worldwide of death with dignity with a focus on access to pain medications, and this approach could be used to evaluate the needs of Thai PHAs. A 2000 WHO report on the status of palliative care worldwide identified lack of access to pain medication for terminally ill patients as one of the most extreme inequities in global health care.

There are important gaps in TB treatment and control that affect the access of AIDS patients to treatment. While the TB Division of the MOPH has been progressively implementing the “directly observed therapy, short-course” (DOTS) for TB patients across the country, coverage is still not national.¹⁶ Launched in 1996, DOTS is implemented in half of the districts and will cover all of them by 2003, according to WHO. The program is very successful in some regions (as in the North-East where all districts have implemented DOTS)¹⁷ but less in others (only 20% of districts in the province of Chiang-Mai and in Bangkok). In 1998, 40% of districts were covered by the DOTS program; in those districts, high smear conversion rates of 76% and cure rates of 68% were realized. Inadequate treatment, due mainly to noncompliance with regimens, is leading to MDR-TB, an expensive and challenging infection to treat. While the cost of drugs for treatment of non-resistant TB is \$US 343 per case in Thailand (National TB Program), the cost of successful treatment of a case of MDR-TB in 1995 was estimated at \$1,000-\$10,000 (Sawert et al 1997). TB treatment is financed by government and offered free of charge. In contrast, the drug costs of TB prevention with a 9 month course of INH is less than \$3.

Provider attitudes and shortages of some drugs restrict access of AIDS patients to treatment for other opportunistic infections. Several of the drugs for prevention and treatment of OIs—including the TB drugs, fluconazole for treatment of fungal infections, and cotrimoxazole for PCP prevention—are generic. Nevertheless, some are in short supply. Generic fluconazole, for example, is not universally available and many patients must

buy the more expensive patented version (D. Wilson, personal communication). There has been no recent assessment of the availability of these drugs in public hospitals, but a 1996 study in the Upper North found that anti-fungal drugs have the biggest supply and availability problems (Suwanvanichikij et al 1996). In contrast, other drugs, like amphotericin B for treatment of cryptococcus, remain under patent and are expensive. Hospital managers are sometimes reluctant to keep in stock these expensive drugs for which they are incompletely reimbursed by public assistance and voluntary health card schemes. There are disturbing anecdotes concerning attitudes of providers who consider expenditure on treatment of TB and other OIs in AIDS patients to be a waste of resources, given that their condition is ultimately fatal. It is unknown how prevalent these attitudes are or how important they are as a barrier to treatment but if true, AIDS patients will be discouraged from obtaining treatment, even if low-cost drugs are available. When AIDS patients lack access to TB treatment and prevention—regardless of the cause—there can be substantial negative impacts on TB in the rest of the population. **To make better care a reality, physician and care giver resistance to managing HIV infected patients warrants close examination.**

The sharp rise in TB associated with HIV and the high prevalence of PCP and other preventable OIs are clear evidence that many if not most PHA are not receiving primary prophylaxis¹⁸ for these OIs in Thailand, even though these drugs have been shown to be effective and low-cost. An informal survey conducted by *Medecins sans Frontières*/Belgium earlier this year interviewed 134 Thai PHA, all of whom were active in advocacy for AIDS patients. These individuals represent “leaders” of the PHA community, and all had been diagnosed with HIV or AIDS. Among the 134, 81 individuals met clinical or laboratory criteria for PCP prophylaxis, *but only half (40)*

¹⁶ The DOTS strategy improves patient compliance by having a local worker watch the patient take treatment, at least during the first two of the 6-8 month regimen. It also allows for patients to be treated in their homes or nearby health facilities, which are more convenient and involves better detection and monitoring of cases and outcomes. DOTS has produced much higher patient compliance and treatment success than traditional TB therapeutic strategies, and has proven far more cost-effective.

¹⁷ In districts with “full implementation” of DOTS, all people identified with TB are treated with high levels of compliance.

¹⁸ Primary prophylaxis for OI is preventive therapy initiated when a patient’s immune system is weakened, before onset of the OI. Secondary prophylaxis is preventive therapy against recurrence of an OI.

had received it. An additional 93 PHA who sought clinical evaluation from MSF were interviewed. *More than a third (37) had been told by their primary care provider that they needed to be on PCP prophylaxis but had not yet received it.* With respect to TB prevention, improvements in DOTS implementation should make possible its broader use, through improving case finding and access to household contacts of active TB cases in need of preventive TB therapy.

Combination anti-retroviral therapies are in limited use in Thailand, remain expensive, and the therapies in use are of uncertain benefit. About 2,100 AIDS patients in Thailand are enrolled in clinical trials of combination antiretroviral (ARV) drugs—two-drug therapy (2000 patients) or triple-drug therapy (100 patients)—funded primarily through the government AIDS budget.¹⁹ In addition, an unknown number of patients—almost certainly fewer than 1% of Thais aware of their HIV status—are purchasing combination ARV therapies from private medical sources. The therapies in use are generally two-drug therapies. An evaluation of the results of clinical studies of dual therapy is underway through the Thai Clinical Research Network.

However, even when implemented in the best of conditions, dual therapy is expected to be of limited benefit, based on international experience. The declines in AIDS deaths in the U.S. and Europe were seen not after the introduction of 1 or 2 drug therapies, but only after the 1996 introduction of highly-active anti-retroviral therapy (HAART), which consists of 3 or more drugs, of which one is a protease inhibitor. These therapies can prolong and greatly improve the quality of life for patients who adhere to the regimens. However, they are not a cure and must be taken indefinitely. International experience has highlighted a number of issues with the existing ART technology that can compromise its

effectiveness: patient compliance (Proctor et al 1999) is difficult to sustain; patients can develop drug resistance during therapy (Ross et al 2000); debilitating side effects can reduce patient compliance (Behrens et al 2000); and difficult treatment requires highly trained and equipped providers. Since 1998, the declines in mortality seen in the U.S. have flattened, suggesting the limits even of HAART.

The current cost of drugs alone for a standard three-drug ARV regimen in Thailand is 27,000 baht (US\$ 675) per month, about 324,000 baht (\$8,100)/year. There is some hope that the high costs of these drugs will go down, perhaps to as low as 8,000 baht (US\$ 200) per month and 96,000 baht (\$2,400)/year if drug companies act on their public statements to lower their prices for developing countries. In addition, the Government Pharmaceutical Organization (GPO) is producing AZT, didanosine (ddI) and stavudine (d4T) generically at substantially lower prices than imported name-brand drugs (A. Eksaengsri, personal communication). Implementing this therapy successfully also requires extensive monitoring. Viral load testing is recommended for monitoring combined ARV treatment. The incremental cost per test is 5,000 baht/patient (\$ 125) and is generally available only in regional and university hospitals, to only a small fraction of Thai PHA. Expanded availability of ART would require investment in more testing facilities, which is not included in these incremental costs per test.

The majority of PHAs end their lives at home, cared for by family members and supported in some cases by the services of NGOs and community-based organizations (CBO). There appears to be considerable regional variation in home-based and community care programs for PHAs. In the upper north, a number of NGO and PHA groups offer care and support programs for PHAs, and MOPH visiting nurse services reach a significant portion of those in need in some districts. However in rural areas,

¹⁹ Of the antiretroviral medications used in Thailand, zidovudine (AZT) is available in most hospitals, didanosine (ddI) and zalcitabine (ddC) in some. Stavudine (d4T), lamivudine (3TC) and protease inhibitors are rarely used.

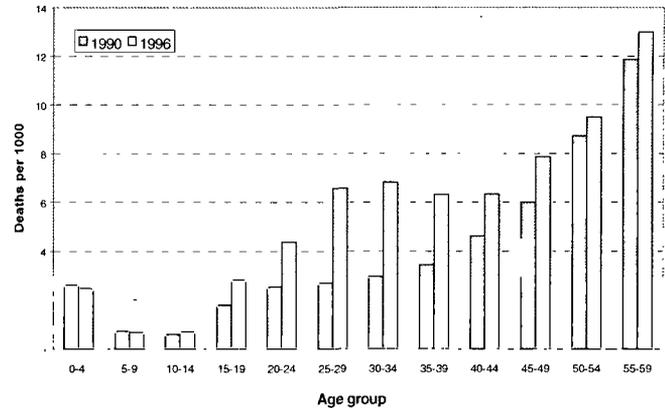
²⁰ Of the antiretroviral medications used in Thailand, zidovudine (AZT) is available in most hospitals, didanosine (ddI) and zalcitabine (ddC) in some. Stavudine (d4T), lamivudine (3TC) and protease inhibitors are rarely used.

in the South, Northeast, and in Bangkok, programs appear limited or non-existent. A number of hospice programs are offered by the Buddhist and Christian clergy. Projects like the Chiang Mai-based Sanghametta Project offer training to monks in care for terminally ill patients with AIDS. This approach has significant benefits not only in terms of care, but in reducing stigma through associations with the revered clergy. The demand for community-based care can only grow as more HIV-positive persons in Thailand progress to AIDS. While improved care and ART may lessen the burden to some extent on communities, AIDS remains a fatal illness and support for hard-hit communities will be crucial to ensuring the success of these programs. Access and affordability of pain medication for the terminally ill has not been studied in Thailand. **There has been no systematic assessment of the type of services, coverage and geographical gaps in terminal home-based care support provided by NGOs and CBOs on a national level.**

The Rising Impact of AIDS Morbidity and Mortality

The increase in the number of symptomatic HIV patients poses an increased burden for hospitals, especially in the North. Between 1992-98, the number of annual inpatient days in Chun Hospital, a community hospital in Phayao province, grew by 61%, from 7,337 to 11,847. More than half of the increase (2,594 days) was due to the rising burden of AIDS hospitalizations, which were virtually nil six years earlier (Sunwanmalee 1999). The average length of stay of AIDS inpatients was more than double that of patients with other conditions. Hospital expenditures over that period rose by 120% in real terms and a quarter of the increase could be attributed to HIV/AIDS. By 1998, prevention and care for HIV patients represented 16% of total hospital expenditures and 30% of inpatient expenditure. The budget allocation for HIV/AIDS from the national government covered only 20% of the additional cost of AIDS patients; 80% of the increase was borne by the hospital general budget and insurance schemes.

Figure 15: Age-specific death rates for men, 1990 and 1996

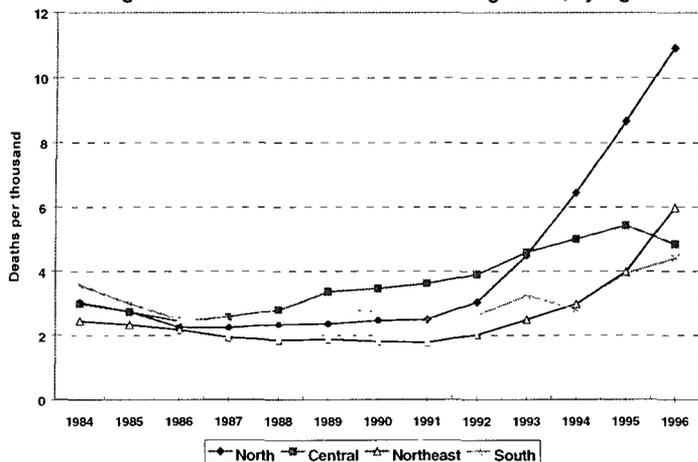


Source: van Griensven et al (1998)

The impact of AIDS is already evident in the changing national pattern of adult mortality. Between 1990-96, there was a marked increase in the age-specific death rates of men 15-50, the ages when a person is most likely to contract HIV (figure 15).²¹ The death rate for men age 25-29 has increased in every region of Thailand, but most notably in the North, where it has more than quadrupled (figure 16) and 80% of deaths among those 25-29 can be attributed to AIDS (van Griensven et al 1998). In Chiang Rai and Phayao provinces, the death rate in this age group has increased tenfold, to 22 per thousand (van Griensven et al 1998). Life expectancy for Northern children aged 0-4 has dropped by 10-13 years for boys and 5 years for girls (van Griensven et al 1998). Estimates made by the U.S. Bureau of the Census suggested that life expectancy in Thailand is 2-3 years less than it would have been in the absence of AIDS (World Bank 1999).

