HIV TREATMENT AS PREVENTION: VIETNAM’S EXPERIENCE

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HIV TREATMENT AS PREVENTION

- Evidence shows that successful viral suppression through treatment can substantially reduce the risk of vertical, sexual and blood-borne HIV transmission.

- According to a recent University of Washington study of heterosexual couples (each with one HIV-positive and one HIV-negative person) in seven countries in sub-Saharan Africa, the HIV transmission rate was 92% lower when the HIV-positive partner was on treatment.

- Treatment can become part of a combination prevention strategy.
HIV TREATMENT AS PREVENTION

- Effective implementation of antiretroviral therapy will also result in other prevention benefits, including lower rates of tuberculosis, lower incidence of pregnancy-related deaths among women, and fewer cases of malaria.

- According to a recent study, AIDS is responsible for 61,000 of the 350,000 annual maternal deaths worldwide.
OVERVIEW OF THE CURRENT HIV EPIDEMIC IN VIETNAM
## HIV Epidemic in Vietnam, 2010

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV Incidence</td>
<td>13.815</td>
</tr>
<tr>
<td>AIDS Incidence</td>
<td>6.510</td>
</tr>
<tr>
<td>AIDS Death</td>
<td>2.556</td>
</tr>
<tr>
<td>Total Living HIV Cases</td>
<td>183.938</td>
</tr>
<tr>
<td>Total Living AIDS Cases</td>
<td>44.022</td>
</tr>
<tr>
<td>Total Cumulative Death</td>
<td>49.477</td>
</tr>
</tbody>
</table>
HIV DISTRIBUTION BY GENDER OVER YEARS

The chart illustrates the distribution of HIV cases by gender over the years from 1993 to 2010. The y-axis represents the percentage range from 0% to 100%, and the x-axis lists the years from 1993 to 2010. The gender distribution is indicated by the color of the bars, with male cases shown in blue and female cases in red. The chart shows fluctuations in the gender distribution across the years.
HIV PREVENTION AMONG IDUs
HIV PREVENTION AMONG STI PATIENTS
HIV prevalence among MSM (IBBS 2009)

IBBS 2009

%  Hanoi  Hai Phong  HCMC  Can Tho

17.4   16.3   16.7   5.9
HIV PREVENTION AMONG TB PATIENTS
HIV PREVENTION AMONG PREGNANT WOMEN

0.02% 0.07% 0.04% 0.08% 0.08% 0.20% 0.12% 0.24% 0.34% 0.30% 0.35% 0.24% 0.37% 0.38% 0.34% 0.30% 0.25% 0.30% 0.26%

94 95 96 97 98 99 00' 01' 02' 03' 04' 05' 06' 07' 08' 09' 10'

0.00% 0.07% 0.08% 0.08% 0.20% 0.34% 0.30% 0.35% 0.37% 0.38% 0.34% 0.30% 0.25% 0.30% 0.26%
Estimated HIV infections in Vietnam (adults and children)
DYNAMIC OF HIV TRANSMISSION IN VIETNAM

- Low risk women
- Low risk man
- Client
- FSW
- MSM
- IDU
ACTION PROGRAMS

1. Information, Education, and Behavioral Change Communication;
2. Harm reduction and HIV prevention
3. Care and treatment for PLHIV
4. HIV Surveillance, Program Monitoring and Evaluation
5. Access to HIV treatment
6. PMTCT
7. Management and treatment of STIs
8. Blood transfusion safety
9. Strengthening capacity building and international cooperation
HIV TREATMENT
## Operational outcomes of voluntary counseling and testing

<table>
<thead>
<tr>
<th>Content</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2002</td>
</tr>
<tr>
<td>No. of voluntary testing counseling stations</td>
<td>1</td>
</tr>
<tr>
<td>No. of visits for counseling prior to testing</td>
<td>365</td>
</tr>
<tr>
<td>No. of people being tested</td>
<td>284</td>
</tr>
<tr>
<td>No. of visits for counseling after testing</td>
<td>61</td>
</tr>
<tr>
<td>No. of people having positive test result</td>
<td>67</td>
</tr>
</tbody>
</table>

