Getting to zero HIV new infections in Asia and the Pacific region: Possible or impossible dream?

Steven J. Kraus  
Director  
UNAIDS Regional Support Team, Asia and the Pacific

Timothy D. Mastro  
Director, Global Health Population & Nutrition  
FHI 360
A regional overview of trends in HIV infections and AIDS deaths

HIV and AIDS in Asia and the Pacific 1990-2012

- People living with HIV: 4.9 million
- Women living with HIV: 1.7 million
- New HIV Infections: 350,000
- Deaths: 270,000
- Children living with HIV: 210,000

The number of estimated new HIV infections in the region have stayed the same since 2008.

Estimated new HIV infections in Asia and the Pacific

No change between 2008 and 2012

26% decline

Mixed progress: Declining and rising new infections across countries in the region

Countries that account for more than 90% PLHIV and new infections, and have more than 5% national HIV prevalence in key populations

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>India*</td>
<td>2,100,000</td>
<td>130,000</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Indonesia</td>
<td>610,000</td>
<td>76,000</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>China*</td>
<td>780,000</td>
<td>48,000</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Pakistan</td>
<td>87,000</td>
<td>19,000</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viet Nam</td>
<td>260,000</td>
<td>13,000</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>440,000</td>
<td>9,000</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>82,000</td>
<td>7,400</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myanmar</td>
<td>200,000</td>
<td>7,100</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>15,000</td>
<td>1,800</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cambodia</td>
<td>76,000</td>
<td>1,400</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nepal</td>
<td>49,000</td>
<td>1,200</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>25,000</td>
<td>&lt;1000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 2011 estimates

Note: Preparing by www.aidsdatahub.org based on UNAIDS Estimates 2012; China national estimates 2011, National HIV Sentinel Surveillance Surveys; and Integrated Biological and Behavioural Surveys.
National prevalence masks certain high prevalence geographical areas

Source: Prepared by www.aidsdatahub.org based on National HIV Sentinel Surveillance Surveys and Integrated Biological and Behavioural Surveys

*Direct FSW  **Indirect FSW
HIV infections among MSM population are on the rise in cities throughout the region.

HIV prevalence trend among MSM, 2000-2012

Source: Prepared by www.aidsdatahub.org based on HIV Sentinel Surveillance Reports and Integrated Biological and Behavioral Surveillance Reports
Effective responses need to be scaled up

Do you know where to get HIV testing and did you receive a condom in the last 12 months?

**Female sex workers**

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of syringes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh(2010)</td>
<td>7</td>
</tr>
<tr>
<td>Cambodia (2010)</td>
<td>82</td>
</tr>
<tr>
<td>China(2012)</td>
<td>83</td>
</tr>
<tr>
<td>India</td>
<td></td>
</tr>
<tr>
<td>Indonesia(2011)</td>
<td>20</td>
</tr>
<tr>
<td>Lao PDR(2011)</td>
<td>55</td>
</tr>
<tr>
<td>Malaysia(2012)</td>
<td>46</td>
</tr>
<tr>
<td>Mongolia(2012)</td>
<td>64</td>
</tr>
<tr>
<td>Myanmar(2008-09)</td>
<td>76</td>
</tr>
<tr>
<td>Nepal(2009-11)</td>
<td>60</td>
</tr>
<tr>
<td>Pakistan(2011)</td>
<td>8</td>
</tr>
<tr>
<td>Philippines(2011)</td>
<td>63</td>
</tr>
<tr>
<td>PNG(2010)</td>
<td>37</td>
</tr>
<tr>
<td>Thailand(2012)</td>
<td>54</td>
</tr>
<tr>
<td>Vietnam(2012)</td>
<td>56</td>
</tr>
</tbody>
</table>

**Men who have sex with men**

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of syringes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh(2010)</td>
<td>9</td>
</tr>
<tr>
<td>Cambodia (2010)</td>
<td>70</td>
</tr>
<tr>
<td>China(2012)</td>
<td>77</td>
</tr>
<tr>
<td>India</td>
<td></td>
</tr>
<tr>
<td>Indonesia(2011)</td>
<td>23</td>
</tr>
<tr>
<td>Lao PDR(2011)</td>
<td>46</td>
</tr>
<tr>
<td>Malaysia(2012)</td>
<td>64</td>
</tr>
<tr>
<td>Mongolia(2012)</td>
<td>69</td>
</tr>
<tr>
<td>Myanmar(2008-09)</td>
<td>69</td>
</tr>
<tr>
<td>Nepal(2009-11)</td>
<td>77</td>
</tr>
<tr>
<td>Pakistan(2011)</td>
<td>36</td>
</tr>
<tr>
<td>Philippines(2011)</td>
<td>23</td>
</tr>
<tr>
<td>PNG(2010)</td>
<td>67</td>
</tr>
<tr>
<td>Thailand(2012)</td>
<td>53</td>
</tr>
<tr>
<td>Vietnam(2012)</td>
<td>49</td>
</tr>
</tbody>
</table>

