HIV epidemics among men-having-sex-with-men (MSM)

Bangkok April 29th
Overview

HIV is a **significant cause** of disease burden globally.

HIV epidemics among **MSM** are large and growing.

Relative to their share of the epidemic, **MSM services** are extremely under-funded.

Most MSM services are externally financed, even in MICs where **international funding is ending** and a pivot to domestic financing is urgently needed.

Most MSM do not receive **equitable access** to universal health care services.

We have a growing **armory** of proven and cost-effective approaches.

With **commitment** and **focus** we can—and must—succeed.
HIV is a significant cause of disease burden globally.
HIV epidemics among MSM are large and growing

HIV prevalence among MSM and the general population

<table>
<thead>
<tr>
<th>Region</th>
<th>Median HIV prevalence (percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western and Central Africa (n=19)</td>
<td>18</td>
</tr>
<tr>
<td>Eastern and southern Africa (n=8)</td>
<td>16</td>
</tr>
<tr>
<td>Caribbean (n=7)</td>
<td>14</td>
</tr>
<tr>
<td>Latin America (n=16)</td>
<td>12</td>
</tr>
<tr>
<td>High income countries (n=15)</td>
<td>10</td>
</tr>
<tr>
<td>Middle East and northern Africa (n=6)</td>
<td>8</td>
</tr>
<tr>
<td>Eastern Europe and central Asia (n=26)</td>
<td>4</td>
</tr>
<tr>
<td>Asia and the Pacific (n=22)</td>
<td>2</td>
</tr>
</tbody>
</table>
HIV prevalence among MSM in Africa: Great variation – loosely aligned with general population HIV prevalence

Source: Key population atlas http://www.aidsinfoonline.org/kpatlas/#/home, accessed 24 March 2017
Population size estimates: Increasing but major gaps

Estimated MSM population (in thousands)

Source: Key population atlas [http://www.aidsinfoonline.org/kpatlas/#/home](http://www.aidsinfoonline.org/kpatlas/#/home), accessed 24 March 2017
Criminalization widespread

Source: Key population atlas
http://www.aidsinfoonline.org/kpatlas/#/home,
accessed 24 March 2017
Legal protection rare

Source: Key population atlas
Limited investment in programs among MSM in Africa

HIV prevention spending in 10 countries in Eastern and Southern Africa

Out of 10 countries in ESA, only 4 reported spending on dedicated programs for MSM.
- Less than 1% of HIV spending on MSM programs;
- 0.5-4% of HIV prevention spending for MSM programs in 4 countries
HIV epidemics among MSM are large and growing

MSM 50% of Asia’s epidemic by 2020
Most MSM do not receive equitable access to universal health care services
Long-standing World Bank support for sexual inclusion and health programs for MSM

- Economic cost of homophobia – up to $23 billion in India and up to 1.7% of GDP globally

- Global epidemic, policy and economic analysis of HIV epidemics among MSM – epidemics under-estimated and under-addressed

- Allocative optimization studies which argue for increased MSM investments in over 30 countries

- Implementation efficiency studies to increase access to services
Allocative efficiency: achieve maximum impact with the funding available for the country’s public health response and plan for sustainability.

How should the budget be allocated amongst programs, modalities, and delivery options?
Allocative efficiency studies consistently propose increased MSM investments in Vietnam.

Mathematical optimization model to minimize new infections in Vietnam in next decade—maintain treatment and harm reduction and increase MSM spending 140% yields additional 20–40% incidence reduction.

Optima

Optimized spending

Current spending

- Antiretroviral therapy: 37%
- PMTCT: 13%
- HIV counseling and testing: 23%
- MSM condom program: 5%
- General population condom program: 5%
- Opiate substitution therapy: <1%
- Needle-syringe program: 1%
- PWID condom program: 8%
- FSW and client condom program: 12%

Vietnam
Allocative efficiency studies consistently propose increased MSM investments - Kazakhstan

**Kazakhstan**

![Graph showing actual and optimal allocation of spending]

- **2013 Annual spend (millions)**: $35M
- **Actual spending**
  - Infrastructure
  - Training and capacity development
  - Enabling Environment
  - Blood safety, PEP, universal precautions
  - Management and coordination
  - Strategic information, research and M&E
  - PLHIV and stigma
  - Antiretroviral therapy
  - PMCTC
  - HIV counseling and testing
  - Mass media programs
  - Opiate substitution therapy
  - Needle-syringe program
  - PWID condom program
  - MSM condom program
  - FSW and client condom program