²¹ Based on deaths recorded by the vital registration system.

Figure 16: Trends in death rates for men age 25-29, by region



Source: Im-em (1999).

High infection rates in pregnant women have resulted in a growing number of young children with HIV/AIDS.

Without any medical intervention, roughly 25-35% of HIV-positive pregnant women will pass HIV to their newborn children during pregnancy, childbirth, or breastfeeding. In Thailand, this amounts to an estimated 4,000-5,000 HIV-positive children born to women living with HIV/AIDS annually. Research has shown that a short course of AZT during pregnancy and labor can reduce the probability of HIV transmission from mother to child among non-breastfeeding mothers by half (Shaffer et al 1999).

To reduce the impact of the AIDS epidemic on children, Thailand has been phasing in a new policy of providing free HIV testing to all pregnant women and, for those who are HIV

positive, a short regimen of AZT before and after delivery, AZT syrup for the child, and a one-year supply of breastmilk substitute (box 5). When fully implemented, this policy should prevent two-thirds of the HIV infections due to mother to child transmission. Initial results from regional pilot programs are very encouraging: In Zone 10 (North), where 3.7% of women are HIV-positive, 98% of pregnant women in the project area agreed to be tested, and 75% of those testing positive received AZT (Thaineua et al 2000). The transmission rate has been reduced to 7.7%. In Zone 7 (Far East), where HIV prevalence is lower (<1%), 69% of pregnant women agreed to be tested and 69% of those testing positive agreed to take AZT (Kanshana et al 2000). The transmission rate was reduced to 8.2%. Because fertility is low and the number of children infected is relatively small, this intervention may be affordable in Thailand. Based on the experience in the North (Thaineua et al 1998), the cost per child HIV infection averted for a national plan that covers 60% of pregnant women can be estimated at \$2,000-\$3,000.²² Life expectancy for children who are not helped by this intervention is short, half of them dying by age 5 (Dabis et al 2000). While young children can also benefit greatly from prevention and treatment of opportunistic infections, their access is likely to be much lower. Parents find it very difficult to cope with both their own and their children's illness, and when children's prime caregivers fall ill, children are subject to neglect.

²² This estimate assumes that the transmission rate without any intervention is 30% and that transmission will be reduced by 60% using the short AZT regimen and breastmilk substitute (BMS). Costs include the costs of counseling, training, supervision, and consumables. Against these costs, prevention of HIV transmission from mother to child will also produce some savings in terms of reduced cost of caring for HIV-positive children. Further, there may be secondary benefits of the counseling and testing of women in terms of preventing spread of HIV with their spouses and sexual partners.

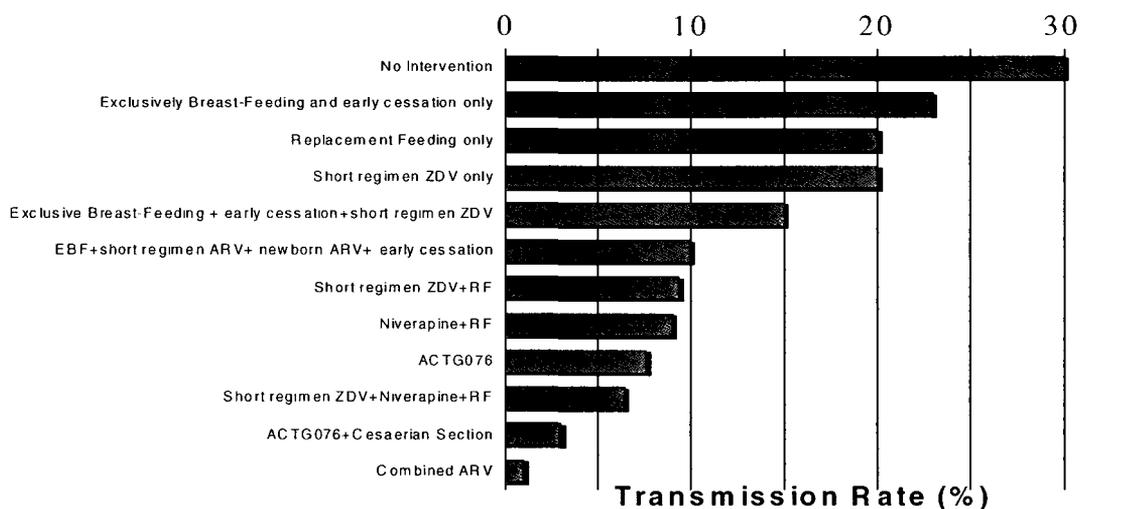
Box 5: Preventing transmission of HIV from mother to child

HIV can be transmitted from mother to child before birth, during labor and delivery, and after birth, by breastfeeding. In the absence of any intervention, about 30% of HIV-positive pregnant women who breastfeed would pass HIV infection to their children.

Since 1995, voluntary HIV testing and counseling for pregnant women has been progressively implemented throughout Thailand. Initially, HIV-positive mothers were provided with breastmilk substitute for replacement feeding (RF), to prevent HIV transmission through breastfeeding. This probably reduced HIV transmission to the newborn by about one third, to 20% (see figure). The Thai Red Cross subsequently implemented the long regimen of zidovudine (also known as AZT or ZDV) during pregnancy for HIV-positive mothers (ACTG076 regimen), which should have reduced transmission to less than 10%. However, a short regimen of AZT, which is also less expensive, has also been shown to be effective in Thailand in a controlled trial. The Upper North region of Thailand rapidly scaled up its program, introducing a short regimen of AZT during the antenatal period and delivery, AZT syrup to the baby, and replacement feeding on a routine basis. More than 70% of HIV-positive mothers of this region benefited from the treatment in 1999. When fully implemented, the transmission rate from mother to child should be cut by two-thirds (see figure). The intervention has been shown to be cost-effective, even at less than 5% HIV prevalence among pregnant women.

There are, however, still discussions about which regimen to use in countries where replacement feeding may not be easily implemented on a large scale because of the increased risk of child illness and mortality when water sources are unsanitary and caring practices are poor. There are many different regimens to choose from, with different benefits, levels of complexity, and costs. As a large part of HIV transmission via breastfeeding occurs after 6 months, exclusive breastfeeding (EBF) for six months and early cessation of breastfeeding may be an alternative in countries where early replacement feeding is not an option for most women.

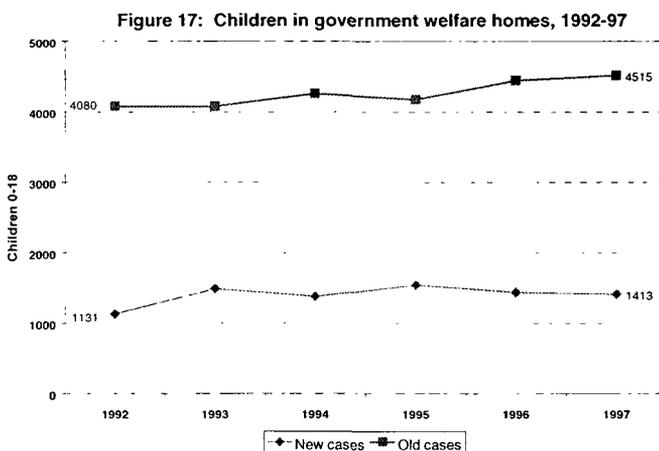
Estimated Rates of Mother-Infant HIV Transmission by Intervention



Prevention of Mother to Child Transmission of HIV: Implementation Issues in Developing Countries
 Agnes Soucat (1) Petchsil Sirinirund (2) R.J. Simonds (3) (4) Rudolf Knippenberg

Adult AIDS mortality is also dramatically increasing the number of Thai children who have lost one or both parents. The results of the “Global Orphans Study for Thailand” estimated that in 1998 there were 34,372 children under the age of 15 who had already lost their mothers to AIDS, 57,049 whose mothers were living with AIDS, and 420,731 whose mothers were HIV-positive but asymptomatic (UNICEF 2000). A survey of public and private agencies involved in helping PHA and children in 17 northern provinces counted 7,247 children age 0-18 who had either lost parents to AIDS or whose parents were living with AIDS. A second enumeration in 2000 counted 10,270, 35% of whom were 2-parent orphans (Vienping Children’s Home 2000). Most children orphaned by AIDS in Thailand, including HIV-positive children, are cared for by surviving parents and relatives. The number of admissions in government children’s homes nationally rose 25% between 1992-97, while the number of continuing cases has remained fairly stable, rising only 11% over that period (figure 17). This increase may be due to many different causes, not necessarily to the AIDS epidemic, including population growth, an increase in the number of children’s homes, or broader cultural change. Many orphanages engage in extensive outreach, not reflected in the number of resident children, to keep children in their communities—programs to encourage adoption, to place children in foster or group homes, to place children in private orphanages with more resources, and to support children living in the homes of their relatives and/or HIV-positive parents (M. Yoktree, personal communication). This strategy allows the support of more children in a better environment, at lower cost: The support costs

for a child in the Vienping home are 30,000 baht/year (excluding staff costs), compared with 24,000 baht/year for children in foster care, and 6,000 baht/year in support for children cared for in the homes of relatives.



Source: Children and Youth Welfare Division, Department of Public Welfare.

An increasing number of HIV-positive children are being abandoned or left with children’s homes. By 1997, the number of annual new admissions of HIV-positive children to government children’s homes had risen to 109, from roughly one tenth that number five years earlier, bringing to 201 the number of children with HIV/AIDS being cared for that year (Children and Youth Welfare Division, Department of Public Welfare). Several private orphanages have sprung up that specialize in care of HIV-infected children, offering more intensive care and treatment of the children, including in some cases ART. The support and treatment costs in these homes can be quite high—the Support the Children Foundation in Chiang Mai spent 3.7 million baht (nearly \$100,000) for anti-HIV drugs and another 3 million baht for caregivers for roughly 24 children per year (Dr. Vicharn Vithayasai, personal communication). The quality of care that can be provided depends on private donations. Clearly, the number of children infected with HIV can be reduced considerably by wider implementation of MTCT interventions. However, this regime is costly and only partly effective, and the HIV-negative children born to infected women will still endure

²³ This estimate assumes that the transmission rate without any intervention is 30% and that transmission will be reduced by 60% using the short AZT regimen and breastmilk substitute (BMS). Costs include the costs of counseling, training, supervision, and consumables. Against these costs, prevention of HIV transmission from mother to child will also produce some savings in terms of reduced cost of caring for HIV-positive children. Further, there may be secondary benefits of the counseling and testing of women in terms of preventing spread of HIV with their spouses and sexual partners.

the impact of losing their mothers. This underscores the importance of preventing infection in women of childbearing age, which protects not only the women but their children as well.