**People who inject drugs**

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of syringes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh(2010)</td>
<td>22</td>
</tr>
<tr>
<td>Cambodia (2010)</td>
<td>129</td>
</tr>
<tr>
<td>China(2012)</td>
<td>193</td>
</tr>
<tr>
<td>India</td>
<td></td>
</tr>
<tr>
<td>Indonesia(2011)</td>
<td>22</td>
</tr>
<tr>
<td>Lao PDR(2011)</td>
<td>94</td>
</tr>
<tr>
<td>Malaysia(2012)</td>
<td>116</td>
</tr>
<tr>
<td>Mongolia(2012)</td>
<td>163</td>
</tr>
<tr>
<td>Myanmar(2008-09)</td>
<td>36</td>
</tr>
<tr>
<td>Nepal(2009-11)</td>
<td>182</td>
</tr>
<tr>
<td>Pakistan(2011)</td>
<td>98</td>
</tr>
<tr>
<td>Philippines(2011)</td>
<td>180</td>
</tr>
</tbody>
</table>

*Number of syringes distributed per PWID per year; 2012


**Prevention coverage**

**Regional median**

November 18-22, 2013
BANGKOK, THAILAND

www.icaap11.org

social hashtag: #ICAAP11
EVIDENCE-BASED INTERVENTIONS TO STOP HIV TRANSMISSION
We have scientifically proven prevention tools that can stop HIV transmission. We now need to learn how best to use them and commit to using them for all populations, especially the key populations affected in the Asia-Pacific region.
Approaches to Reducing HIV Transmission

- Reduce infectiousness
- Reduce susceptibility
- Reduce exposure
The most successful HIV prevention efforts have used a **COMBINATION** approach
Combination HIV Prevention

1. HIV Testing and Counselling
2. Structural Interventions
3. Male & female condoms
4. Treatment of STIs
5. Male circumcision
6. Art – Treatment as Prevention
7. ARV PrEP
8. PMTCT
9. Clean injection equipment for people who inject drugs
10. Medication assisted therapy for people who use drugs
11. Blood Supply Screening

November 18-22, 2013
BANGKOK, THAILAND
www.icaap11.org
Awareness of HIV Status is Central to HIV Prevention

25% Unaware of Infection

75% Aware of Infection

People Living with HIV

Accounting for:

54% of New Infections

46% of New Infections

New HIV Infections

Adapted from Marks 2006. US Data
Though HIV is concentrated among key populations, less than half of them know their HIV status.

HIV testing coverage among key populations, regional median, 2008-2012

- Female sex workers: 42%
- Male sex workers: 41%
- Men who have sex with men: 39%
- People who inject drugs: 28%

Source: Prepared by www.aidsdatahub.org based on www.aidsinfoonline.org
Successful HIV Prevention Trials

- **Prime-Boost vaccine**: Effect size (CI) 31% (1, 51)
- **1% tenofovir gel**: Effect size (CI) 39% (6, 60)
- **Oral PrEP for MSM**: Effect size (CI) 44% (15, 63)
- **Oral PrEP for PWID**: Effect size (CI) 49% (10, 72)
- **Medical male circumcision (x3)**: Effect size (CI) 57% (42, 68)
- **Oral PrEP for Heterosexuals**: Effect size (CI) 63% (22, 83)
- **Oral PrEP for Hetero Couples**: Effect size (CI) 62% (34, 78)
- **Oral PrEP for Hetero Couples**: Effect size (CI) 73% (49, 85)
- **ART for HIV-positive partners (TasP)**: Effect size (CI) 96% (82, 99)
### Successful HIV Prevention Trials