- **Optimal allocation**
  - Reduce management, HR and other cost by 20%
  - Increase ART coverage at substantially reduced unit cost (67%)
  - Increase prevention for PWID, MSM, FSW

**MSM programs:** Recommend 300% increase

**Optimized allocation and lower ARV cost:** Reduce HIV infections and deaths by half with same overall spending

Source: Optima model and data spreadsheets based on NASA/ GARPR
Allocative efficiency studies consistently propose increased MSM investments - Georgia

MSM Programs: recommend 50% increase
Senegal: a concentrated HIV epidemic

<table>
<thead>
<tr>
<th>Population</th>
<th>HIV prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults</td>
<td>0.5%</td>
</tr>
<tr>
<td>Sex workers</td>
<td>18.5%</td>
</tr>
<tr>
<td>Men who have sex with men</td>
<td>17.8%</td>
</tr>
<tr>
<td>People who use drugs</td>
<td>5.2%</td>
</tr>
</tbody>
</table>

Optima model: ~10% of new infections transmitted among MSM (and their partners)

New HIV infections transmitted (2014)

Source: Optima model
How is HIV funding spent in Senegal?

HIV expenditure, 2013

- ART 31.5%
- Management, administration and human resources 36.2%
- OVC and social protection 7.6%
- HIV expenditure, 2013
- Blood Safety 0.0%
- Condoms and SBCC 12.9%
- HTC 3.5%
- non-ART FSW programs 2.6%
- non-ART PWUD programs 1.1%
- PMTCT 3.1%
- non-ART MSM programs 0.3%
- STI 1.0%

0.3% for non-ART MSM programs
Senegal: major gains with optimized allocations

HIV spending

Optimized allocations: increase ART, SW & MSM programs

New HIV infections

Optimized allocations: 49% reduction in new infections (>2/3 reduction among SW an MSM)

Optimized allocations: 49% reduction in new infections (>2/3 reduction among SW an MSM)
Senegal: What is the trajectory of the HIV epidemic if programs for key populations are defunded*?

Defunding KP programs

- 22,700 additional new infections by 2030
- Almost half of these new infections among key populations
- Cumulative HIV costs would increase by US$ 17.9 million between 2014 and 2030 (despite reduced financing for KPs)

* Key populations include (FSW, MSM, DU, clients)
Sudan: How were funds allocated?

2013:
~ 5% of HIV resources for key populations,
~ only 1% for MSM

USD Millions

- 15
- 10
- 5

2013 actual spending

- Strategic Information
- Other programs (infrastr., PLHIV, IGP, HIV/TB)
- PMTCT
- Gen. pop. prevention (condoms, SBCC, STIs)
- High-risk men programs (FSW clients)
- Management
- ART & care
- Gen. pop. prevention (HTC)
- MSM prevention
- FSW

THE WORLD BANK

Sudan's HIV response: Value for money in a low-level HIV epidemic
Findings from the HIV Allocative Efficiency Study
September 2014
Sudan: What did the allocative efficiency study recommend?

- Increase ART
- Increase prevention for KPs
- Reduce management cost

2013 actual spending vs. Optima allocations to minimize new infections:

- Strategic Information
- Other programs (infrastr., PLHIV, IGP, HIV/TB)
- PMTCT
- Gen. pop. prevention (condoms, SBCC, STIs)
- High-risk men programs (FSW clients)
- Management
- ART & care
- Gen. pop. prevention (HTC)
- MSM prevention
- FSW

Same $ but 36% greater incidence reduction by 2020.
Sudan: How did the country actually reallocate resources?

2013 actual spending

Reduced management cost

Increase ART

Increase prevention for KPs

Optima - allocations to minimize new infections

Despite lower total budgets, more $ for programs

ART ↑ from 12% to 18%

KPs ↑ from 7% to 29%

2015-17 budgets (annual average)

Actual allocation for MSM after AE study: from US$ 0.13 million to US$ 1.6 million

- Strategic Information
- Other programs (infrastr., PLHIV, IGP, HIV/TB)
- PMTCT
- Gen. pop. prevention (condoms, SBCC, STIs)
- High-risk men programs (FSW clients)
- Management
- ART & care
- Gen. pop. prevention (HTC)
- MSM prevention
- FSW
What will be the effect of the change in budget allocations?
(2015 – 2017, annual spending of 10 million USD)

- Zero spending
- Business as usual (as in 2013)
- 2015-17 "actual" allocations (as per committed funds)


An additional 3,200 new infections averted (20% reduction)
An additional 1,100 deaths averted (16% reduction)

Allocative efficiency gains because of ACTUAL changes in budget allocations
What is the projected long-term effect, if improved allocations are sustained (2015 – 2030)?

