HIV/AIDS in the world 2017
Epidemiology and Issues

Lawrence Gelmon
June 23, 2017
• A very brief history & current epidemiology
• Recent developments in HIV/AIDS prevention & care policy, guidelines & targets
• Some of the issues that need to be addressed to meet the targets & goals
  – Biological, cultural, logistic, political, gender, fiscal, environmental, etc.
A Very Brief History

- 1981 – recognition of the syndrome in the USA & Europe
- The first decade (1985-1995) – learning about the disease as it spreads around the world
- The second decade (1995-2005) – failure of both behaviour change & vaccine development
- The third decade (2005-now) – scale-up of treatment & evidence of what contributes to successful prevention
CURRENT EPIDEMIOLOGY (end 2015)

• **36.7 million** people globally living with HIV
• **2.1 million** people newly infected annually
• **1.1 million** died from AIDS-related illnesses – 45% decline since 2005
• **78 million cumulative** infected since the start of the epidemic
• **35 million cumulative** deaths from AIDS-related illnesses since the start of the epidemic
• **TB-related deaths** in people living with HIV have fallen by 32% since 2004, but TB remains the leading cause of death among PLHIV (accounting for one in three AIDS-related deaths)
GOOD NEWS AND NOT-SO-GOOD NEWS

• June 2016 - 18.2 million people living with HIV were accessing antiretroviral therapy, up from 15.8 million in June 2015 & 7.5 million in 2010 – app 50% of those infected.

• 2015 – app. 77% of pregnant women living with HIV had access to antiretroviral medicines to prevent HIV transmission to their babies – the Option B+ initiative.

• → New HIV infections among children have declined by 50% since 2010.

• Since 2010 there have been no declines in new HIV infections among adults. - app. 1.9 million newly infected with HIV per year.
EAST AND SOUTHERN AFRICA 2015

- 19 million PLHIV in ESA - >50% women

- 960,000 new HIV infections in ESA per year – 46% of the global total.

- 2010-2015 - the number of AIDS-related deaths in ESA fell by 38%.

- 10.3 million people accessing ART, 54% of all PLHIV - 59% of adult women (15 years +) and 44% of adult men - Six out of 10 people on ART live in ESA.

- 56,000 new HIV infections among children in ESA - Since 2010, a 66% decline in new HIV infections among children in the region.
Developments in the past few years

• A recognition that we have the tools not only to prevent HIV/AIDS but theoretically to stem or even stop the epidemic.

• WHO/UNAIDS have set a global target of reducing HIV transmission by 50% by 2020 & eliminating HIV by 2030.
Recent changes in HIV care & treatment

• **Test and treat/start** –
  – A progression over the past ten years from CD4 250 -> CD4 350 -> CD4 500 as the threshold for initiating treatment.
  – **Now** – anyone who is HIV+ should be initiated on treatment

• **90-90-90** – UNAIDS target for 2020
  – 90% of people know their HIV status (testing)
  – 90% of HIV+ people on put on ART (treatment)
  – 90% of people on treatment have viral suppression (adherence)
  – Goal is 95-95-95 by 2030
Immediate vs Deferred ART Initiation and IPT Delivery for African Pts

The effect of ART on reducing viral load has resulted in two further strategies for HIV prevention

- **Treatment as prevention (TasP)** – in a discordant couple, the HIV-positive partner on ART would be preventing HIV acquisition in their partner.

