



## Health Impacts of the Thai-US FTA: A case study of access to antiretroviral drugs of Thai HIV/AIDS patients

### Researchers

- Assoc. Prof. Jiraporn Limpananont
- Assoc. Prof. Vithaya Kulsomboon
- Assist. Prof. Nussaraporn Kessomboon
- Dr. Usawadee Maleewong
- Mrs. Achara eaksangsri
- Mr. Prinya Paothong



# Background

- **HIV/AIDS is the main cause of mortality and morbidity in Thailand**
- **HIV/AIDS patients have to be treated for their lifelong and they have to face with drug problems during the treatment**
- **Almost of ARV drugs in Thailand are very expensive due to patented status**
- **Thai HIV/AIDS patients can not access to ARV treatment**



# Situations of HIV/AIDS in Thailand

- For the year 2007
  - 1,100,000 adults have been infected since start
  - 560,000 adults had died of AIDS
  - 550,000 adults currently living with HIV/AIDS and needed to be treated
  - 14,000 infections (adult & children) will occur this year



# Objectives

- To assess the impacts of Thai-US FTA on **access to antiretroviral (ARV) drugs** and **health** of Thai HIV/AIDS patients in terms of life-year (LY) gained and disability adjusted life-year (DALY) averted



# Research questions (1)

- Is there any difference of the total cost of treatment among 3 scenarios include:
  - The situation without compulsory licensing and no patent extension from TRIPS agreement
  - The 2, 5, and 10 year patent extension due to the Thai-US FTA
  - The implementation of compulsory licensing for Efavirenz (EFV) and Lopinavir/Ritonavir (LPV/r)



## Research questions (2)

■ Under the situation that the ART budget was limited (3,000 million baht/year), is there any difference of 3 indicators include:

- Access to ARV drugs
- Life-year gained (LY gained)
- Disability adjusted life year (DALY) averted

Among 3 scenarios (were mentioned above)????