Reduced Public Expenditure on AIDS Prevention

In 1999, the Royal Thai Government spent 1.4 billion baht (\$37.9 million), or about 24 baht (63 cents) per capita from its national AIDS program budget to prevent transmission of HIV, to care for and treat AIDS patients, to mitigate the impact of AIDS, and to support AIDS research (table 1).²⁴ The largest share of the AIDS budget (63%) financed treatment and care, including antiretroviral and opportunistic infection drugs for clinical trials, HIV testing and counseling, blood screening, and universal precautions to prevent HIV infection in medical settings. Of the total of 24 baht per capita spent out of the AIDS budget, 15 baht (40 cents) is spent on treatment and care. The next largest share (16%) was spent on services to mitigate the impact of AIDS, including programs to prevent transmission of HIV from mother to child, care of orphans, subsidized living arrangements for people living with HIV/AIDS who are out of work, skills training and legal counsel for PHA. Programs to prevent the spread of the epidemic in the population accounted for only 8% of the budget, covering public information, purchase of condoms for free distribution, condom promotion, and other community prevention activities. An additional 6% of the AIDS budget was distributed as grants to NGOs for community-level AIDS prevention and care activities. The remaining 7.2% of the AIDS budget was allocated to management and research.

Total funding for AIDS programs declined by 9% between 1996-97 (from 2,187.5 million to 1,986.1 million baht) and has declined more dramatically, by 27.8%, since the economic crisis (1997-99).²⁵ The hardest hit has been prevention expenditure, which dropped by half since 1997 and has declined as a share of the total AIDS budget, from 11% to 8%. Current levels of government spending amount to only 2 baht per capita (5 US cents) to prevent HIV transmission among roughly 40 million adults. Expenditure on treatment and care was also cut by about a third (34.4%). However most of this decline could be attributed to completion in 1998 of a program to construct patient wards at five hospitals in 1998 (Waranya Teukul, personal communication). If one excludes this component, then spending on medical treatment and counseling was relatively protected during and after the crisis, with a 9.3% cut. In fact, the AIDS budget line for treatment is only a share of total public spending on AIDS treatment, as it covers drugs only for a small group of AIDS patients enrolled in clinical trials. Health care needs of other AIDS patients are financed through the regular budget of MOPH for care and cannot be easily disassociated from the health care consumed by other patients. Grant funding for NGO activities has remained constant from 1997-99. The two main categories that received increased spending are programs to mitigate the impact of AIDS—notably the financing of programs to reduce HIV transmission

²⁴ This figure excludes the cost of treating other sexually transmitted diseases, tuberculosis in AIDS patients and other public subsidies for health care that are used by AIDS patients. The AIDS budget funds activities in MOPH as well as other ministries (e.g., OPM, Ministry of Defense, Ministry of Education, Social Welfare Ministry).

²⁵ Because the conventions for classifying different types of AIDS expenditure changed in 1997, it is not possible to show the breakdown by program component for previous years in a way that is comparable.

Table 1: Evolution of government national AIDS program expenditure in Thailand, 1997-2001

Program component	1997		1998		1999		2000		2001 ^a	
	Millions of baht	Percent	Millions of baht	Percent	Millions of baht	Percent	Millions of baht	Percent	Millions of baht	Percent
<i>Prevention</i>	217.3	10.9	138.3	9.3	108.9	7.6	108.9	7.9	121.6	8.2
<i>Treatment and care</i>	1,379.4	69.5	980.7	66.2	905.3	63.1	948.2	64.9	936.1	62.9
Medical treatment	973.0	49.0	895.4	60.4	893.5	62.3	939.6	64.3	927.2	62.4
Counseling	25.2	1.3	11.6	0.8	11.8	0.8	8.6	0.6	8.9	0.6
Facilities/equipment	381.2	19.1	73.7	5.0	0	0	0	0	0	0
<i>Mitigating the impact</i>	142.7	7.2	174.2	11.8	228.3	15.9	235.4	16.1	235.1	15.8
MTCT & other	57.5	2.9	72.0	4.9	138.8	9.7	147.8	10.1	146.7	9.9
Social services	85.2	4.3	102.2	6.9	89.5	6.2	87.6	6.0	88.4	5.9
<i>NGO activities</i>	90.0	4.5	90.0	6.1	87.6 ^b	6.1	60 ^b	4.1	70 ^b	4.7
<i>Research</i>	32.9	1.7	46.7	3.2	54.6	3.8	50.7	3.5	54.6	3.7
<i>Management</i>	123.8	6.2	51.6	3.5	48.9	3.4	56.7	3.9	69.6	4.7
TOTAL	1,986.1	100.0	1,481.5	100.0	1,433.6	100.0	1,460.2	100.0	1,487.0	100.0
<i>Notes:</i>										
Condom budget	29.2		36.0		35.7		43.2			
Condoms purchased (m.)	20		24.9		25.3		31.5			
AIDS treatment drugs	172.5 ^c		309.1 ^c		256.1 ^{cd}		280.0 ^e		440.9	
ARV for treatment	172.5 ^c		242.8 ^c		248.9 ^d				289.7	
OI drugs	0 ^c		66.4 ^c		7.2 ^c				151.2	
TB budget	360.1		333.6		310					

Source: Based on Bureau of the Budget data compiled by the Social Projects Division, NESDB. Figures for 1997-99 are actual expenditures; figures for 2000-2001 are budgeted or proposed.

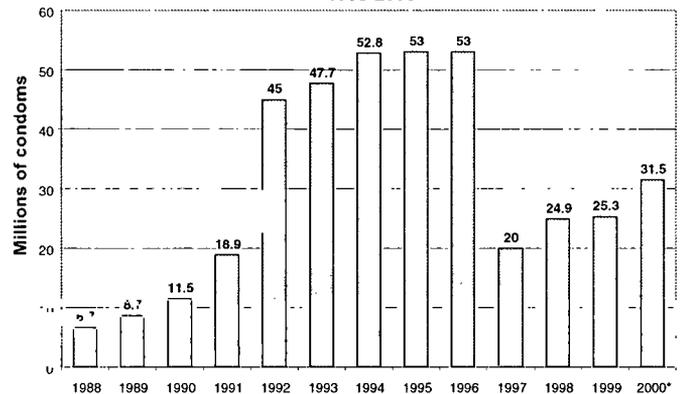
Notes: a. Proposed. b. Source is AIDS Division, Communicable Disease Control Department, MOPH. Excludes planned disbursements for the \$2.6 million SIP component on AIDS prevention and care in 2000-2001. c. Expenditure by AIDS Division only; excludes spending on AIDS treatment drugs by the rest of MOPH and drugs for treating TB. d. Includes grant from Japan for 125,778,903 baht for ARV drugs in 1999, which induced a reduction of the AIDS division budget for ARV to 123 million baht. e. Assumes that 167 million baht was reinstated in 2000, to replace the contribution made by Japan the previous year. The allocation between OI and ARV has not yet been decided.

from mother to child (41.4% increase since 1997)—and research, which increased by 66%. The 2000 and 2001 budgets do not suggest much of a change in the *status quo*, with some modest increases in prevention (11.7% increase of 12.7 million baht, still leaving nominal spending on prevention 44% below 1997 levels), medical treatment (3.8% increase, 33.7 million baht), and mother-to-child transmission (5.6% increase, 7.9 million baht). Funding for NGOs is projected to decline, but these figures exclude the AIDS component of the Social Investment Project loan, financed by the World Bank, with projected disbursements of 27 million baht in 2000 and 45 million baht in 2001.

The cut in prevention expenditure reflects a dramatic decline in finance of condoms for free distribution. The number of condoms purchased by the MOPH for free distribution to high-risk groups dropped by 62 percent, from 53 to 20 million pieces (70 million to 29 million baht), between 1996–97 (figure 18). These cuts were primarily the result of a decision to transfer more of the costs of condoms to beneficiaries, but coincided with the economic crisis. Several informants felt that 1996 condom levels represented oversupply, and that a modest reduction in publicly financed condoms might have been in order. Monitoring of the epidemic and of risk behavior in the population during the crisis years suggests that high levels of condom use in commercial sex were sustained despite these cuts (Pothisiri et al 1999, Tangcharoensathien et al 2000). However, the crisis most likely reduced the demand for commercial sex, reducing the demand for condoms and thus reducing the impact of the cut in the condom budget. Many other high-risk groups highlighted earlier in this report still have low condom access and use. The cuts in condom purchase in 1996–97 have by and large not been reinstated, with projected condom purchases for 2000 (31.5 million condoms) at only 59% of 1996 levels. According to the information

provided to the mission, *none of the prevention budget is allocated for prevention of HIV transmission by injecting drug use, which accounts for a growing share of total transmission and where HIV infection levels have risen, not declined.*

Figure 18: Condoms purchased by the AIDS division, 1988-2000



Source: AIDS Division, MOPH.

Public spending on treatment from the AIDS budget is dominated by the purchase of expensive anti-retroviral drugs for small numbers of AIDS patients enrolled in clinical trials. With the exception of financing AZT for prevention of mother-to-child transmission, government and most insurance providers in the health system do not subsidize antiretroviral therapies, such as the expensive triple-combination therapies used widely in the West. This policy is consistent with that for public funding of other very expensive treatments, like kidney dialysis, which is not subsidized. However, in the case of AIDS, there is an exception for some 2,100 persons enrolled in clinical trials of dual or triple antiretroviral therapy, whose drug costs are financed by the AIDS budget as part of clinical trials. The proposed drug budget for 2001 for ARV (289.7 million baht) amounts to 31% of the proposed allocation for medical treatment and roughly one fifth of the entire AIDS budget (NESDB). If 100,000 people in Thailand are currently living with AIDS, this means that *one fifth of the national AIDS program budget and*

more than twice the amount spent on prevention is being used to finance ART for 2% of all AIDS patients, at an average cost of 138,000 baht or US \$3,449 per patient annually. An unknown share of the regular MOPH budget is also spent on health care of AIDS patients not in these clinical trials, but the MOPH budget does not finance ART for treatment, and in general there is no clear policy on funding of drugs for opportunistic infections. Drugs for treatment of OIs are financed through other budgets of the MOPH, through hospitals and other health facilities, and out of pocket, and these expenditures have certainly increased over time with the growing number of AIDS patients. Hospitals can allocate some of their non-earmarked drug budgets to drugs for opportunistic infections. Thus, it is very difficult to track actual spending on OI drugs (treatment and prevention), and in some cases, the same drugs are used to treat AIDS patients and those with other conditions. The main exception is the TB budget, which is funded centrally. *Despite the dramatic increase in TB associated with HIV infection, the TB budget declined in nominal terms by 14% between 1997-99, from 360.1 million to 310 million baht.*

Budget allocations to NGOs have remained steady since the crisis, although the mix of services provided, program coverage, and likely impact have not been studied. NGOs have played an important role in the response to AIDS in Thailand; their critical role in facilitating care for AIDS patients is often cited. In 1999, the AIDS Division allocated 87.5 million baht to 465 projects of 373 organizations, for an average outlay of 188,200 baht (\$4,704) per project. In 2000 and 2001, the allocations for NGOs declined, but this will in part be compensated for by the \$2.6 million AIDS component of the World Bank-financed Social Investment Project (SIP). In 2000, the AIDS budget will allocate 60 million baht to nearly 300 NGOs for prevention and care, and the SIP project an additional 27 million baht to six major NGOs who will

allocate funds to smaller NGO collaborators. Little information is available about the precise activities of the NGOs, the coverage or effectiveness of their activities, and their potential complementarity with other public and private programs. In particular, information is not readily available on the extent to which they are involved in prevention activities, as opposed to patient care, and whether the prevention activities are focused on those at greatest risk of transmitting AIDS to others, or on the general population. While financing of NGO activities is a small share of overall expenditures (6.1% in 1999, or about 1 baht of the 24 baht per capita)—the NGO share is only slightly less than the share spent on prevention (7.6%). The complementarity of these activities with both the prevention and treatment components of the budget, their coverage and effectiveness deserves review.²⁶

The Uncertain Impact of Health Sector Reform

Thailand is in the process of implementing far-reaching reforms in the way that health care is delivered and financed, and the outcome can have major implications for the effectiveness of HIV/AIDS control. Not all of the details have been worked out, but the thrust of the reform involves improving the equity in resource allocation between provinces, decentralizing health budgets and decision-making to provinces and sub-districts, performance-based budgeting, and increased involvement of civil society in health-related decisions. Beginning in FY 2001, local

²⁶ An evaluation is underway by the Foundation for Thai Development Fund to review the budget allocation process, the impact of community based groups funded by the AIDS program from FY 1992-99, and the allocation of expenditure by objective, impact and target population. A similar one-year evaluation of the SIP project is underway. Both reports are due to be completed by the end of September. Some of the funds allocated to NGO are used for capacity building to be more effective in delivering interventions.

governments (provinces and municipalities) will be allocated 20% of tax revenue, a budget from which they will have to conduct some health activities. In addition, the MOPH has developed the capacity to sub-contract for both prevention and care services to NGOs. The respective roles of the MOPH, the provincial governments, the Tambon Administrative Organizations, the provincial health offices and the health care providers are currently being delineated.