- **Pre-exposure prophylaxis (PrEP)** – for people at high-risk – taking ART to prevent HIV acquisition – mixed results from the trials very dependent on levels of adherence.
HIV PREVENTION TOOL-KIT

- Microbicides for women
  - Abdool Karim Q, Science 2010
- Male circumcision
  - Gray R, Lancet 2007
- Treatment of STIs
  - Grosskurth H, Lancet 2000
- Female Condoms
- Male Condoms
- Oral pre-exposure prophylaxis
  - Fisher J, JAIDS 2004
  - Grant R, NEJM 2010 (MSM)
  - Baeten J., 2011 (Couples)
  - Paxton L, 2011 (Heterosexuals)
- Post Exposure prophylaxis (PEP)
  - Schecker M, 2002
- HIV Counselling and Testing
  - Coates T, Lancet 2000
- Vaccines
  - Rerks-Ngarm S, NEJM 2009
- Behavioural Intervention
  - Abstinence
  - Be Faithful

Note: PMTCT, Screening transfusions, Harm reduction, Universal precautions, etc. have not been included – this is focused on reducing sexual transmission
Issues - testing

• In many countries, it is estimated that 40% or more of adults do not know their status.
• Statistics are gathered for “ever tested” but not “how recently tested”.
• More women than men know their status – ANC testing & problems of male health-seeking behaviour
• Women tested in pregnancy only once – not reaching women who may become HIV-positive later in pregnancy
• Availability of test kits, quality assurance of testing
• Is self-testing an answer?
Issues - condoms

• Availability & distribution – in many countries inadequate or irregular supply
• Female condom not widely popular & still a lot of resistance to male condoms
• Are they being used? Can one believe what people say?
Female Sex Workers - Proportion of clients using condoms always

<table>
<thead>
<tr>
<th>Time</th>
<th>Regular</th>
<th>Casual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolment</td>
<td>19.9</td>
<td>68</td>
</tr>
<tr>
<td>3 months</td>
<td>68</td>
<td>59.8</td>
</tr>
<tr>
<td>6 months</td>
<td>63.4</td>
<td>95.9</td>
</tr>
<tr>
<td>12 months</td>
<td>62.8</td>
<td>96.7</td>
</tr>
<tr>
<td>18 months</td>
<td>63.2</td>
<td>96.4</td>
</tr>
<tr>
<td>24 months</td>
<td>69.4</td>
<td>97.3</td>
</tr>
<tr>
<td>30 months</td>
<td>99.1</td>
<td>99.1</td>
</tr>
<tr>
<td>36 months</td>
<td>98.3</td>
<td>98.3</td>
</tr>
<tr>
<td>42 months</td>
<td>100</td>
<td>98.3</td>
</tr>
</tbody>
</table>

% condom use

- Regular
- Casual
Male Sex Workers - Proportion of clients using condoms always

<table>
<thead>
<tr>
<th>Time</th>
<th>Regular</th>
<th>Casual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolment</td>
<td>35</td>
<td>85.7</td>
</tr>
<tr>
<td>3 months</td>
<td>48.4</td>
<td>63.8</td>
</tr>
<tr>
<td>6 months</td>
<td>68.6</td>
<td>84.1</td>
</tr>
<tr>
<td>12 months</td>
<td>64.2</td>
<td>88.2</td>
</tr>
<tr>
<td>18 months</td>
<td>66.7</td>
<td>85.5</td>
</tr>
<tr>
<td>24 months</td>
<td>86.7</td>
<td>86.7</td>
</tr>
<tr>
<td>30 months</td>
<td>66.7</td>
<td>100</td>
</tr>
<tr>
<td>36 months</td>
<td>80.8</td>
<td>80.8</td>
</tr>
</tbody>
</table>

% condom use

- Regular
- Casual
Issues – male circumcision

• The RCTs ten years ago demonstrated a 60% reduction in transmission and most countries where there is a low prevalence of MC have added this to their prevention agenda.

• Problem is that in most cases adult males have not been volunteering for circumcision (Kenya an exception).

• Success in Kenya, Swaziland, Malawi in MC for neonates & young adolescents (10-14) – insurance for the future.
Issues – Treatment of STIs

• In many countries, STIs are not well-diagnosed or treated.

• The acceptance of syndromic treatment for STIs means that people are being treated for their symptoms, but laboratory diagnosis is not happening – resulting in a lack of monitoring of local antibiotic sensitivity – evidence that in many locations the recommended treatments are no longer effective.