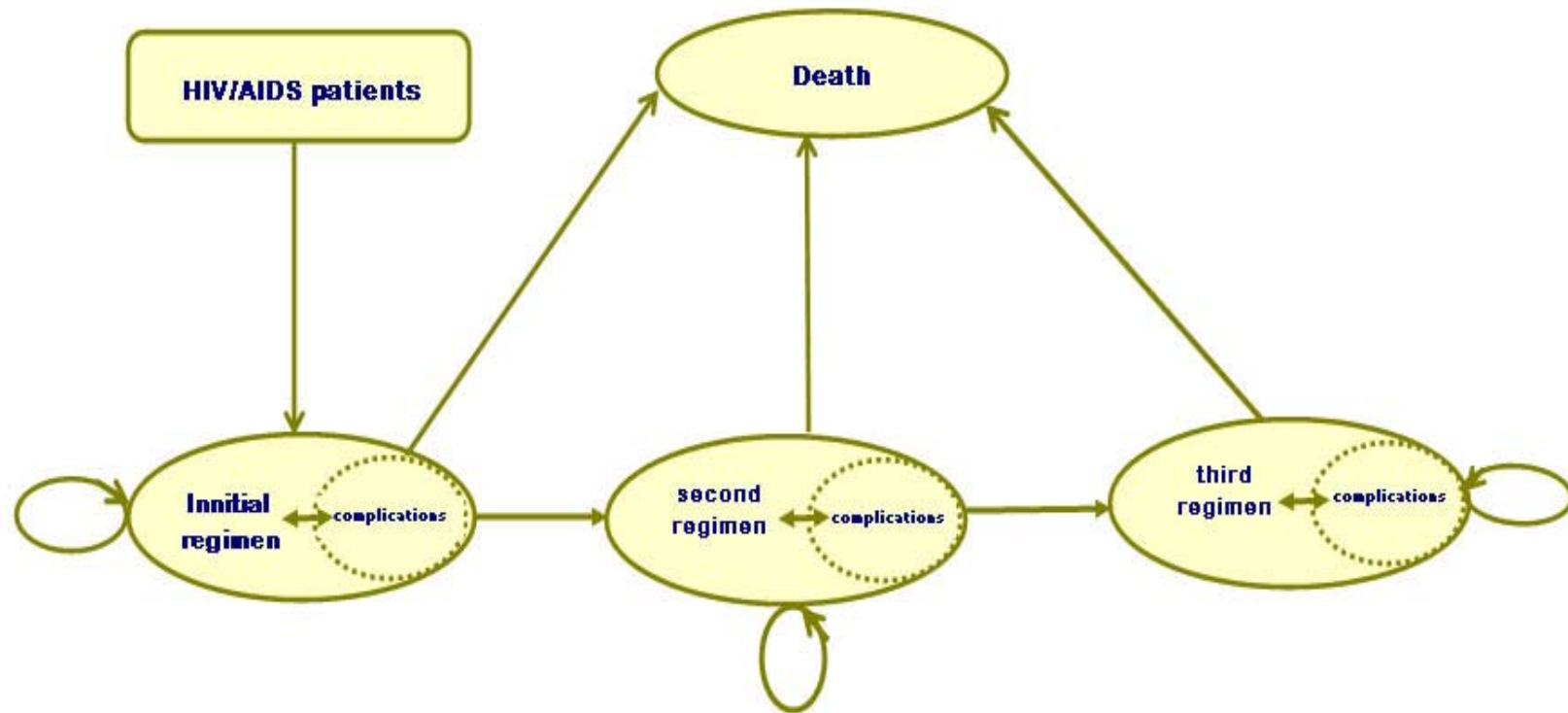


# Methodology

- Analytical decision model was conducted by applying Markov Model to Thai HIV/AIDS patients aged 15 to 65 years to assess the total cost of treatment, LY gained and DALY averted of HIV/AIDS patients
- Pattern of ARV utilization of HIV/AIDS patients and adverse events were extracted from a cohort study from 5 regional hospitals in Thailand



## Structure of Markov model





# Parameters in Markov model

- **Cost of treatment (Provider Perspective)**
  - ARV drugs cost (was surveyed by MSF Thailand Year 2006)
  - OPD + IPD visit during ARV treatment
- **Disability weight (DW) from GBD, Australia study and expert opinion**
- **Mortality rate/switching ARV regimens /rate of complications were collected from 5 hospitals**