<table>
<thead>
<tr>
<th>Study</th>
<th>Effect size (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prime-Boost vaccine</td>
<td>31% (1, 51)</td>
</tr>
<tr>
<td>1% tenofovir gel</td>
<td>39% (6, 60)</td>
</tr>
<tr>
<td>Oral PrEP for MSM</td>
<td>44% (15, 63)</td>
</tr>
<tr>
<td>Oral PrEP for PWID</td>
<td>49% (10, 72)</td>
</tr>
<tr>
<td>Medical male circumcision (x3)</td>
<td>57% (42, 68)</td>
</tr>
<tr>
<td>Oral PrEP for Heterosexuals</td>
<td>63% (22, 83)</td>
</tr>
<tr>
<td>Oral PrEP for Hetero Couples</td>
<td>62% (34, 78)</td>
</tr>
<tr>
<td>Oral PrEP for Hetero Couples</td>
<td>73% (49, 85)</td>
</tr>
<tr>
<td>ART for HIV-positive partners (TasP)</td>
<td>96% (82, 99)</td>
</tr>
</tbody>
</table>

**Efficacy**
HIV Suppression Stops Transmission

96%

HPTN 052: If an HIV-infected person adheres to ART, the risk of transmitting the virus is reduced by 96%

UNAIDS 2011 AIDS at 30 SMARTER, FASTER, BETTER CAMPAIGN

“HPTN 052 is a game changer”

Michel Sidibe, Executive Director of UNAIDS
Treatment has expanded: 1.25 million people now receiving antiretroviral therapy – but the pace of scale-up is slowing.

Number of people receiving ART in Asia and the Pacific, 2003-2012

- 13% increase between 2011 and 2012
- 20% increase between 2010 and 2011

Coverage of services – the “cascade”
The Cascade of HIV Care & Treatment

Adapted from Gardner, MMWR 2011

- HIV Infected
- HIV Diagnosed
- Linked to HIV Care
- Retained in HIV Care
- On ART
- Suppressed Viral Load (≤200 copies/mL)
What’s Needed to Stop HIV Transmission in Asia/Pacific?

• For men-who-have-sex-with men (MSM)?
• For people who inject drugs (PWID)?
• For people with heterosexual risk, including sex workers and their clients?
The Prevention Cascade Framework

- Identify key populations
- Reach key populations
- Test key populations
- Diagnose PLHIV
- Enroll in care
- Initiate ART
- Sustain on ART
- Suppress viral loads

- Extension of life
- Reduce transmission
Men who have Sex with Men
Prevention Coverage of MSM in Thailand


Asian Epidemic Model estimate of MSM population: 560,000
Global Fund estimate of "most at risk" MSM population: 210,460
Global Fund target of "reachable" MSM: 129,000
Reached through outreach in the past two years: 60,000
Received an HIV test in the past year: 4,173
Received HIV test results: ~3,000

~7%
HIV Prevention for MSM

• A COMBINATION approach emphasizing:

  - Outreach and HIV testing & counseling
  - Linkage to appropriate prevention and care services
  - Condom use
  - Treatment as prevention
  - PrEP for some MSM

• The not-so-new needed focus: MSM websites and apps, e.g. GRINDR
People who Inject Drugs
HIV Prevention for PWID

• A COMBINATION approach emphasizing:

  - Harm reduction - clean injection equipment – does NOT increase drug use
  - Outreach and HIV testing & counseling
  - Linkage to appropriate prevention and care services
  - Medication assisted therapy (opioid substitution therapy) – does NOT increase drug use
  - Treatment as prevention
  - PrEP for some PWID
MMT – HIV – ART Cascade

Data Source: VAAC 2012

Drug Users

Estimated: 217,000
Recorded: 171,000

Methadone Maintenance

MMT Retention:
Haiphong
1 Year 90%
2 Years 80%

60 MMT Clinics
13,000

HIV-Negative 77.5%
HIV+ 22.5%

13,000

2,925

ARV 71.4%

Data Source: VAAC 2012

Estimated:
Recorded:

IDU's

MMT

ART
For People at Heterosexual Risk, including Sex Workers & their Clients
HIV Prevention for Heterosexuals, including Sex Workers & Clients

• A COMBINATION approach emphasizing:

- Outreach and HIV testing & counseling
- Linkage to appropriate prevention and care services
- Condom use
- STI treatment
- PrEP for some sex workers
Moving Forward

