

**The Economics  
of Effective AIDS  
Treatment**



**Health, Nutrition, and Population Series**

# **The Economics of Effective AIDS Treatment**

*Evaluating Policy  
Options for Thailand*

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## Dedication

This report is dedicated to Nicholas Prescott, former staff member of the World Bank, who collaborated with the Thai government and the World Health Organization from 1995 through 1997 in an early analysis of the costs and benefits of antiretroviral therapy. Nicholas Prescott was a friend and mentor to many of the members of the current report team before his untimely death on February 19, 2000.



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## Foreword

We in the National AIDS Prevention and Problem Alleviation Program of the Kingdom of Thailand bear the responsibility for managing national and non-national resources that are spent on protecting people from being infected with HIV and to provide care and treatment for the people who have already been infected. In this capacity, we are constantly aware of the need to balance the resources used for one aspect against those for another. Like officials in public health programs in other countries, we often have difficulty justifying expenditures to prevent disease when there are such clear and urgent needs all around us for treatment of people who are already sick. This is because well people are seldom aware that they have been saved from illness or death by a prevention expenditure made years previously by the Program. On the other hand, people who have been treated and are recovering attribute their recovery to those who helped them. It is more obvious and popular for a government to provide treatment than to provide prevention.

Although the subject matter of this book is the economics of AIDS treatment, perhaps its most important lessons are in the area of prevention. After carefully computing the probable future cost of Thailand's ARV treatment program, the authors have been able to compare that cost to the much larger cost that Thailand would have had to shoulder if the country had not engaged in such a vigorous HIV prevention program in the 1990s. They estimate that for every Baht that the Thai government spent on HIV prevention in the 1990s, 43 Baht of government expenditure on treatment has been avoided. Even if they have underestimated by 50 percent the cost of prevention (for example, by leaving out the value of the many voluntary contributions to HIV prevention of the members of many national NGOs) and overestimated the savings by a factor of two

(because some of the reduction in risk behavior might have occurred without government intervention), one would estimate a saving of 10 Baht for every Baht spent on prevention. These calculations demonstrate the value of prevention of HIV and suggest that prevention of other diseases that afflict the nation might also be worthwhile investments.

This study forecasts that government spending on ARV therapy through the National Access to ARV for People with HIV and AIDS (NAPHA) will rise to equal 24 percent of the projected government health budget in the year 2013. But costs will rise even more if the availability of treatment leads to a return of high-risk behavior. The threat of these future costs has led to decisions by the National AIDS Committee early in 2006 to refocus on HIV prevention. In a speech at the United Nations General Assembly in New York in June 2006, Thailand announced that its new goal is to reduce by half the previously expected annual number of new HIV infections by the year 2010. To meet this goal, all stakeholders, including the government agencies and its civil society partners, will work together to sustain condom use where it is high and to increase it where it is low. New free condom distribution programs will be targeted to those particularly likely to contract and transmit HIV, including the discordant couples, female sex workers and their clients, intravenous drug users, men who have sex with men, clients of VCT and STI clinics, and youth as a cross-sectional group.

In view of the large cost of second-line drugs at current prices, the ARV Program is working with partners such as the Global Fund and Médecins sans Frontières to maximize the benefits of first-line therapy for each patient. As recommended in this study, we are expanding the coverage of patient support groups attached to each public anti-retroviral treatment center.

We in the National AIDS Prevention and Problem Alleviation Program appreciate that the estimates in this book, although based on the best current information about costs and effects, are subject to change over time. The analytical framework used will be useful as we periodically return to these issues and construct new forecasts based on the most recent information. We look forward to future collaboration with the World Bank in the analysis of selected health sector policy issues.

*Sombat Thanprasertsuk, M.D., M.P.H.  
Director, Bureau of AIDS, Tuberculosis,  
and Sexually Transmitted Infections*

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## Abbreviations

3TC	Lamivudine
AEM	Asian Epidemiological Model
AIDS	Acquired immunodeficiency syndrome
ART	Antiretroviral therapy
ARV	Antiretroviral
ATC	Access to care
AZT	Zidovudine
BSS	Behavioral Surveillance Survey
CD4	Immune cell that is a target for HIV (also called <i>T-cell</i> )
CMV	Cytomegalovirus
CRN	Clinical research network
CSMBS	Civil Servant Medical Benefit Scheme
d4T	Stavudine
ddI	Didanosine
DOTS	Directly observed treatment short course
EFV	Efavirenz
GFATM	Global Fund to Fight AIDS, Tuberculosis, and Malaria
GPO	Government Pharmaceutical Organization
HAART	Highly active antiretroviral therapy
HIV	Human immunodeficiency virus
HIV-NAT	HIV–Netherlands Australia Thailand Research Collaboration
IDU	Injecting drug user
IDV	Indinavir
IRS	Immune reconstitution syndrome
LPV	Lopinavir
LPV/r	Lopinavir/ritonavir

MAC	Mycobacterium avium complex
MDR-TB	Multidrug-resistant TB
MOPH	Ministry of Public Health
MSF	Médecins sans Frontières
MSM	Men who have sex with men
NAPHA	National Access to Antiretroviral Program for People Living with HIV/AIDS
NESDB	National Economic and Social Development Board
NGO	Nongovernmental organization
NNRTI	Nonnucleoside reverse transcriptase inhibitor
NRTI	Nucleoside reverse transcriptase inhibitor
NVP	Nevirapine
OECD	Organisation for Economic Co-operation and Development
OI	Opportunistic infection
PCP	Pneumocystis carinii pneumonia
PHA	Person living with HIV/AIDS
PI	Protease inhibitor
PMTCT	Prevention of mother-to-child transmission
RTV	Ritonavir
SGOT	Serum glutamic oxaloacetic transaminase
SQV	Saquinavir
SQV/r	Saquinavir/ritonavir
SSS	Social Security Scheme
STI	Sexually transmitted infection
TB	Tuberculosis
TNP+	Thai Network of People Living with AIDS
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
UCS	Universal Coverage Scheme
UNAIDS	Joint United Nations Programme on HIV/AIDS
VCT	Voluntary counseling and testing
WCF	Workmen's Compensation Fund
WHO	World Health Organization
WTO	World Trade Organization