• The high rates of STIs in many populations (sex workers, MSMs, adolescents) indicates that condoms are NOT being used.
Issues – Treatment

• Putting people on treatment depends on people being tested, agreeing to treatment, supplies of ART & most importantly – **ADHERENCE**

• In most locations in Africa, the 90-90-90 targets are not yet being approached.

• 90% followup at Year One falls off to 75-80% by Year Two – people moving, stopping treatment, dying, changing names, etc.

• Problem in many countries of registration – no national system of identifying clients – biometric registration an option, especially for mobile & key populations.
Treatment Cascade March 2016 – 90-90-90 not being achieved yet

- # Active on care: 9243
- # Active to ART: 6873 (74%)
- Viral load suppression: 5364 (76%)
- Viral suppression: 4658 (87%)
Key populations

• **Sex workers** – both male & female
• **LGBTI** – especially men who have sex with men (MSM) & transgenders
• **Injection drug users (PWID)**
• Also may include: long-distance truck drivers, prisoners, fishing communities, uniformed services.
HIV BURDEN IN KENYA

1.6 million
Kenyans were living with HIV in 2013

191,840
Children (0-14 years) were living with HIV in 2013

National HIV Prevalence is 6%
5.6% | 7.6%

10 Counties with the Largest Number of People Living with HIV

<table>
<thead>
<tr>
<th>County</th>
<th>Estimated PLHIV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nairobi</td>
<td>177,552</td>
</tr>
<tr>
<td>Homabay</td>
<td>156,920</td>
</tr>
<tr>
<td>Siaya</td>
<td>128,568</td>
</tr>
<tr>
<td>Kisumu</td>
<td>134,826</td>
</tr>
<tr>
<td>Migori</td>
<td>88,405</td>
</tr>
<tr>
<td>Kisii</td>
<td>63,715</td>
</tr>
<tr>
<td>Nakuru</td>
<td>61,598</td>
</tr>
<tr>
<td>Kakamega</td>
<td>57,952</td>
</tr>
<tr>
<td>Mombasa</td>
<td>54,670</td>
</tr>
<tr>
<td>Kiambu</td>
<td>46,656</td>
</tr>
</tbody>
</table>

HIV PREVALENCE AMONG KEY POPULATIONS

<table>
<thead>
<tr>
<th>Population Category</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex Workers</td>
<td>29.3%</td>
</tr>
<tr>
<td>Men Who Have Sex With Men</td>
<td>18.2%</td>
</tr>
<tr>
<td>People Who Inject Drugs</td>
<td>18.3%</td>
</tr>
</tbody>
</table>
Treatment Cascade - KPs worse than general pop.

<table>
<thead>
<tr>
<th>Category</th>
<th>KP</th>
<th>GP</th>
</tr>
</thead>
<tbody>
<tr>
<td># Active on care</td>
<td>5271</td>
<td>3972</td>
</tr>
<tr>
<td># Active to ART</td>
<td>4683</td>
<td>2190</td>
</tr>
<tr>
<td>Viral load results</td>
<td>4001</td>
<td>1354</td>
</tr>
<tr>
<td>Viral suppression</td>
<td>3533</td>
<td>1120</td>
</tr>
</tbody>
</table>

Bar chart showing:
- KP vs GP comparison for different stages of care and treatment.
- KP has higher numbers in almost all categories except Viral suppression.
SWOP City - HIV Status by Age Group - Female Sex Workers -

**HIV STATUS BY AGE GROUP (n=8531)**

- 19: 12.7%
- 20-24: 15.1%
- 25-29: 24.4%
- 30-34: 33%
- 35-39: 39%
- 40-44: 40.5%
- 45-49: 35.5%
- 50+: 32.2%

**NB:** Total positive across all age groups 27.8%

- HIV incidence of 2.2% (95% CI 1.6, 3.1)
SWOP City - HIV Status by Age Group - Male Sex Workers

HIV Prevalence - 34.0%
HIV incidence of 10.9% (95% CI 7.4, 19.3)
Issues – Key populations

• In most countries in Sub-Saharan Africa, sex work, homosexuality & drug use remain quite illegal

• Groups are stigmatized, mobile, hidden, hard to reach, fearful of exposure, suspicious of institutions & authority, disorganized.