Implementation Science

Moving from What We Know to What We Do
HIV Prevention in 2013

• We have powerful new tools in the toolkit, especially Treatment as Prevention
• We need to learn now best to use these new tools
• We need to commit to reach all key populations
• Adequate levels of coverage will be essential
• Ongoing studies and scale-up efforts will determine if we can achieve zero new HIV infections in Asia and Pacific
Legal and political challenges continue to impede the HIV response in the 38 UN Member States in Asia and the Pacific

11 impose some form of restriction on the entry, stay and residence of people living with HIV based on their HIV status

37 criminalize some aspect of sex work

11 compulsory detention centres for people who use drugs

15 provide for the death penalty for drug-related offences

18 criminalize same-sex relations
Progress since 2010

• At least 10 punitive laws have been lifted, including:
  – Criminalization of same sex practices; of HIV transmission, exposure or non-disclosure
  – HIV-related discrimination in employment
  – HIV-related restrictions on entry, stay and residence
  – Compulsory detention of sex workers

• 14 countries have Stigma Index Study

• 15 countries have conducted national reviews and/or consultations on legal barriers to access to services, resulting in prioritised action plans
Domestic funding has increased to make up for leveling off of international financing.

Resources available for AIDS response in Asia and the Pacific, low- and middle-income countries (LMIC).

- Domestic sub-total
- International sub-total
- Resources available to LMICs in Asia and the Pacific

Source: UNAIDS estimates 2012
Countries in Asia and the Pacific are sharing responsibility as GDP per capita rises

India committed to finance over 80% of its national response domestically by 2014

* * *
Not enough is spent on key populations prevention programmes

AIDS spending in Asia and the Pacific by major spending categories and prevention spending on key populations, latest available year, 2009 - 2012

Source: Prepared by www.aidsdatahub.org based on www.aidsinfoonline.org

Spending by category calculation is based on spending data from 25 countries (Afghanistan, Bangladesh, Cambodia, DPRK, Fiji, Indonesia, Kiribati, Lao PDR, Malaysia, Marshall Islands, Micronesia, Mongolia, Myanmar, Nepal, Pakistan, PNG, Philippines, Samoa, Solomon Islands, Sri Lanka, Thailand, Timor-Leste, Tuvalu, Vanuatu, Viet Nam) that reported AIDS spending by category. Spending by category is not available for China, India and Palau.

15 countries reported key populations prevention spending - Afghanistan, Bangladesh, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Pakistan, PNG, Philippines, Solomon Islands, Sri Lanka, Thailand, and Viet Nam

Countries that reported SW and MSM prevention spending - Afghanistan, Bangladesh, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Pakistan, PNG, Philippines, Solomon Islands, Sri Lanka, Thailand, and Viet Nam

Countries that reported PWID prevention spending - Afghanistan, Bangladesh, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, and Viet Nam

Total prevention spending (25 countries): 200
Key populations prevention spending (15 countries): 189
People who use drugs (13 countries): 67
Sex workers and clients (15 countries): 31
Men who have sex with men (15 countries): 23
Others: 13

Million USD
Prevention spending on key populations is heavily dependent on international financing sources.

Distribution of prevention spending by financing source in Asia and the Pacific, latest available year, 2009-2012

<table>
<thead>
<tr>
<th></th>
<th>Total prevention spending</th>
<th>Sex workers and clients</th>
<th>MSM</th>
<th>PWID</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>International</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Domestic public</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Prepared by [www.aidsdatahub.org](http://www.aidsdatahub.org) based on [www.aidsinfoonline.org](http://www.aidsinfoonline.org)
Getting to zero new infections will take:

- Strengthened political leadership and national ownership
- Focus on key populations, key geographical areas, and effective coverage scale-up
  - Sustain rights-based approaches that have been successful for sex work related infections – despite the legal barriers
  - Current programming is not working effectively for MSM – innovation required taking into account behaviors
- More proactive, simplified HIV testing and counselling strategies
- Maximized treatment benefits
- Community involvement and leadership
- Smart investments, maximum impact
Acknowledgments

FHI 360:
- Myron Cohen
- Wafaa El Sadr
- Nittaya Phanuphak
- Salim Abdool-Karim
- Quarraisha Abdool-Karim
- Gary West
- Ward Cates
- Sten Vermund
- Steve Mills
- Frits van Griensven
- Suresh Rangarajan
- Mitchell Warren
- Maya Tremelling
- Irinn Vinaiphat

UNAIDS:
- Regional Support Team for Asia and the Pacific
- HIV and AIDS Data Hub for Asia and the Pacific
- National Programme Managers in Asia and the Pacific
THANK YOU