Effects of improved allocations are likely to further increase in the long-term

- An additional 49,000 new infections averted: 33% reduction
- An additional 14,000 deaths averted: 22% reduction

Number of new infections / deaths

- Zero spending to 2030
- 2015-17 "business as usual" allocations maintained to 2030
- 2015-17 "actual" allocations maintained to 2030

- New infections (2015-2030)
- Deaths (2015-2030)
Implementation efficiency: deliver services at least cost for most quality
Where to look for **implementation efficiency**

- **Technical Efficiency**
- **Management and integration**
- **Financial flows**
- **Institutional Efficiency**

- Cascades
- Packages
- Program costs
- Volumes
- Procurements
Bottlenecks and chokepoints are points on the critical path to effective service delivery and better health outcomes where the system slows down, fails or stops. Identifying where these bottlenecks and chokepoints happen and fixing them is vital for the health system. The implementation cascade is an important tool to find and fix bottlenecks and chokepoints.
Implementation cascade

Focuses on sequence of steps or stages of care people go through from diagnosis to disease control:

- diagnosed
- enrolled in care
- adherent to care
- disease control achieved
HIV cascades in MSM: Peru

Scaling up HIV services for MSM: Thailand

Why an MSM study in Bangkok?

Low testing coverage and delays in ART initiation

Methods

i) capacity assessment;
ii) hotspot mapping;
iii) costing;
iv) optimization and cost effectiveness evaluation
Scaling up HIV services for MSM: what does it take?

MSM in Bangkok

The four districts with concentrated MSM activities (hotspots) in metropolitan Bangkok

- Chatuchak
- Phra Nakhon
- Bang Rak
- Lat Phrao

MSM population and utilisation of HIV services in Bangkok in 2011

- Total MSM population: 185,000 (120,000-250,000)
- MSM deemed at ‘high risk’: 61,975 (40,200-83,750)
- Received HIV testing in 2011: 14,387
- HIV+ diagnoses among MSM: 4,028
- HIV+ MSM eligible for ART (CD4<500 cells/mm³): 3,303
- Eligible MSM who newly initiated ART in 2011: 989
Bangkok has approximately 185,000 MSM. One-third are at high-risk, and only 14,000 were tested, with 4,000 tested positive. Less than 1,000 started treatment.

There are over 90 testing and treatment medical facilities in Bangkok that provide free and confidential HIV testing and treatment services. However, most are not used. Over 75% of HIV testing and treatment is done in only 2 clinics.

Currently, about 200,000 HIV tests are performed per year. Medical facilities have the capacity to provide an additional 400,000 HIV tests per year.

What can be done?

Create Demand
Create demand for testing and treatment services.
Create and stimulate demand for use of HIV testing and treatment services by MSM. Health facilities and MSM communities can join forces in this demand creation and stimulation.

Invest
Invest in early testing and treatment. It will not only save lives. It will also cut costs.
An additional $55 million investment will increase HIV treatment coverage to 80%. Over 5,000 HIV related deaths and 3,700 new cases can be prevented each year. It costs only $10,000 to save one life from HIV-related deaths.

Scale Up
Scale up testing and treatment at public medical facilities.
Public hospitals can test and treat patients effectively and at the lowest cost.

Sources: Scaling up HIV Services for MSM: What Does It Take? Kirby Institute, University of New South Wales; Thai Red Cross Society AIDS Research Center; World Bank Group
CASE STUDY
South Africa

HIV and Chronic Care example
Collated **costing and outcome data** of 30 separate HIV testing, linkage, retention, care and treatment services

**Service delivery modalities:**
- Urban versus rural locality
- Facility versus community-based delivery
- Laboratory versus point-of-care test
- Provision by professionals versus lay persons
HIV treatment cascade in South Africa

1. Client-initiated clinic-based testing
2. Provider initiated testing
3. Mobile testing
4. Door-to-door testing
5. Workplace testing
6. Youth-friendly SRH testing
7. Self-testing
8. PMTCT