Source: Report on HIV/AIDS PC (Forms D26, D28), Ministry of Health
HIV tested over the past 12 months and being aware of the test results

MoH, VAAC, 20 year responding to HIV/AIDS in Vietnam
# MOH ART GUIDELINE (2009)

<table>
<thead>
<tr>
<th>ART</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS Phase IV regardless CD4 counts</td>
</tr>
<tr>
<td>AIDS Phase III, &lt; 350 /mm3</td>
</tr>
<tr>
<td>AIDS Phase I, II; CD4 &lt; 250 /mm3</td>
</tr>
<tr>
<td>AIDS Phase III, IV without CD4 counts</td>
</tr>
</tbody>
</table>
ART IN VIETNAM 2005-2010

Number receiving ART

*MoH, VAAC,*
ART AMONG HIV INFECTED PREGNANT WOMEN

1. No treatment ARV
2. Treatment ARV

Reasons of not treatment: comes too late, stillbirth, disagree of treatment, late testing...

Nguyen Viet Tien et al.
ART AMONG NEWBORNS

<table>
<thead>
<tr>
<th>Regimen ARV for newborn</th>
<th>16</th>
<th>2.0 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>No treatment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment syrups NVP or NVP+AZT (1 wk or 4 wks)</td>
<td>774</td>
<td>98.0 %</td>
</tr>
</tbody>
</table>

*Nguyen Viet Tien et al.*
Estimates of the number of children prevented by PMTCT Program

MoH, VAAC, 20 year responding to HIV/AIDS in Vietnam
WHO stage at ART

WHO stage at baseline

N= 7.616

MOH, VAAC
# CD4 at beginning of ART treatment

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>129</td>
<td>910</td>
<td>1925</td>
<td>2437</td>
<td>2214</td>
</tr>
<tr>
<td>CD4 mean</td>
<td>22</td>
<td>54</td>
<td>73</td>
<td>75</td>
<td>91</td>
</tr>
</tbody>
</table>

Lawn SD et al, CID 770 (2006)
ART regimes at the beginning

- d4T/3TC/EFV, 19.3%
- AZT/3TC/EFV, 1.2%
- AZT/3TC/NVP, 5.3%
- d4T/3TC/NVP, 72.8%
- Khác, 1.4%

MOH, VAAC
## Link to TB treatment

<table>
<thead>
<tr>
<th>Vietnam Nam 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Estimated TB/HIV death</td>
</tr>
<tr>
<td>(B) Estimated AIDS death</td>
</tr>
<tr>
<td>% (A) / (B)</td>
</tr>
</tbody>
</table>

Only 28% TB/HIV treated with both TB and ARV in 2009 (UNGAASS 2010).

*MoH, VAAC*
## ART compliance

<table>
<thead>
<tr>
<th></th>
<th>6 months</th>
<th>12 months</th>
<th>24 months</th>
<th>36 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>All patients</td>
<td>89.0%</td>
<td>84.5%</td>
<td>79.5%</td>
<td>75.7%</td>
</tr>
<tr>
<td>IDU</td>
<td>87.5%</td>
<td>82.4%</td>
<td>74.9%</td>
<td>69.7%</td>
</tr>
<tr>
<td>Non - IDU</td>
<td>93.0%</td>
<td>90.3%</td>
<td>88.7%</td>
<td>88.5%</td>
</tr>
</tbody>
</table>
Rate of survival after 6 months and 12 months of ARV treatment

Report on the effectiveness of ARV treatment and result of early warning of HIV drug resistance data collection in 2009
1. Mortality rate was 7.4/100 person-years which is higher than that in high-income settings but lower than that in other low-income settings.

2. Major cause of AIDS-related deaths was tuberculosis, followed by penicilliosis, MAC and hepatic failure.

3. No significant difference in mortality between the intervention and control group.

4. Predictive factors for death: low CD4 count, clinical stage 3/4, high viral load, age > 35 years old, known HIV+ more than 12 months, low BMI < 18kg/m2, low hemoglobin level <100g/l.