Decentralization is an opportunity to better involve local political authorities in the fight against HIV/AIDS and to involve PHA in decisions about health services. The reform aims to facilitate the involvement of civil society in health decisions. This means that people living with HIV/AIDS will have the opportunity to participate in the management of health services at the Tambon level and on hospital boards. This would give them a mechanism for raising issues around packages of benefits, quality of care and access to drugs. Existing networks are already playing an important role in advocating increased access to essential drugs for AIDS patients. Decentralized DOTS, PCP prevention, VCT and prevention of mother to child transmission at the health center level in the

North can also decrease the overall cost of care, as shown in Phayao province (Charoendee 1999). Performance-based budgeting will likely require that provinces report on their performance in fighting HIV/AIDS in order to be eligible for financing. This may also clarify the expectations of the MOPH in terms of a satisfactory provincial response to HIV/AIDS, including the package of health care benefits to which AIDS patients are entitled, either through health insurance or subsidized by MOPH.

However, decentralization can also lead to fragmented capacity and responsibilities and reduced accountability for results, in communicable disease control programs, including HIV prevention. Plan for decentralization health services are not yet available in Thailand. As in other countries, prevention and control of a communicable disease like HIV/AIDS cannot depend solely on local decision-making, which is highly variable and likely to lead to implementation in a patchwork fashion from locality to locality. Likewise, localities cannot be expected to be responsible for ensuring provision of national public goods and sectoral coordination; this requires leadership at the center.

Chapter IV: Confronting the Future: Strategic Priorities for Enhancing the Response

The *National Plan for Prevention and Alleviation of HIV/AIDS, 1997-2000* sets forth two key objectives: to “reduce new HIV infection in the general public” and to “reduce the impact of the AIDS problem on the socioeconomic and health status of the population” (National AIDS Committee 1997). The Plan emphasizes that meeting these objectives is not the sole responsibility of government—“all related actors” need to be strengthened and will be essential for success. To make this a reality, the Plan underscores the importance of investing in the capacity of individuals and of communities “so that all individuals have full potential to prevent HIV/AIDS and other social problems...” and of “creating an enabling environment for the individual.. that is conducive to AIDS prevention and ... alleviation”. The Plan thus charts out many different types of interventions—individual and societal—that can be mobilized in the national effort to prevent HIV and its impacts.

Thailand’s AIDS epidemic is severe; success in overcoming it will require the joint effort of government, the private sector, and civil society. Each partner in this effort brings a comparative advantage in addressing different aspects of the problem. Government brings its public mandate, technical expertise, finance, and sectoral coordination. NGOs bring diversity, flexibility, possible cost-effectiveness in implementation, and credibility among PHA and marginalized populations. Private firms have their own interest in investing in prevention in the workforce to maximize productivity and prevent high treatment costs. They also have an important role in mobilizing private funds for AIDS prevention, treatment, and care (box 6). The collaboration of the public, private, and NGO sectors has been an important element of Thailand’s successful response; these partnerships need to be reinforced and the private sector mobilized to an even greater extent as a partner in AIDS prevention and care.

Box 6: AIDS and the private sector

The AIDS epidemic can have serious impacts on businesses, including the loss of experienced staff, absenteeism among workers, greater worker turnover and training costs, greater health care costs, and low morale from lack of information and understanding of AIDS in the workplace. The private sector thus has strong incentives to ensure AIDS information, prevention, and non-discrimination policies in the workplace. It also has excellent and inexpensive access to their employees. The private sector is often key to mobilizing financial resources for philanthropy such as for AIDS care for orphans or employees.

Since 1993, the Thailand Business Coalition on AIDS (TBCA) has been working with businesses “to create AIDS-supportive work environments by providing HIV/AIDS education and prevention seminars and promoting the adoption of appropriate HIV/AIDS workplace policies” (TBCA 2000). In addition to providing services to more than 80 member companies, the TBCA has helped in the development of sister organizations for the private sector in Malaysia, South Africa, Botswana, and Zambia. International businesses with branches in Thailand have often led the way. For example, Shell/Thailand launched a program with UNICEF called “Peer education at the pump”, which provided AIDS education to more than 800 young people working as service station attendants. The Regent Bangkok hotel provides workplace AIDS education to new and continuing employees. Property Care Cleaning Services provides staff training, assistance to PHA, and free condoms.

(Continued on next page)

Box 6 (continued)

Smaller-scale businesses have also had an impact on raising awareness and sponsoring services. In Phayao province, the Business AIDS Network for Development (BAND)—a coalition of small businesses, government, NGOs, and PHA—helps youth who are infected or whose parents have AIDS through a referral network that includes technical training, scholarships, social support for PHA and their families, and income generating projects. Members of BAND, including the Rotary, the Lions Club, the Chamber of Commerce, the Department of Commerce, the MOPH, businesses, and PHA, are committed to keeping people at work as long as they can be productive.

Preventing HIV/AIDS is particularly important to life insurance companies. The American International Assurance company, the largest life insurance company in Thailand, will offer as much as a 10% reduction in the life insurance premia to their policy holders if they have workplace HIV/AIDS education programs. By offering similar financial incentives or tax breaks to businesses, government can greatly expand the reach of AIDS prevention and care programs to those in formal private sector employment at potentially little extra marginal cost.

Given the current stage of the epidemic in Thailand and competing demands from other important programs in health and other sectors, which activities are priorities for government? There are many things that government could do, but resources are scarce. Not all activities can have equal priority. Further, there are some AIDS prevention and care activities that are more effective for a given expenditure than others. The report team set out to address the question of strategic priorities for enhancing Thailand's response to AIDS, and in particular those that require government leadership. The challenge was to identify, among the many things that government could do, those that should be done *first* to have the greatest impact for a given investment. The team drew on their own expertise and disciplines and the views expressed in extensive consultation with key informants in Thailand (see Annex 1). Those consulted were asked to identify two or three priority activities or objectives that in their view would maximize the impact on the epidemic in the whole population, if additional resources were made available. The views of those consulted and the conclusions of the report team were remarkably consistent.

A Framework for Setting Government Priorities

The highest priority activities for government involvement are those that are essential to controlling the AIDS

epidemic and that the private sector has insufficient incentives to produce (World Bank 1999). These include:

- *Production of 'public goods'*, like epidemiological surveillance, public information about how HIV is spread and can be prevented, evaluation of interventions, and information about the costs and effectiveness of prevention and treatment measures. Sectoral coordination and regulatory authority are other important public goods. The private sector will never provide public goods in sufficient quantity, because everyone can benefit from them regardless of who pays.²⁵
- *Ensuring that those who are most likely to become infected with HIV and to pass it to others have access to the information and the means to adopt safer behavior.*²⁶ People who practice unprotected sex (sex without a condom) with many partners and those who share injecting equipment are most likely to become infected with HIV and also to pass it on to their partners, even to those

²⁵ Public goods have two key characteristics: once produced, no one can be excluded from consuming them; and consumption by one person does not exclude consumption by others.

²⁶ In the terms of 'public economics', the high-risk behavior of some individuals creates negative consequences (or 'negative externalities') for the rest of the population by raising the level of HIV and thus everyone's risk, even those who practice safe sexual and injecting behavior.

who do not practice risky behavior. Ensuring that these individuals practice safer behavior than they would chose on their own prevents not only their own infection, but indirectly many additional infections in the rest of the population. Government is in a unique position to act on behalf of society to encourage safer behavior among those at greatest risk of passing HIV to many others.

Governments can do more and should not necessarily limit themselves to these items. However, providing public goods and addressing the highest risk behavior are fundamental to controlling the epidemic. If government does not take a leadership role and see that they get done, no one else will. Failure to address these issues will make other public and private investments in AIDS prevention and care less effective. Government need not be directly involved in implementing these priorities, but it needs to ensure that that they get done.

Thailand's response to AIDS thus far has highlighted in a very positive way these two important roles of government. The strong epidemiological surveillance of HIV, public information programs, operational research on innovative pilot interventions for national replication, and the intersectoral coordination provided by the National AIDS Committee are all excellent examples of 'public goods' that have been essential to the success of the response to date. Likewise, Thailand's efforts to raise condom use in commercial sex by improving the motivation of sex workers and their clients and providing the means to change behavior—generally without stigma or arrest—are key examples of this second principle, and a model for other countries in changing high-risk behavior on a national scale.

However, Thailand has not exhausted the opportunities for improving the effectiveness of the response in terms of reducing high-risk behavior. This report

has identified many groups with high-risk sexual behavior, low use of condoms or unsafe injecting practices—indirect sex workers, undocumented sex workers, injecting drug users, men who have sex with men, prisoners and long-range fishermen, to name a few.²⁷ Ensuring that these people, many of whom are at the margins of society, have the knowledge and the means to adopt safer practices and protect themselves and their partners is a fundamental responsibility of government and key to reducing further the spread of the epidemic. However, because some of these individuals are engaged in illegal activities, a direct government approach will not be successful. NGOs, subsidized by government, thus have a key role in reaching these marginalized groups with prevention measures. The success of these efforts will often require legal, regulatory or social reforms that will improve the enabling environment for behavior change.