9. Laboratory CD4 testing
10. Point-of-care CD4 testing
11. Community support: link to care
12. Pre-ART wellness program
13. Additional education (e.g., I ACT)*
14. Community support: pre-ART care
15. Text messaging: pre-ART care
16. Classic ART initiation counselling
17. Fast-track ART initiation counselling
18. Same day ART initiation
19. Laboratory viral load testing
20. POC or immediate viral load testing
21. Community support: adherence
22. Text messaging adherence
23. Mobile rural ART services
24. Enhanced adherence counseling*

25. Facility-based ART dispensing
26. Decentralized delivery (incl. MediPost)
27. Adherence clubs
28. Subsequent therapy counselling
29. Pre-ART client tracing
30. ART client tracing

* Two distinct service delivery models are considered: professional counsellors and lay counsellors
** Virally suppressed at 6 months

People living with HIV

Diagnosed

Linked to care

Pre-ART care

Initiated treatment

Adherent to treatment**

Maintained viral suppression

No treatment eligibility criteria (optimal scenario)
Estimated annual cost of each intervention
Linked unit costs with data on **program capacity and cascade stages** that the services directly impact*

<table>
<thead>
<tr>
<th>Program (urban and rural setting)</th>
<th>Unit cost (USD, 1 ZAR = 0.0630 USD)</th>
<th>Program Capacity (%)</th>
<th>Cascade flows affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client-initiated clinic-based testing</td>
<td>$5.20</td>
<td>88</td>
<td>Diagnosis, linkage to care</td>
</tr>
<tr>
<td>Provider initiated testing</td>
<td>$5.73</td>
<td>88</td>
<td>Diagnosis, linkage to care</td>
</tr>
<tr>
<td>Mobile testing</td>
<td>$6.05</td>
<td>87</td>
<td>Diagnosis, linkage to care</td>
</tr>
<tr>
<td>Door-to-door testing</td>
<td>$7.44</td>
<td>80</td>
<td>Diagnosis, linkage to care</td>
</tr>
<tr>
<td>Workplace testing</td>
<td>$9.68</td>
<td>67</td>
<td>Diagnosis, linkage to care</td>
</tr>
<tr>
<td>Youth-friendly SRH testing</td>
<td>$14.74</td>
<td>62</td>
<td>Diagnosis, linkage to care</td>
</tr>
<tr>
<td>Self-testing</td>
<td>$4.41</td>
<td>87</td>
<td>Diagnosis, linkage to care</td>
</tr>
<tr>
<td>Laboratory CD4 testing</td>
<td>$8.28</td>
<td>80</td>
<td>Linkage to care</td>
</tr>
<tr>
<td>Point-of-care CD4 testing</td>
<td>$23.76</td>
<td>80</td>
<td>Linkage to care</td>
</tr>
<tr>
<td>Community support: link to care</td>
<td>$2.66</td>
<td>80</td>
<td>Linkage to care</td>
</tr>
<tr>
<td>Tracing: pre-ART client</td>
<td>$8.18</td>
<td>60</td>
<td>Linkage to care, pre-ART care</td>
</tr>
<tr>
<td>Pre-ART wellness program</td>
<td>$5.00</td>
<td>80</td>
<td>Pre-ART care</td>
</tr>
<tr>
<td>Additional education (prof)</td>
<td>$6.30</td>
<td>80</td>
<td>Pre-ART care, treatment consolidation</td>
</tr>
<tr>
<td>Additional education (lay)</td>
<td>$1.26</td>
<td>80</td>
<td>Pre-ART care, treatment consolidation</td>
</tr>
<tr>
<td>Community support: pre-ART care</td>
<td>$5.32</td>
<td>80</td>
<td>Pre-ART care</td>
</tr>
</tbody>
</table>

* Excerpt from a longer table
By optimally allocating resources and having HIV treatment eligibility criteria removed:

- PLHIV achieving viral suppression by 2020 can be increased from 45% to 56% without additional funds.
- Over 2017—20, an estimated 11% of HIV incidence can be averted and 9% of AIDS deaths can be prevented.

By 2020, an estimated:

- 87% of PLHIV will be diagnosed
- 69% of them will receive ART
- 94% of them will be virally suppressed
Conclusions

- MSM face continuing, unjust and COSTLY discrimination
- MSM epidemics severely under-addressed
- Allocative efficiency studies can increase investment in MSM programs
- MSM programs also sub-optimally implemented
- Implementation cascade helpful to identify and fix implementation bottlenecks
- MSM programs need revolution - in rights, investment and implementation
- Otherwise face of AIDS in 2030 will look tragically similar to face of AIDS 50 years earlier in 1980