5. Delay of ART treatment causing significant decrease of CD4 and more severe immuno-suppression.

6. Most of the deaths occurred in the first 6 months → early ART initiation and intensive follow-up during the first 6 months of ART might decrease AIDS-related mortality.
Mean Adult HIV Care and Treatment Costs per Patient per Year

<table>
<thead>
<tr>
<th>Adult Outpatient - Cost per patient per year</th>
<th>VND</th>
<th>USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-ART</td>
<td>2,833,166</td>
<td>135</td>
</tr>
<tr>
<td>1st line ART (Year 1)</td>
<td>7,594,995</td>
<td>362</td>
</tr>
<tr>
<td>1st line ART (Year 2+)</td>
<td>6,486,439</td>
<td>309</td>
</tr>
<tr>
<td>2nd line ART</td>
<td>27,803,065</td>
<td>1,324</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adult Inpatient – Cost per episode</th>
<th>VND</th>
<th>USD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4,904,772</td>
<td>234</td>
</tr>
</tbody>
</table>

MoH/VAAC, WHO, CDC
Number of adult patients need ART (CD4<350)

- Estimated HIV
- Need for ARV
- Actual treatment
ART CONTRIBUTES TO AIDS DEATH DECREASE

MoH, VAAC, 20 year responding to HIV/AIDS in Vietnam
NEED AND ACTUAL ART IN VIETNAM

Estimated ART needs
Actual ART patients

MoH, VAAC, 20 year responding to HIV/AIDS in Vietnam
Estimates of HIV/AIDS patients survived due to ART.

MoH, VAAC, 20 year responding to HIV/AIDS in Vietnam
Impact of ART in mortality reduction.

21,000 people saved since 2004

ESTIMATED INFECTIONS AMONG PREGNANT WOMEN
4,800 by 2012

MoH, VAAC, HIV/AIDS Estimation and projection in Vietnam
ESTIMATED INFECTIONS AMONG CHILDREN < 15 YEAR OLD
5,100 by 2010 and 5,700 by 2012

MoH, VAAC, HIV/AIDS Estimation and projection in Vietnam
HAMRM REDUCTION PROGRAMS
Reported number of drug users managed by MOLISA/DOLISA system 1994 - 2008

Drug users
Methadone Maintenance Therapy
Evidence-based

• Reductions in risky behaviour.
• Reductions in HIV infection.
• Reduction in hospital admissions and cost of care, support and treatment.
• Reduction in Crime and Deaths.
• Improved ART adherence.
• Improved employment, social functioning and mental health.
Co-existence of harm reduction and compulsory treatment centers (06 centers)

- By October 2010, 11 clinics in 5 cities and provinces. More than 2,300 patients have been enrolled, and the number is expected to rise to 80,000 by 2015 (VAAC, 2010)
- More than 100 compulsory treatment centers with about 60,000 residents (WHO, 2009)
Illicit opioid use over time
965 enrolled in the MMT program in HP and HCMC, Vietnam

Nguyen To Nhu, FHI
Comparison of positive urine tests for ARV clients and non-ARV clients at clinic based testing.

965 enrolled in the MMT program in HP and HCMC, Vietnam

Nguyen To Nhu, FHI
NEED & SYRINGE DISTRIBUTION AND HIV INFECTION AMONG IDUs

MoH, VAAC, 20 year responding to HIV/AIDS in Vietnam
CONDOM DISTRIBUTION AND HIV/STIs AMONG FSWs

MoH, VAAC, 20 year responding to HIV/AIDS in Vietnam
Impact of harm-reduction in HIV infection, 2005 - 2009

Percentage of new infections averted among IDU due to needle-syringe distribution, 2005-2009

Model-simulated percentage of infections averted, 2005-2009

Estimated average annual number of needle-syringes distributed per IDU, 2005-2009