At the same time, even though high-risk behaviors continue to generate indirectly more infections in the general population, reaching these groups may be difficult and costly. Figure 19 maps different groups of the population according to their degree of risk behavior and their ease of access. Those that are more accessible will likely be less costly to reach with preventive interventions, and those that are less accessible, more costly. Behavior change among those on the upper half of figure 19 reduces the chance of infection among those in the lower half. This figure is dynamic in the sense that over their lifetimes, people move across risk and access quadrants. The objective of public policy is to change

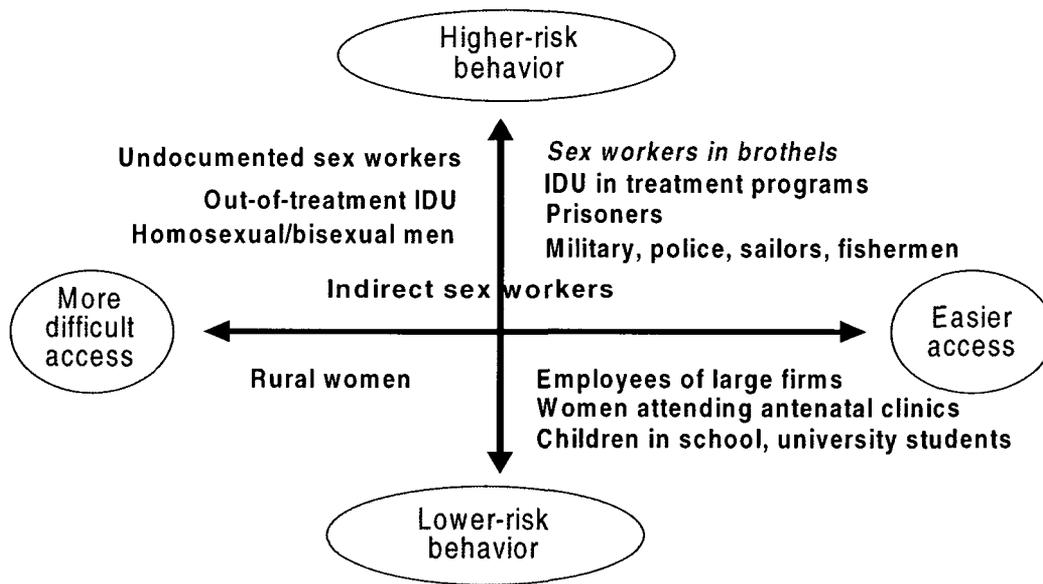
²⁷ To label these groups as 'high risk' is not to imply that every individual in a given group practices risky behavior or that there are not people in 'low risk' groups that also practice risky behavior. There is heterogeneity in all populations. However, on average, the behavior of the high-risk groups is more prone to spread HIV and to generate secondary cases of HIV indirectly to those at lower risk. Once HIV spreads to people with low-risk behavior, it is very difficult to prevent transmission.

behavior at the top of the chart, through services and information targeted to these groups and through complementary broader based programs aimed at the general public that will improve the environment for behavior change.

Thailand's AIDS prevention program has effectively reached brothel-based sex workers, a high-risk group that is relatively easier to reach and monitor. Other high-risk groups are still highly infected and at high risk of transmitting HIV to others. A few of these—like prisoners and IDU in treatment—are 'captive' populations and thus relatively easy to reach (upper right quadrant of figure 19). Direct and indirect programs to promote safer

behavior among those in the upper right quadrant are a priority for government and likely to be very cost-effective. Other groups are more difficult and possibly more costly to reach, like IDU out of treatment and undocumented sex workers (upper left quadrant of figure 19). Public policies can have an impact on the costs and ease of access of these groups, not only by subsidizing NGOs to provide prevention services, but also by reducing social stigma and law enforcement efforts that make it difficult for public health services to reach them and by launching broader programs of public awareness that improve the enabling environment for behavior change.

Figure 19: Classification of target groups for prevention by riskiness of behavior and accessibility



There are also examples of groups with low-risk behavior, like school children and pregnant women, who are unlikely to spread HIV widely but for whom access is easy and low-cost (lower right quadrant of figure 19). Not many secondary HIV cases will be averted in this quadrant, but the costs of reaching people are so low that such programs may still be cost-effective. Finally, there is the lower left quadrant of

figure 19—people who have low-risk behavior (are unlikely to spread HIV to others) and who are costly to reach. These individuals need essential information and access to prevention so that they can protect themselves; their behavior is unlikely to spread the epidemic further in the population. The most cost-effective way of lowering their risk of infection will be to reduce others' high-risk behavior (upper quadrants of figure 19). Many of the

uninfected spouses of discordant couples (couples in which one partner is infected) are in the lower left quadrant—they have low-risk behavior and are very difficult to identify, and yet at high personal risk of being infected (box 7). In the background of figure 19 is the economic and social environment that conditions these behaviors—factors like women's status and

schooling, poverty, social capital and economic development. This environment is very important to the present and future course of the AIDS epidemic; policies to affect it are pursued via complementary programs in various economic and social sectors.

Box 7: Preventing transmission between spouses: a new challenge for AIDS programs

Sexual transmission of HIV between spouses now accounts for about half of the 25,000 new adult HIV infections annually in Thailand (Thai Working Group 2000). Men or women who previously became infected through commercial sex or other risk behavior unknowingly pass HIV to their steady partners. Preventing these spousal infections poses a new challenge for AIDS prevention. First, *discordant couples*—couples in which one partner is infected with HIV and the other is not—are difficult to identify. Until one of them gets sick, there is usually no objective sign to either spouse that one of them is infected. Further, the infection may have occurred in the distant past, before a marriage or the current relationship, when the infected spouse was engaging in riskier behavior than at present. So there may be no current risk behaviors that would lead the individual to believe that he/she is infected or at risk, nor would there be any obvious way for a program to identify him/her based on current behavior. Second, the cost-effectiveness of preventing transmission among discordant couples is likely to be low. Unless some way can be found to get these couples to self-identify themselves for specific programs by being tested, prevention programs are faced with having to reach large numbers of couples with interventions when only a few are in fact at risk of transmission. Third, even if a spouse suspects that he/she may be infected, dealing with issues of trust, past behavior, infidelity, or whatever else led to the infection are very sensitive and often difficult to discuss. This is a disincentive to learning one's HIV status.

How can these spousal infections be prevented in a cost-effective manner? One way is to prevent either spouse from becoming infected in the first place through programs that reduce high-risk behavior, promote condom use, or safe injecting behavior. These programs reduce the number of discordant couples in the future. The cost-effectiveness of programs to prevent transmission among currently discordant couples can be improved if some incentive can be found for couples to seek voluntary HIV counseling and testing. Many suggestions have been made—expanding the availability of VCT, campaigns to encourage couples to get tested, voluntary pre-marital counseling and testing, improving information on the benefits of early detection, and reducing stigmatization of AIDS. Finding effective and efficient ways of helping these couples will require substantial experimentation.

In addressing AIDS treatment and care, a priority for government is to ensure fairness in public finance, cost-effective services, and non-discrimination of AIDS patients. It is a fundamental responsibility of government to ensure that the human rights of AIDS patients are respected and to prevent discrimination socially and in health care. Most of the benefits of curative care accrue to the individual, so curative services are often considered by economists to be 'private goods' that should be paid for by the individual, out-of-pocket or through insurance arrangements. Nevertheless, societies differ in their judgements about the share of curative care that should be funded from public and private sources. In

Thailand, about one third of health expenditure is financed by the public sector and two-thirds by private individuals and firms (Tangcharoensathien et al 1999). Subject to these societal norms, fairness considerations suggest that AIDS patients should be entitled to the same level of public subsidy as others with equally severe health conditions—no less and no more. To the extent that the public sector does subsidize treatment, financing services that are cost-effective ensures that more people can be helped within a given budget and reinforces the equity objective.

Strategic Priorities to Strengthen the Response

The team identified three strategic priorities for government to have the largest impact on the epidemic with the resources at hand.

1. Sustaining and expanding condom use beyond commercial sex

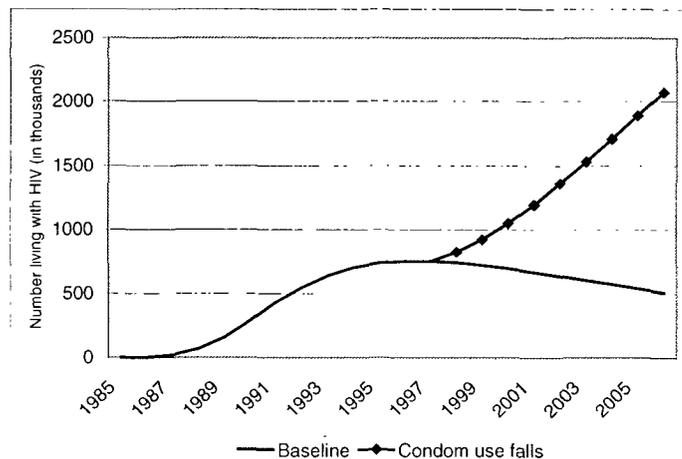
The highest priority for improving the effectiveness of the response is a renewed push to sustain the high levels of condom use in commercial sex and to raise condom use, encourage safer sexual behavior and behavior change among other high-risk groups and more widely in all relationships. This was the number one priority of both the report team and those consulted. Sexual transmission remains the engine of the AIDS epidemic. A lapse in behavior is the greatest threat to a resurgence, while lack of access of other groups at high risk holds back even greater progress in slowing the epidemic and reducing infection levels in the whole population.

Sustaining behavior change in commercial sex. As Thailand recovers from the economic crisis, rising incomes are likely to lead to renewed demand for commercial sex. At the same time, public subsidies for free condoms to brothel-based sex workers are still at a historic low. With 17% of brothel-based sex workers already infected, any lapse in condom use is likely to result in substantial additional infections. In the meantime, condom use has never been very high among 'indirect' sex workers and brothel-based undocumented sex workers have unknown levels of risk and condom use. The Thai Working Group on AIDS Projections has shown the potentially explosive impact of lapses in condom use in commercial sex, allowing the epidemic to regain its initial trajectory (figure 20). There are already signs of increases in HIV

prevalence among direct and indirect sex workers in Bangkok.

Raising condom use and safer behavior among other high-risk groups. Behavior change and condom use among other high-risk groups like indirect sex workers, undocumented sex workers, prisoners, fishermen, MSM, and male sex workers would have a large impact relative to their costs. Some of these groups are less easily reached than brothel-based sex workers. Government subsidies can be targeted to support NGOs specifically to address the needs of these groups, in a systematic way. Pilot projects, properly evaluated, can then be implemented on a national scale, as has been done so successfully in the 100% condom and MTCT programs. However, these targeted activities are unlikely to be successful unless other public policies that inhibit marginal groups from protecting themselves are also addressed. For example, sex workers from Cambodia and Myanmar in non-registered brothels will not be easy to reach with condom programs if they fear that they will be deported when they contact public health workers. Low condom use among undocumented sex workers can keep the virus circulating among clients who frequent Thai as well as other nationality sex workers.

Figure 20: Hypothetical impact of a reduction in condom use to 50% in commercial sex in 1998



Source: Thai Working Group on AIDS Projections (2000).

Raising condom use in all relationships.

The most cost-effective strategy for reducing sexual transmission will be to change behavior among those most likely to spread HIV, once infected. Achieving this goal will surely involve both direct/targeted interventions and indirect methods that improve the environment for condom use outside of commercial sex. Informants indicated that the public associates HIV transmission with commercial sex, and that people feel 'safe' not using condoms in other relationships. This is borne out by the

low levels of condom use with regular partners, boyfriends and girlfriends, casual non-commercial partners, and same-sex relations between men. Young men are visiting sex workers less often, but are increasingly engaged in other types of relationships and using condoms infrequently (box 8). Public information campaigns should emphasize the benefits of condom use in all sexual relationships and efforts should be launched to improve the availability of condoms more generally, especially among youth.

