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PEPFAR

# Combining Epidemiology and Economic Analysis to Inform the Response to the HIV Epidemic in Ho Chi Minh City until 2015

Son Nguyen[1], Tue Ngo[1], Theodore Hammett[1], Quoc Nguyen[2], Thuy Le[2]
[1]Abt Associates Inc./Vietnam; [2]FHI360/Vietnam

## Background

- Vietnam is graduating to middle-income status and transitioning away from a reliance on international donor funding for public health interventions.
- Using evidence to prioritize HIV/AIDS prevention interventions and allocate funding becomes more important.
- USAID/HPI and FHI360/Vietnam assisted the Government of Vietnam in Ho Chi Minh City (HCMc) to:
  - Develop an epidemiologic HIV/AIDS projection for HCMc based on available behavioral, epidemiologic, and program intervention coverage data;
  - Estimate resource needs based on alternate program coverage scenarios;
  - Identify the most effective combinations of interventions based on projections of intervention impact; and
  - Develop recommendations for resource mobilization in order to fill resource gaps and ensure the sustainability of the HIV/AIDS prevention program.

## Methods

- The Asian Epidemic Model (AEM) was used to project epidemiological trends in HCMc and;
- The Resource Needs Model (RNM) to determine the most effective prevention strategy and resources needed.

## Results

### HIV in HCMc 2011-2015

- Estimation and projection results show that, by 2015:
  - The HIV/AIDS prevalence among Injecting Drug Users (IDUs), Female Sex Workers (FSWs) and their clients, as well as Men who have Sex with Men (MSM) will remain high.
  - The HIV/AIDS prevalence among the adult population will increase from 1.27% to 1.53%.
  - There will be a total of 33,129 new infections in the adult population.
  - There will be approximately 5,000 additional AIDS patients every year.
  - Male clients of FSWs are projected to become the largest single source of new infections between 2011 and 2015.
  - The second largest number of new infections will be among low-risk women (providing a warning sign that the HIV epidemic is spreading outside of MARPs to other lower risk populations in the community through sexual transmission).
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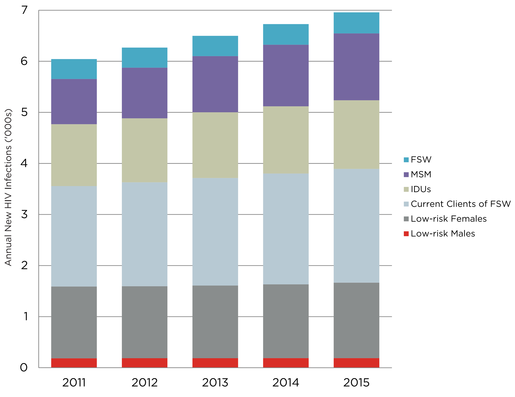
### Effective Strategies to Control the Epidemic

- The most efficient resource allocation scenario includes a combination of interventions addressing all high risk populations, extending prevention interventions to cover 65% of FSWs, 70% of MSM, 55% of IDUs in needle/syringe programs, and 30% of IDUs in methadone treatment.
- These coverage levels would avert an additional 5,449 new HIV cases between 2011-2015.
- This recommended scenario would place increased emphasis on methadone treatment, needle exchange and MSM programs.

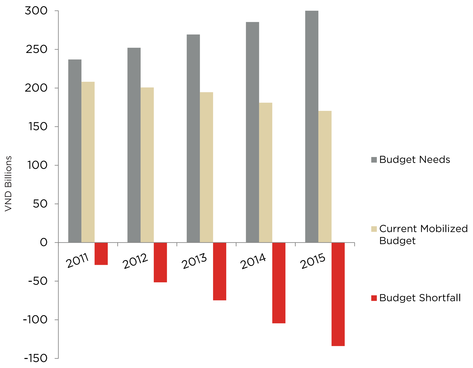
### Resources: Gaps, Mobilization and Sustainability

- National resources allocated to HIV/AIDS program in HCMc are expected to increase by 20% in 2011 and by 30% each year thereafter until 2015. These funds account for only 10% of the total HIV/AIDS resource needs.
- International assistance for HIV/AIDS prevention, care and treatment is expected to decline by 5% per year in 2012 and 2013 and 10% per year in 2014 and 2015.
- By 2015, HCMc will have a $US 6.4 million annual shortfall in funds needed for an effective overall response, including the above prevention scenarios.

### Figure 1. Projection of new HIV cases in HCMc, 2011-2015




### Figure 2. Budget Need, Current Mobilization, and Short Fall in HCMc




## Conclusions

- A comprehensive intervention program which covers all high risk groups at different levels of investment is recommended to avert the highest number of new HIV/AIDS infection cases.
- HCMc needs to mobilize national resources for HIV/AIDS account for 53% of the total HIV/AIDS budget by the year 2015.
- HCMc should design a comprehensive funding strategy to fill the projected funding gap includes the following:
  - Financial contributions from program participants who are able to pay;
  - Health insurance programs for HIV/AIDS treatment (Antiretroviral and opportunistic infections); and/or
  - Business and community contributions through an HIV/AIDS Fund.
- Cost efficiencies should be sought in current programming to increase the impact of currently available resources.

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