• Region only began to accept the presence of LGBTI populations in past 10 years – some countries continue to take a punitive approach or denial.

• Because of the illegality, governments have been hesitant about initiating programs
  – Kenya & South Africa two notable exceptions
Vulnerable populations – adolescent women

• 80% of women aged 15–24 years who are HIV positive live in sub-Saharan Africa – 2x as likely as young men to be living with HIV.

• A proportion of sex in adolescent women in the region occurs with men who are considerably older - associated with risky sexual behaviour & low condom use.

• Vulnerability of young women to HIV can be largely ascribed to their inability to protect themselves which is also linked to lack of access to reproductive health & family planning services.
Vulnerable populations – adolescent women

• Low levels of knowledge of HIV & risks (only 26% girls & 36% boys possess comprehensive & correct knowledge about HIV)

• Sub-Saharan Africa - only 15% of adolescent girls & young women aged 15–24 are aware of their HIV status. Among girls aged 15–19 who reported having multiple sexual partners in the past 12 months, only 36% reported that they used a condom the last time they had sex.
Issues - adolescents

• The evidence - adolescents are having sex: 30% - 50% sexually active by age 16.

• Behaviour change is not going to happen soon for a large variety of reasons, so it would seem logical to intervene to prevent HIV acquisition in those having sex – available condoms, PrEP for high-risk, access to RH services, better/earlier school sex & health education, reaching out to men & boys.

• BUT – opposition by schools, churches, parents, govt.

• How to identify which adolescent girls are at high-risk?
Structural issues overlying (or underlying) all of the above

- Economics & poverty
- Cultural practices – polygamy, sexual traditions, health beliefs
- Gender issues - status of women, male & female roles, attitudes to female education, property laws.
- Human rights, politics and power relationships
- Resources –
  - The current resources for HIV/AIDS globally stand at around US$ 22 billion per year; estimated that to meet the Fast Track Targets around $31.9 billion will be needed by 2020
  - Most countries in the region depend on external funding for anywhere from 60% to 95% of their HIV funding.
  - Core funding for treatment has come from USA – future?
Some approaches that seem to be working

- Peer approach – sex workers, adolescents, male support groups
- Community volunteers for both prevention & treatment
- Community-based testing campaigns
- Community involvement in policy/program development & implementation
- Mobile clinics
- Treatment support groups
- Model clients
- Geographical targeting
- Mobilisation of KP groups – forming CBOs & NGOs
- Use of social media & mobile messaging
- Biometric registration
Biometrics-Lets go digital

- The Biometric system has been put in place to help improve access to services.
- With Biometrics, you are identified quickly enabling you to get services faster.
- The Biometric system helps us access services at all SWOP clinics.
- Have you ever had the Biometrics System?
- Ask your SWOP Team about us.
- But it's not a must to register with the Biometrics System if you have issues.
- You will still access services at all SWOP clinics if you carry your clinic card.

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Design by Sigi
UNAIDS Five Pillars of Combination Prevention

- Access to sexual and reproductive health services for young men, girls and women and their male partners
- Scaling up evidence and human-rights based prevention programmes for key populations
- Strengthening national condom programming
- Expanding provision of voluntary medical male circumcision (VMMC)
- Rapid roll-out of pre-exposure prophylaxis (PrEP) in most-at-risk populations.
Prevention works - The results of 25 years of Collaborative STI/HIV interventions with sex workers – Majengo Clinic Nairobi
Thank you – Asanteni - Shukrani
Faculty/Presenter Disclosure

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