Box 8: The changing patterns of risk behavior among Thailand's youth

While young Thai men are now significantly less likely to engage in commercial sex than the previous generation, reducing the risk of HIV, sexual behavior has changed in other ways that put youth at increased risk. Findings from a recent study in Chiang Rai (Northern Thailand) are cause for concern (van Griensven et al 2000). More than 1,700 students aged 15-21 in two private vocational schools were surveyed in late 1999, with computer-based, self-administered questionnaires. Among the entire sample, 0.3% were infected with HIV. Close to half of male students (48%) and 43% of female students had ever had intercourse, with a mean of 4.6 and 2.8 partners among sexually active males and females, respectively. Seven percent of male students had paid for sex and 3% of male and female students had sold sex. A quarter of the sexually active females had been pregnant and 84% of the most recent pregnancies ended in an abortion. Condom use was low—only one third of male students and one half of female students consistently used condoms with casual partners and only 15.6% of males and 10.5% of females used them with steady partners. More than 20% of female students and 7% of male students reported forced sex. More than a quarter of the students (29%) reported prior metamphetamine use and 10% of urine samples from the respondents tested positive for this drug.

It is difficult to know how representative these vocational students are of the rest of the population of young adults in Chiang Rai or elsewhere. However, the high HIV infection rate and low condom use puts these youth at substantial risk of HIV infection, in addition to risk of pregnancy and infection with other STDs. This underscores the need to intensify and expand behavior change education and training for HIV prevention among young people. Interventions include peer education, sex/reproductive health education, and life skills training to youth and young adults in school and workplace settings. Messages need to be tailored to these new patterns of behavior, while reinforcing past messages about commercial sex. It also underscores the need to make condom use the norm for *all* sex among youth, which will require improving their access to condoms. The high rates of metamphetamine use are equally of concern. They not only reduce judgement in sexual encounters but also (under current policy) place youth at high risk of being sent to prison. Once there, they will be exposed to the high HIV infection rates in the prison population, with virtually no access to condoms and other prevention. Partnerships between government ministries, NGOs, community organizations, and the business sector can assure adequate resources and coverage of these programs to reduce risk among young people.

2. A major new initiative to reduce transmission by injecting drug users.

A major new effort needs to be launched to prevent infection and transmission of HIV among injecting drug users and their partners. HIV prevalence has been steady or rising among IDU; the Thai Working Group on HIV/AIDS Projections now attributes a quarter of all new adult

infections to injecting drug use. Left unchecked, IDU will continue to be a reservoir for transmission of infection to the rest of the population. Yet, in Thailand as in other countries in the region, HIV prevention for IDU and their sex partners has not been a priority. Simulations by the Thai Working Group on HIV/AIDS Projections have shown the high potential impact of a concerted effort to prevent HIV

among IDU (figure 21, the difference between scenarios 3 and 4).

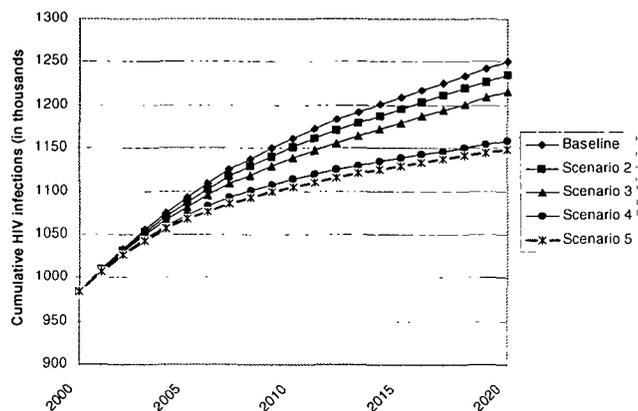
IDU in Thailand have very low access to prevention. Addicts can legally purchase syringes over the counter in pharmacies. Nevertheless, infection rates are high, indicating that at least 40% of IDU have been sharing equipment; IDU are also frequently incarcerated, which easily can induce needle sharing within prisons and could account in part for the high infection rate. Thailand's network of methadone clinics for heroin addicts is potentially an important contact point for reaching IDU with harm reduction interventions (box 9). Voluntary drug detoxification is unavailable and methadone is illegal in neighboring countries—China, Laos, Malaysia and Myanmar. Thailand has allowed at least one 'harm reduction' project on a feasibility basis, among Akha community members in villages with high heroin use in the upper north (Gray et al 1998). However, among the great majority of injectors, who are urban, these approaches have yet to be implemented. National HIV prevention programs for youth, school and community based education programs, and multi-sectoral programs have focused largely on sexual transmission, and have not included prevention messages for drug use.

Note: Scenario 2: MTCT; scenario 3: MTCT plus reinvigorated condom promotion; scenario 4: previous scenario plus harm reduction for IDU; scenario 5: previous scenario plus promotion of condoms in marriage.

Nevertheless, there are proven, effective interventions to reduce the prevalence and incidence of HIV among injecting drug users. The most effective programs—"harm reduction"—reduce unsafe behaviors among IDU through needle exchange programs (NEP), bleach for disinfection of injecting equipment, and educational outreach. Many of these programs provide referral services for drug treatment programs and condoms to prevent transmission between IDU and their sexual partners. These programs tend to be controversial, because they are sometimes perceived by the public as supportive of injecting drug use. However, evaluations of NEPs in six industrial countries failed to find any evidence that these programs raised the number of IDU, induced people to initiate drug use, or increased the number of improperly discarded needles (Lurie and others 1993, Normand et al 1995, U.S. GAO 1993).

The clearest example of the success of HIV prevention among IDU in the Asia-Pacific region is Australia, with well documented success in peer outreach, harm reduction, needle exchange programs, drug treatment, and safer sex promotion for drug users. With support from UNAIDS and the UNDCP, Vietnam has piloted harm reduction and outreach programs for IDU, mass education campaigns for youth, and crop substitution in opium growing areas to reduce supply. However, the efficacy of the Vietnamese experience in terms of declines in HIV incidence has not yet been studied. Programs that seek to help IDU stop injecting are more politically popular and have been helpful for a few, but are not successful for the majority—70-80% of those undergoing treatment resume injecting w/in 1-2 years (Golz 1993, McCoy and others 1997). However, drug treatment

Figure 21: Impact of the three expanded intervention scenarios on cumulative HIV infections in the Thai population 2000 to 2020



Source: Thai Working Group on HIV/AIDS Projections (2000).

centers do have an important role to play as a point of contact for reaching IDU with preventive interventions, and can encourage

safer injecting behavior among those who resume it (Blix and Gronbladh 1998, Metzger 1997, Rezza et al 1988).

Box 9: Heroin detoxification programs in Thailand

Since virtually all IDU in Thailand use heroin, heroin detoxification is the most important drug treatment program with respect to reducing HIV spread through injection behaviors. Drug treatment programs in Bangkok have been the provenance of the Bangkok Metropolitan Authority, while nationally they have been centered in five drug treatment centers, initially created with funding from USAID and run by the MOPH. These centers provide short (21 day) inpatient drug detoxification regimens on voluntary and involuntary bases. The largest, the Northern Drug Treatment Center in Mae Rim, treats 2,800-3,000 drug users per year and includes programs for opiate addicts, IDU, alcoholics, and those addicted or dependent on all other drugs, including amphetamines and anxiolytics. Heroin detoxification and treatment in Thailand is limited by law to a 45-day course of methadone, based on a regulated "taper" of declining methadone dosage. Longer term methadone maintenance, the mainstay of heroin addiction treatment worldwide, is not available. Preliminary data for a cohort of IDU in Mae Rim suggest that most addicts find this short course inadequate. Perhaps 85% or more of IDU begin using heroin again by the third or fourth of the methadone taper, when doses fall below 20mg/day and cannot contain opiate craving (unpublished data, courtesy Dr. Jaroon Juttiwutikarn). It is widely acknowledged, however, that physicians circumvent the restrictions by "re-enrolling" IDU who repeatedly fail treatment on short course therapy.

The sole study of longer term methadone treatment in Thailand was conducted in 1989-90 in the BMA (Vanichseni et al. 1991). This study showed clear benefits to long-term methadone maintenance, including high rates of retention in drug treatment, lower rates of return to injection than short-course detoxification, and greatly improved compliance with the treatment program. The impact on HIV rates and behavior change for HIV prevention were not assessed. Unfortunately, the findings did not convince decision-makers and long-term detoxification with methadone or other substitutes or therapies remains unavailable

To have a major impact on the epidemic, the same pragmatic policy toward prevention of HIV among (illegal) commercial sex workers needs to be extended to drug injectors. Thailand should consider evaluating these approaches on a pilot basis in collaboration with NGOs, adapting aspects of the harm reduction model where appropriate, and implementing them. The lack of NGOs focused on IDU was identified by several informants as a constraint in expanding harm reduction in Thailand. However, this shortage could be addressed through targeted subsidies to NGOs for capacity building in harm reduction and to provide these services. Given the high infection rate among IDU, a crucial component of any programs aimed at IDU will include promotion of condom use with their sexual partners.

It is unlikely that the IDU transmission cycle can be broken, however, unless there is simultaneously a serious effort to prevent HIV in prisons and to improve

the legal environment for behavior change among IDU. Half of the IDU in treatment in the early 1990s had been previously incarcerated; studies have found a statistically significant relation between incarceration and HIV infection among IDU. The Thai prison population, including persons in detention, convicted offenders, and persons in International Detention Centers, is large and rapidly expanding. Thai prisons currently do not provide condoms to prisoners, increasing the risks of HIV infection among men having sex with men, a common occurrence worldwide, and among female prisoners and male prison staff. Numerous studies have shown strong associations between incarceration and HIV infection in Thai men, due to sex, and to injection drug use in prison, where needles and syringes are in extremely short supply. To the extent that IDU may currently be targeted by law enforcement, a more tolerant approach (similar to that for sex workers) would keep them out of prison and less likely to get or transmit HIV. The ability of

NGOs to work with IDU to adopt safer behavior can easily be undermined by law enforcement actions that put self-identified IDU in jail.

3. Ensuring access to cost-effective prevention and treatment for opportunistic infections

Ensuring access by people living with HIV/AIDS to prevention and treatment of the major opportunistic infections is inexpensive, cost-effective, prevents life-threatening infections among PHA, and will benefit the poorest AIDS patients who otherwise might have gone untreated. Thailand is a middle-income country with a strong health infrastructure, yet both key informants and the evidence on AIDS-defining conditions strongly suggested that access to relatively inexpensive treatment and prevention of the most common OIs is not a reality for people with HIV/AIDS in Thailand. Many contributing factors were mentioned: lack of information among PHA about available treatment; provider attitudes that discourage AIDS patients from pursuing treatment; low availability of some drugs in health facilities; weak TB infrastructure in Bangkok; and the absence of a well-defined 'package' of health care benefits in the different public insurance schemes for people living with HIV/AIDS. *The report team did not have sufficient time to explore these issues further, but all of them warrant immediate attention.* The press has focused on access of AIDS patients to expensive antiretroviral therapies, yet this more cost-effective option of OI treatment that can be effective even among the poor has not been adequately pursued. Eventually even patients taking combination ARV develop viral resistance and will be stricken with OIs like TB and PCP, in the absence of prophylaxis.