Nguồn: Evaluation of the epidemiological impact of harm reduction programs on HIV in Vietnam. VAAC, UNW, UNAIDS, PEMA 2010
CHALLENGES
Challenges for HIV treatment and care in Viet Nam

- Late treatment initiation common (average baseline CD4 count < 100).
  - Late diagnosis; Lost-to-follow-up between diagnosis and care.
  - Mortality high in early phase of ART
- Limited access and retention
  - Limited access in closed settings and remote mountainous provinces
  - Stigma, discrimination, punitive laws against MARPs - barriers for access
Challenges for HIV treatment and care in Viet Nam

• Burden of TB, viral hepatitis and drug dependence high
  – Highly verticalized HIV, TB, MCH programs – limited collaboration and linkages.

• Sustainability challenges
  – 90% of HIV treatment and care budget funded by external donors.
  – HIV services delivered through donor projects.
Lack of budget
National spending on HIV by categories, 2007-2009

Source: National Funding Matrix for Viet Nam 2007-2009
ADAPTING TREATMENT 2.0 IN VIETNAM
Adapting Treatment 2.0 into Viet Nam

- Pilot implementation in two provinces (Can Tho, Dien Bien)
Adapting Treatment 2.0 into Viet Nam

• Expand HIV testing and counseling
  – Apply rapid test algorithm.
  – Expand HIV testing and counseling to primary care sites (CHC) and through mobile/outreach teams.
  – Integrate into health services (e.g. ANC, TB, STI, methadone maintenance).
• Simplify and decentralize
  – Simplify ART and methadone procedures.
  – Pilot and expand ART and methadone provision/ follow-up at commune health station and closed settings
• Integrate
  – Promote “one-stop” service delivery model. Ensure referral among the services:
    • From HIV diagnosis to HIV prevention, treatment and care.
    • Among HIV-TB, HIV-methadone and HIV-MCH
Adapting Treatment 2.0 into Viet Nam

- Mobilize communities
  - Support PLHIV and MARP peer educators to take active roles in HIV treatment, care and support.
  - Enhance treatment knowledge among MARP peer educators (benefits of early diagnosis and treatment initiation).
  - Promote public-private partnership.

- Optimize drug regimens
  - Shift towards less-toxic regimens (from d4T to TDF)
  - Promote use of fixed dose-combinations

- Promote point-of-care diagnosis.
  - Develop rapid test-based algorithm for HIV diagnosis.
Adapting Treatment 2.0 into Viet Nam

- Reduce costs and sustainability
  - Finalize costing study and resource needs estimation.
    - Standardize service packages. Analyze cost-effective strategy.
  - Strengthen national health insurance system to cover standard HIV treatment and care package.
  - Maximize efficiencies
    - Shift from project approach to program approach
    - Integrate HIV services and laboratory functions into health system
  - Promote earlier treatment initiation (CD4 ≤ 350)
    - Reduce cost for hospitalization and OI treatment
  - Integrate ART on HIV and TB
Proposed Continuum of prevention and care in Viet Nam

**District Health Facility**
- ANC
- Ob/Gyn
- STI
- VCT
- TB
- PLHIV club
- MMT
- IPD

**Provincial Hospital**

**Provincial AIDS Center (PAC)**
- Coordination
- Supervision
- Management

**Communities**
- Commune HCW
- Family members
- PLHIV peers
- IDU/SW outreach (NSP, condom)
- Social Organization

- TA
- Referral (complicated, 2nd line)

**Closed settings**
- Referral to health services
- Home-based care
- Adherence support
- Psycosocial support
- Occupational support
SUMMARY

• HIV epidemic in Vietnam is lowering down as results of:
  – Comprehensive harm reduction: needle-syringe and condom distribution, methadone maintenance therapy.
  – Successful ART scale-up: 18 times increase in the in past five years (2005-2010)
TARGETS BY THE YEAR 2015

1. HIV prevalence < 15% among IDUs, <3% among FSWs, and <0.2% among pregnant women.
2. 80,000 IDUs received MMT
3. 105,000 PLHA received ARV
4. HIV MTCT <5%
Thank you for your attention