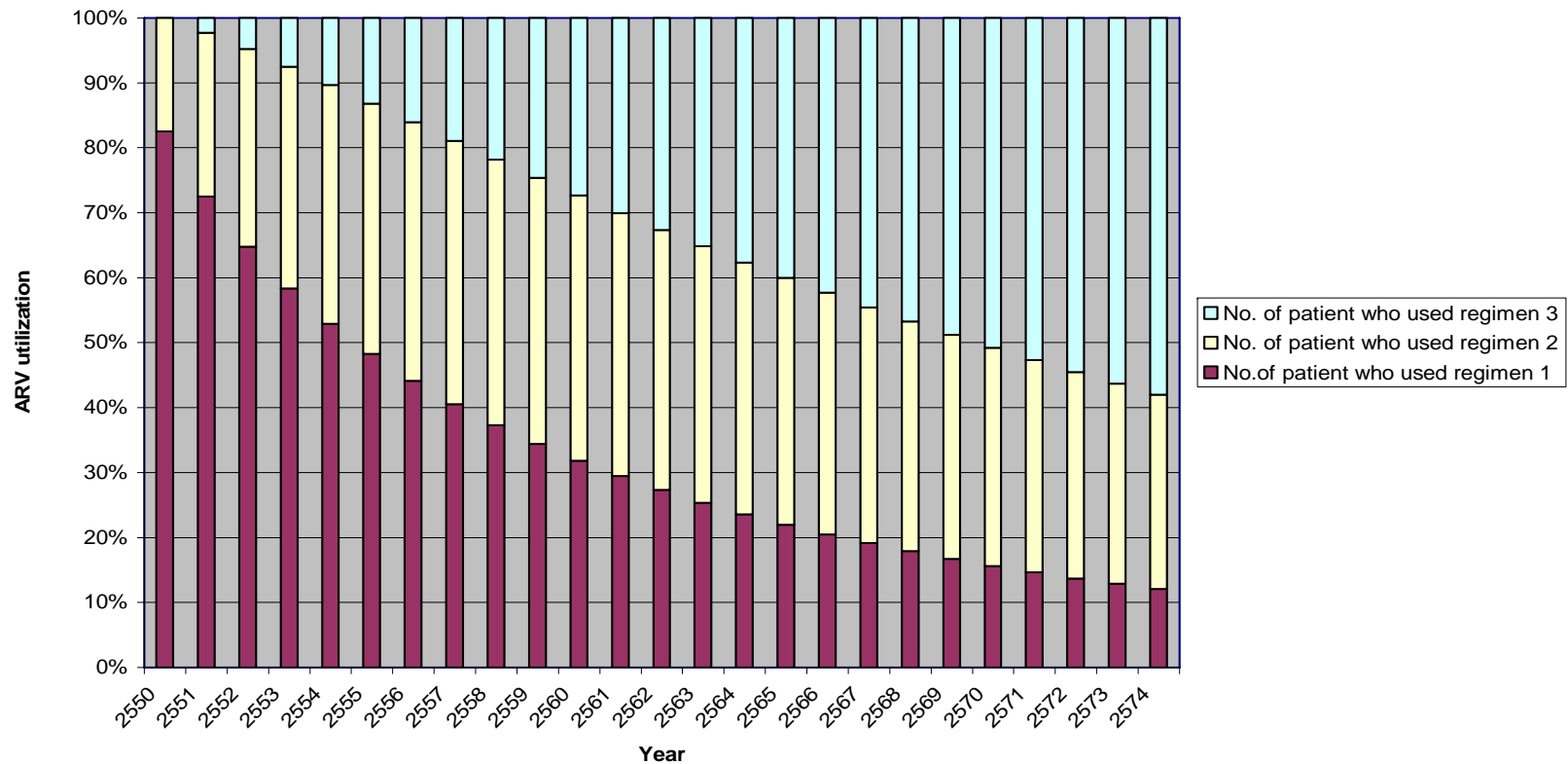
Drug list	cost per year (Baht)	
	Original drug	Generic drug
NRTI		
Didanosine (ddl)	69,984	8,280
Lamivudine (3Tc)	72,540	7,200
Stavudine (d4T)	65,100	2,520
Zidovudine (AZT)	41,604	8,640
AZT+3TC	100,152	18,000
NNRTI		
Efavirenz (EFV)	14,748	-
Nevirapine (NVP)	19,908	10,800
PI		
Indinavir (IDV)	29,856	-
Nelfinavir (NFV)	100,920	61,560
Ritonavir (RTV)	40,080	-
Saquinavir (SQV)	64,884	-
Lopinavir + Ritonavir (LPV/r)	100,080	-



# Results

## ■ Pattern of ARV utilization year 2007 to 2031

Pattern of ARV utilization





# Results

- Under the situation that the ART budget was unlimited, the LY gained and DALY averted of HIV/AIDS patients who received ARV drugs were **16.24** and **4.52** years, respectively.