There's evidence of a need for renewed efforts in TB prevention and control in the face of the epidemic, particularly in

Bangkok. Because TB is an infectious disease and prevention and treatment of one case prevents many others in the population, there is a strong case for government subsidies for both TB treatment and, among AIDS patients, TB prophylaxis. Failure to offer treatment or prophylaxis to HIV-positive patients not only will shorten their lives, it will raise TB infection levels in the whole population. Thus, provider attitudes (to the extent that they exist) that discourage HIV positive patients from obtaining treatment or that make less of an effort to reach the HIV-positive are not only unfair and discriminatory, their actions have very negative implications for the spread of TB in Thailand. TB prophylaxis for HIV-positive patients (9 months) will effectively treat the TB before the immune system fails, removing the risk of the major opportunistic infection AIDS patients, and the major cause of death. TB and PCP prophylaxis are inexpensive (less than \$3 in drug costs for a 9-month regime of INH to prevent TB, and \$10 per year for PCP prophylaxis). They would benefit virtually all AIDS patients in Thailand at very little cost, whether paid for by the public sector, by an insurance scheme, or by the patients themselves.

Efforts to improve access to OI prevention and treatment warrant immediate attention. An action plan would likely begin with a comprehensive assessment of actual use by PHA and availability of OI prevention and treatment in the public and private sectors and barriers to wider use. Review and clarification of the package of health care services for OI prevention and treatment in public insurance programs would likely immediately improve access to these services for PHA. Pilot projects to raise access to OI prevention and treatment urgently need to be launched and evaluated, for national replication.

Implications for Public Finance

Because the objective of this study was strategic, the team intentionally resisted making recommendations about operational or programmatic requirements to address these priorities. We leave it to technical experts, NGOs, and representatives of key constituencies (sex workers, IDU, PHA) to craft an operational plan, set benchmarks for measuring impact, and identify the resources needed to meet these objectives. Nevertheless, even without detailed operational budgets, these strategic priorities and the analysis that informed them do have broad implications for public finance

Raising resources for prevention

Addressing the first two strategic priorities will surely require a substantial increase in the resources devoted to HIV/AIDS prevention. Most public expenditure on HIV/AIDS prevention comes from the budget of the national AIDS program. At present, only 8% of that budget—109 million baht, scarcely 2 baht/capita—is explicitly allocated to prevent the spread of this 100% fatal infectious disease. It has been shrinking recently and none of it is for preventing transmission among IDU. Yet prevention of HIV/AIDS and production of public goods are the major rationale for a separate HIV/AIDS budget. Thus, a major implication of this exercise will be a request for additional resources for prevention, and particularly programs to support safer behavior among those most likely to contract and spread HIV.

To improve the efficiency of prevention programs, it will also be necessary to understand better how NGO activities might be better focused to support the renewed prevention agenda. NGOs have proven themselves capable in both prevention and care, but there is very little information about the types of activities they are undertaking and their target constituencies. This review would result in better targeting

of resources to NGOs that undertake prevention activities with key marginalized populations (undocumented sex workers, MSM, IDU, etc.).

Expanded coverage of cost-effective prevention and treatment of OIs

Public funding of medical care for AIDS patients occurs through many different health care budgets—the government health budgets, health insurance providers, hospital revenues, patients, and others. In the case of Chun hospital, 20% of the costs of AIDS patients were paid for by the AIDS budget and the other 80% was financed by insurance schemes and the general hospital budget. We actually do not know at present how much is being spent on prevention and treatment of OIs or by whom.

One of the first pieces of information necessary to launch this initiative is a better understanding of which AIDS patients are receiving these services, how much the services cost and how they are currently being financed. This will lead to proposals to improve the access of PHA to OI prevention and treatment and to improve the efficient allocation of existing resources. The budgetary implications are not clear; the expansion could be financed by increased public resources, reallocations of existing budget, or mobilization of funding from insurance schemes and the patients themselves. The decision on public finance should be guided by the same criteria as for other curative care—cost-effectiveness, affordability, and fairness. A reallocation of funds within the clinical trials line item of the AIDS budget, from ART to OI, could finance operational research on improving the quality and impact of a basic package of OI preventive and curative care for PHA.

The future of ART in Thailand

International compassion for the plight of AIDS patients in developing countries and their lack of access to many treatments used

in the North has led to increased pressure for public policy on combination ART. Many people feel that these therapies may have a role in the Thai health system, given the relatively strong health infrastructure, Thailand's level of income, and recent opportunities to obtain lower-price drugs. However, drug prices are coming down from a very high level to a level that is still relatively high (Bilous 1999, Boulet 1999, Wilson et al 1999). There are also the costs of diagnosis and monitoring (including the marginal costs of tests and investments in setting up the necessary facilities), managing side-effects, and ensuring adequate training for physicians. There continue to be important scientific debates about key issues in prescribing these therapies, which affect their costs and impact: when to start treatment; the number and combinations of drugs that are effective; interactions of drugs; management of side effects; the extent to which monitoring is necessary; and incomplete patient compliance and its consequences for the circulation of resistant strains. The therapies are still generally very complicated to take and to adhere to, especially for low-income patients. The effectiveness of clinical trials of dual and triple ART in various Thai universities has not been evaluated; given that the trials have been conducted in very controlled conditions, the outcomes are likely to overstate the effectiveness of the therapies if implemented more widely in the population.

Decisions regarding public subsidies for anti-retroviral therapies or any other AIDS therapy should be subjected to the same criteria as medical treatments for other health conditions, notably cost-effectiveness, affordability, and fairness / equity. However, for ART we must add a fourth criteria, *sustainability*. Once a group of AIDS patients starts taking ART, they must take it for life. A decision by government to discontinue treatment for a large number of patients—during an economic crisis, for example—would be a public health disaster, generating

widespread drug resistant strains of HIV. Therefore, once government makes a commitment to subsidize this type of treatment for a cohort of patients, there's no going back for the life of that cohort. It is a decision that must be taken very carefully with a full understanding of the long-run implications.

On *cost-effectiveness*, ART is a life-prolonging therapy but not a cure for a disease that is 100% fatal. The dual therapies currently being financed in Thailand have been found elsewhere to have limited benefits. The cost of triple drug therapy is very high and there are many issues in implementation and compliance that can reduce its effectiveness. In addition to the drugs, this complex technology requires very skilled medical personnel who must specialize in these therapies to do them well. There's an opportunity cost to other patients in the health system when the most skilled human resources are diverted to AIDS from other specialties. It is difficult to make a strong case for funding ART, in any event, until the more cost-effective treatment options for treating AIDS patients, like prevention and treatment of OIs, have been fully exploited, which it appears they have not

Even if ART could be to be shown to be cost-effective, it remains very expensive. If few people were infected with HIV and national income were high, then perhaps even an expensive therapy might be *affordable*. But in Thailand, 2% of the adult population is infected with HIV and 700,000 people are living with HIV/AIDS. In contrast, the adult infection rate in Brazil, which has decided to fully subsidize ART for all AIDS patients, is 0.6%, less than a third the rate in Thailand, it has fewer people infected (580,000), and it's GNP per capita is more than twice as great (\$4,630 vs. \$2,160 for Brazil and Thailand, respectively) (World Bank 2000).

Is ART affordable?

To put the affordability and *sustainability* of ART in perspective, we have done some simple calculations in Table 2 of the cost implications for Thailand of financing different levels of coverage of ART, in absolute terms and relative to both the AIDS budget and the overall government health budget. In FY 2000, the proposed health sector budget amounted to 65.2 billion baht (\$1.56 billion), or 1,069 baht per capita (\$26.73). The approved budget for the national AIDS program came to 1.46 billion baht (\$36.5 million), or 2.2% of the total health budget. We estimate the affordability of a triple-drug regimen that includes a protease inhibitor, as these are the regimens that seem to have lowered mortality significantly in some high-income countries. There are two drug price scenarios: a high price, reflecting the current situation (324,000 baht/\$8,100 per year), and a low price, based on use of generic drugs and voluntary price reductions from the pharmaceutical companies (96,000 baht/\$2,400 per year). These costs include only the drugs and thus understate the true financial impact of ART. We show four different levels of coverage: 100,000 (the number of PHA with compromised immune

systems who would potentially benefit from ART); 55,000 (the number of people who develop AIDS annually); 25,000 (the number of people officially diagnosed with AIDS annually); and 10,000 (a sub-set of those diagnosed with AIDS most capable of adhering to the therapy).

At current prices, it would cost 32 billion baht (\$810 million), or nearly half the overall health budget and 2000% of the AIDS program budget, to provide drugs for a single year of ART to all 100,000 people who might benefit. Under the optimistic scenario of a significant drop in drug costs, the total would be reduced to 9.6 billion baht, or 15% of the health sector budget. Even were the beneficiaries limited to the 25,000 people who develop an AIDS-defining illness every year the total would come to 2.4 billion baht (\$60 million), or nearly 4% of the health sector budget and 164% of the AIDS program budget. Those costs would be for the first year. Assuming that these therapies can raise the survival of patients, they must be subsidized in the following years as well, while new PHA who become immune compromised are added to the group.

Table 2. Estimated total annual cost of ART, palliative care, and opportunistic infection management, under different scenarios on price and number of persons treated

Treatment	Unit cost (annual)	Number of persons with HIV/AIDS treated			
		10,000	25,000	55,000	100,000
<i>Total annual cost (millions of baht and dollars)</i>					
ART (high cost)	324,000 baht (\$8,100)	3,200 (\$81.0)	8,100 (\$202.5)	17,600 (\$445.5)	32,000 (\$810)
ART (low cost)	96,000 baht (\$2,400)	960 (\$24)	2,400 (\$60)	5,300 (\$132)	9,600 (\$240)
Palliative care & all OIs	32,800 baht (\$820)	320.0 (\$8.2)	820.0 (\$20.5)	1,760 (\$45.1)	
Palliative care & low cost OIs	7,080 baht (\$177)	70.8 (\$1.77)	177.0 (\$4.425)	389.4 (\$9.74)	
<i>As a percent of the FY 2000 AIDS budget (1.46 billion baht)</i>					
ART (high cost)		219	555	1205	2192
ART (low cost)		66	164	362	658
Palliative & all OIs		22	56	83	
Palliative & low cost OIs		5	12	27	
<i>As a percent of the FY 2000 health sector budget (65.2 billion baht)</i>					
ART (high cost)		4.9	12.4	27.0	49.1
ART (low cost)		1.5	3.7	8.1	14.7
Palliative & all OIs		0.5	1.3	2.7	
Palliative & low cost OIs		0.1	0.3	0.6	

Notes:

1. Estimates of average annual cost of opportunistic infection prevention and treatment in Thailand were calculated by J. Perriens (UNAIDS) in 1997, as reported in World Bank (1999). Costs were based on the number of episodes expected among AIDS patients in Thailand per 100 person years; the costs per type of illness are thus weighted by the probability of a patient having the illness in a given year. Results are in 1996 dollars, transformed here into baht at a rate of 40/\$. *Palliative care* includes treatment for diarrhea, rash, cough, fever, headaches and pain, nausea and shortness of breath, which is estimated to cost US\$19/year. *Inexpensive OIs* include TB, PCP, toxoplasmosis, oral and esophageal thrush, and pneumonia/septicemia. *Expensive OIs* include cryptococcosis, herpes simplex, penicilliosis, cytomegalovirus, and mycobacterium avium/complex. The estimates include drugs only. The additional estimated annual cost of inpatient care was \$673 and outpatient visits \$163.
2. Low and high-cost ART includes three drugs, one of which is a protease inhibitor. Diagnostic and monitoring costs are not included, nor are any in- or out-patient visits. The drug costs are for 2000. The total additional annual cost to patients above these drugs was estimated in 1996 to be \$2,500 (J. Perriens, in World Bank 1999). Inclusion of these costs would essentially double the estimates of the low-cost ART. The precise drug costs are difficult to estimate, because people on these therapies typically must switch drugs several times due to resistance and side effects.
3. Per capita public expenditure on health from the central budget in 2000 was 1,069 baht (\$26.73), assuming a total population of approximately 61 million. The AIDS budget represented 2.2% of the MOPH budget.

We show for comparison some estimates of the cost of palliative care and prevention/treatment of OIs calculated by J. Perriens (UNAIDS) for Thailand in 1997 (World Bank 1999).²⁸ This type of treatment would be appropriate mainly for those who have developed AIDS, so they are not calculated for everyone who is immune compromised. We show two different estimates of the annual cost of OI prevention and treatment—one that includes palliative care and OIs that are inexpensive to treat/prevent and the other that includes all palliative care and OI prevention and treatment. Palliative care and treatment of inexpensive OIs for the 55,000 people who develop AIDS annually would cost 389 million baht (compared to 17.6 billion baht for ART), the equivalent of 27% of the AIDS budget or 0.6% of the health budget. If the package were offered only to PHAs as they were diagnosed with an AIDS-defining illness (25,000 per year), the cost would come to 177 million baht (\$4.4 million) annually, or 12 % of the AIDS budget and only 30 million more baht than is currently being spent on MTCT. In the case of OI, however, an unknown share of this expenditure is *already* occurring through various sources of finance of medical care. Thus, the calculations for OI overstate the additional resources that would be needed.²⁹

²⁸ These estimates of the costs of OI prophylaxis and treatment are for comparison only and should not be interpreted as an endorsement of any particular 'package' of services. In this case, the estimates include all OIs as well as palliative care. While these estimates are a few years old, the mix of conditions and the treatments for them have not changed. A few of the drugs used in the calculations may have become generic, lowering the price. Most likely, this is an overestimate of the current cost.

²⁹ If the estimated 55,000 people who develop AIDS each year live two years and have 10 inpatient days and 12 outpatient visits annually, half of each in district hospitals and half in provincial/regional/university hospitals, then current spending on AIDS treatment within the health system would be roughly 1.776 billion baht, or 2.7% of the FY 2000 health sector budget. These calculations are based on the data

Finally, there are two dimensions of *equity*, or *fairness*, in decisions on public subsidies for ART. First, there's fairness across patients with health conditions that are very expensive to treat. The government does not offer free treatment for many other costly health conditions: kidney dialysis and open-heart surgery are examples. A funding decision on ART should be consistent with policy on public subsidies for these other expensive therapies. Failure to do so, or to explain the rationale for an exception is not only unfair but could lead to resentment toward those with AIDS. The second element of fairness has to do with the extent to which public subsidies for ART would skew health spending toward those who are not poor. In the case of ART, it has often been observed that the patients who are most likely to be able to comply with the therapy are from better-off households. If compliance is one of the criteria for selecting patients for ART, then it is highly likely that the majority receiving the subsidy will be people who are wealthier. One way to deal with this would be to offer subsidies based on the patient's economic status, requiring the better off households to pay a substantial share of the total cost.

The need for periodic review of rapidly evolving therapies

The availability, effectiveness, and cost of combination antiretroviral treatments has been evolving quite rapidly and will continue to do so. Government is in urgent need of an objective review of the costs, benefits, affordability, and equity implications of different types of combination therapies for AIDS patients, on the basis of which to make rational decisions on the allocation of public resources. It has been several years since the issue of government priorities with

from the Chun hospital study. However, a study is urgently needed to review the access to and use of different types of care by AIDS patients

respect to anti-retrovirals has been assessed (Prescott 1997), and it is time for a re-assessment that would include the following key issues:

- a review of the costs and benefits of technical alternatives in treatment;
- the potential demand for these treatments in Thailand;
- the rationale for public finance—do these therapies address either public goods or epidemiological externalities? Are they in line with policy on other health care?;
- the potential for private provision of these treatments and the potential diversion of privately financed patients to the public sector;
- the affordability of these therapies, given potential demand, and any public and private cost savings;
- the implications of public finance of combination ART for the fairness of the health system—in terms of the potential access of both rich and poor AIDS patients and fairness across patients with other serious and incurable health conditions.

This review would provide objective information for decision-making on the allocation of public resources. It would also help AIDS patients to make better-informed health care decisions. Deliberations on the proper role for ART in Thailand should not delay the urgent agenda to increase the access of AIDS patients to life-saving prophylaxis and treatment of the most common opportunistic infections, which are inexpensive to provide and will benefit both

poor and non-poor AIDS patients. To the extent that resources are available for additional field trials or pilot testing, they should be directed to reinforce the strategic agenda on OI prevention and treatment, which is more likely than ART to be funded and about which important insights could be learned on the cost-effectiveness in the Thai context.

Improving private decisions on use of ART

Government can continue to put pressure on pharmaceutical companies to lower the cost of ARV drugs and can ease regulatory barriers that limit access to low-cost generic drugs. Reductions in the prices of antiretroviral drugs will inevitably lead to their broader private use by AIDS patients in Thailand who can afford them. Government can improve private decisions on the use of anti-retroviral therapies by making available objective information about the benefits and costs of alternative treatment regimens and by removing barriers to private use of these therapies through regulatory action (Velasquez and Perriens 2000, Perriens 1999, Boulet 1999, Bilous 1999). Regulatory action and professional accreditation can improve the quality of service delivery by HIV clinicians. In parallel, safeguards against improper use of these drugs can be put in place to limit the emergence of viral resistance and preserve the effectiveness ARV drugs for future AIDS patients when the drugs become more affordable.

Chapter V: Conclusion

Thailand has demonstrated to the world the enormous scope for slowing an AIDS epidemic fueled by commercial sex, by providing the information and means for sex workers and their clients to adopt safer behavior. Since 1993, behavior change and condom use have prevented an estimated 200,000 HIV infections in Thailand. Based on discussions with key informants and examination of several excellent policy reviews, the report team has tried to highlight factors that helped to shape this response. Hopefully, other countries will benefit from this experience, adopt similar programs even earlier and prevent an explosive epidemic.

These actions greatly slowed the spread of HIV/AIDS in Thailand but they did not stop the epidemic. Even while policymakers took action, HIV had already infiltrated many groups. The outward spread into the general population had already been launched. In the year 2000, two percent of Thai adults are infected with HIV/AIDS, an incurable, fatal infectious disease, and 29,000 people are getting infected every year. Nevertheless, there is room for optimism in further controlling the Thai AIDS epidemic. **There are still highly cost-effective investments that can be made to have a large impact on the future spread of HIV--efforts to sustain condom use in commercial sex, to dramatically raise condom use among marginalized groups with high risk of contracting and spreading HIV, and to launch effective prevention among injecting drug users.** This renewed commitment to prevention will, in many ways, be more difficult than past efforts. Behaviors that are socially and politically more controversial will have to be confronted. It will require coordination between sectors, government, and NGOs, targeted subsidies to NGOs who can work with highly stigmatized populations, and investments in an enabling environment to support behavior change among these

groups. Thailand has an opportunity to reduce the AIDS epidemic in injecting drug users, leading the way for neighboring countries whose epidemics are based in IDU transmission, and thereby reducing the epidemic in the region.

Thailand faces a second enormous challenge of ensuring compassionate and cost-effective care for nearly 700,000 people living with HIV/AIDS. Short of a cure, there is presently no way to prevent the tragic morbidity and mortality of those already infected. However, there are affordable and cost-effective treatments to prolong life and improve its quality. **Given Thailand's level of income and its strong health infrastructure, it can again show international leadership by being one of the first developing countries to ensure universal access to cost-effective prevention and treatment of opportunistic infections for people living with HIV/AIDS, both rich and poor.** It can also provide critical information to patients about the costs and benefits of alternative treatments, reduce the barriers to antiretroviral treatment for patients who can afford to purchase it privately, and implement adequate safeguards to minimize inappropriate use of antiretroviral drugs. Underpinning this effort is the commitment to ensure that AIDS patients receive the same quality and access to care in the health system as patients suffering from other life-threatening conditions, without discrimination.

While demand for treatment will continue to mount and must be urgently addressed with cost-effective and equitable solutions, it is essential for government to maintain and expand its focus on prevention if future generations are to be spared the threat of HIV/AIDS.

Annex 1: People Consulted

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Annex 3: Notes on Government AIDS program expenditures (Table 1)

Prevention includes expenditures on: (1) “Strengthening community capacity to manage AIDS”, which includes the Department of Communicable Disease Control (CDC) budget for condoms and condom promotion, training of staff of the Bangkok Metropolitan Authority (BMA) and Ministry of Interior, village center training in prevention (for 1,000 of 80,000 villages nationally) by the Department of Social Welfare (proposed for 2000), and that part of the activities of the Department of Religious Affairs that is for prevention; and (2) “Modifying the learning process”, including public information, peer education, and communication of the Office of the Prime Minister, Department of Public Relations, and Ministries of Education and Defense, and other departments within.

Medical treatment includes antiretroviral drugs for clinical trials, drugs for treating opportunistic infections, HIV testing, blood screening and universal precautions to prevent HIV infection in medical settings, as provided by the military (Royal Thai Army, Navy, and Air Force), police, the 79 government hospitals financed through the office of the Permanent Secretary to Public Health, the Dept. of Medical Service, the Communicable Disease Control Department of MOPH, and 8 universities. It also includes ‘Work on improving medical support’ of the Department of Medical Science and expenditure on hospice care by the Department of Religious Affairs.

Mother to child transmission (MTCT) includes the allocation for “Modifying health services for preventing and controlling HIV/AIDS” of the Department of Health (AZT prophylaxis and breastmilk substitute) and separate allocations for the CDC and the BMA, which include mother-to-child transmission, screening, updating guidelines for health personnel, and training of health personnel.³⁰

³⁰ In 1998, 1,000 mothers were budgeted to be treated with AZT (out of an estimated total need of 20,000 HIV-positive pregnant women), 7,500 in 1999 and 2000, and 9,700 for 2001 and 2002. The number of women to be given

Social Services includes allocations for the Department of Social Welfare (care of orphans and subsidized living arrangements; 500 baht/month for people living with HIV/AIDS (PHA) who have no job), the Department of Labor Welfare and Protection (up to 3 months’ income for PHA fired because they have HIV/AIDS), the Department of Development of Labor’s Skills (skill training for PHA), and the Office of the Attorney General (legal counsel for PHA).

NGO activities are grants to non-governmental organizations for AIDS prevention and care, financed through the budget line for HIV/AIDS management of the CDC department of MOPH. NGOs working in the BMA are also financed through this budget line.

The NGO budget does not include expenditures from the \$2.6 million AIDS component of the Social Investment Project (SIP), financed by a World Bank Loan. The first disbursements for this project component, to be implemented by NGOs, occurred in February 2000. Again, these projects are difficult to separate according to prevention, care and mitigation. They include five types of project: AIDS care model at the provincial, district, and community level; AIDS prevention in the community; HIV care (home based?); community capacity building; and social service & HIV occupational assistance.

Research includes grants to the Royal Thai Army, the BMA, the Departments of Medical Science and CDC of the MOPH, the Food and Drug Administration, the Ministry of University Affairs, and the Office of the Permanent Secretary to Public Health on ‘Developing conventional wisdom and AIDS research’ and on ‘AIDS vaccine development research’.

Management includes the salaries of the AIDS Division of the CDC Department, MOPH.

breastmilk substitute was 6,900 in 1999, 7,500 in 2000, and 9,700 in 2001 and 2002. Source: NESDB.



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