# Results

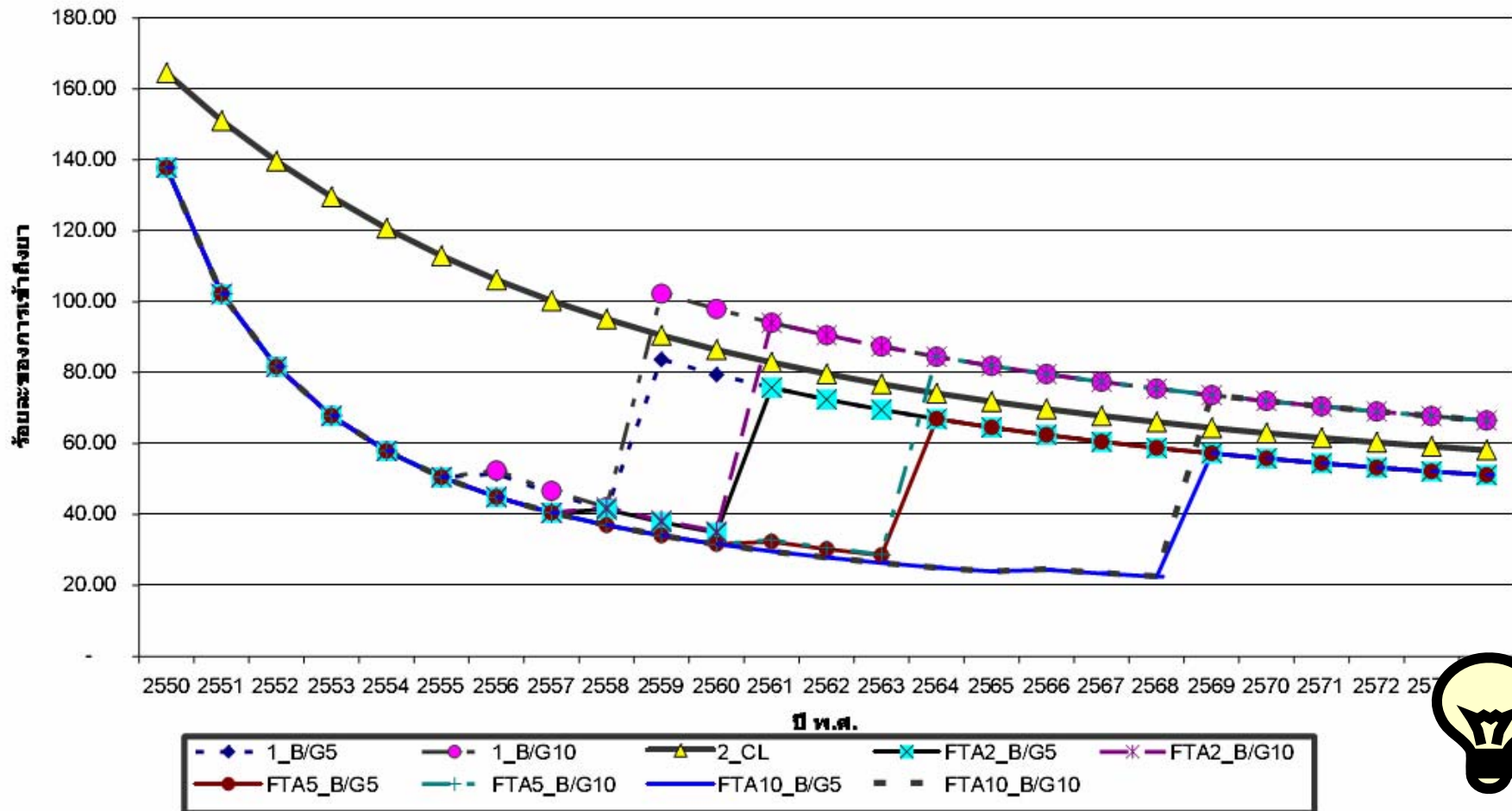
## ■ Total cost of treatment

Scenarios	Total cost of treatment
Scenario 1 and B/G =5	774,308
Scenario 1 and B/G =10	665,599
Scenario 2 CL implementation	586,564
Scenario 3 Extended patent term 2 Y and B/G =5	829,009
Scenario 3 Extended patent term 2 Y and B/G =10	727,131
Scenario 3 Extended patent term 5 Y and B/G =5	917,372
Scenario 3 Extended patent term 5 Y and B/G =10	826,531
Scenario 3 Extended patent term 10 Y and B/G =5	1,031,299
Scenario3 Extended patent term 10Y and B/G =10	996,995



**Access to Medicine, LY gained, and DALY averted under the situation that ART budget was limited (3,000 million baht/year for 120,000 HIV/AIDS patients)**

การเข้าถึงการรักษาด้วยยาต้านไวรัสเอดส์





# Conclusions

- The extension of patent period due to FTA
- The period of patent extension from TRIPS agreement due to Thai-US FTA had the worse impact to the access to medicine and also affect the patients health.
- The intellectual Property Right (IPR) protection on pharmaceutical must be exclude from the FTA negotiation