Southern African HIV Clinicians Society
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Sandton Convention Centre
Johannesburg

Our Issues, Our Drugs, Our Patients

www.sahivsoc.org
www.sahivsoc2016.co.za
Definition: Key Populations

• **Key populations** are:

  Men who have sex with men
  Prison populations
  People who inject drugs
  Sex workers

  Key populations are recognised *internationally*.

• **Vulnerable populations** are:

  Adolescents and young women
  Scholars
  Immigrants
  Others
Vulnerable Populations in South Africa

Specific groups have HIV prevalence above national average (12.2%). They include:

• Black women aged 20–34 years (HIV prevalence 31.6%),
• People co-habiting (30.9%),
• Black men aged 25–49 years (25.7%),
• Disabled persons 15 years and older (16.7%),
• High-risk alcohol drinkers 15 years and older (14.3%),
• Recreational drug users (12.7%).

Intersection of Key Populations:
Crane Study 2013: Kampala, Uganda

- HIV Prevalence Kampala: 8%
- Client / partner prevalence: 18%
- Female Sex Worker prevalence: 33%
Men and the Treatment Cascade (South Africa)

- Gender gap in engagement
- Men in SA engage much less
- Important to note that men in KP groups are even more vulnerable than men as a group. (Lancet 2012)
- Important implications for TasP

MSM (often) have sex with Women

• “85.0% of men with a history of consensual sex with men reported having a current female partner”
  – 98.9% of MSM had ever had sex with a woman.

• 27.7% reported having a current male partner
  – Of these 80.6% also reported having a female partner

STI’s Are A “Hook”

STIs may ᴜ/API disease burden:
- Disrupt mucosal barriers
- Cause sub-endothelial inflammation
- Increase viral load
- Marker for risky sexual behaviours

Provide additional services
- Risk assessment for HIV
- HIV testing and linkage to care
- Screen for alcohol and substance use
- Screen for mental health problems

Build clinical relationships
Drivers of High STI Rates in KPs

• **High rates of unprotected sex**
  – Prevention message fatigue
  – Lack of access to or use of condoms or lube

• **Presumed level of safety**
  – Miss-assessment of personal risk
  – HIV and STIs are manageable
  – Advertising by pharmaceutical companies

• **Modern youth**
  – Earlier onset of sexual debut
  – More sexual partners
  – More exposure to sex (e.g. internet)
  – Recreational substances
  – Power dynamics: Inter-generational relationships
Gonorrhoea: trends by risk group among 8 countries reporting consistently

CSW STI Rates

CDC:

• Few population-based studies have been done on HIV risk and sex workers
• This lack of data and understanding around sex work creates a significant barrier to HIV prevention efforts and other services.
• Sex workers may not use condoms consistently
**CSW STI Rates**

**Sentinel surveillance of sexually transmitted infections in South Africa: a review**


L F Johnson\(^1\), D J Coetzee\(^2\), R E Dorrington\(^1\)

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Site</th>
<th>Sample Size</th>
<th>Syphilis</th>
<th>CT</th>
<th>NG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramjee</td>
<td>1996-2000</td>
<td>Jhb-DBN truck stops</td>
<td>416, 145</td>
<td>42.1</td>
<td>16.4</td>
<td>14.3</td>
</tr>
<tr>
<td>Steen</td>
<td>1996-1997</td>
<td>Lesedi</td>
<td>407</td>
<td>33.8</td>
<td>14.3</td>
<td>17.3</td>
</tr>
<tr>
<td>Williams</td>
<td>1998</td>
<td>Carletonville</td>
<td>121</td>
<td>25.0</td>
<td>9.1</td>
<td>15.7</td>
</tr>
<tr>
<td></td>
<td>2000</td>
<td>Carletonville</td>
<td>93</td>
<td>34.4</td>
<td>12.9</td>
<td>16.1</td>
</tr>
</tbody>
</table>
IDU STI Rates


HIV and STI Prevalence and Injection Behaviors Among People Who Inject Drugs in Nairobi: Results from a 2011 Bio-behavioral Study Using Respondent-Driven Sampling

Cross-sectional study with 269 PWID using respondent-driven sampling
RPR tests for syphilis
PCR tests for gonococcal or chlamydial infection

STI Rates:
• Syphilis: 1.7 % (95% CI 0.2–6.0)
• Gonorrhea: 1.5 % (95% CI 0.1–4.9)
• Chlamydial infection: 4.2 % (95% CI 1.2–7.8)

Many such single site cohort studies with widely ranging reported STI rates
Always said to be higher than heterosexual peers
Criminality makes data collection extremely challenging
Asymptomatic STIs

- Syphilis
- Hepatitis and other sexual viruses
- HIV

The majority of gonorrhoea and chlamydia are symptomatic in KPs (non-urethral sites)

ASTI Treatment Guidelines

CDC (and various USA & EU guidelines)
- Yearly syphilis
- PCR screening of pharynx, anus and urethra based on sexual history

WHO: Presumptive STI treatment for at risk MSM
- Reported UAI in the last year PLUS
- Partner with an STI OR
- Multiple partners
A Cross Sectional Analysis of Gonococcal and Chlamydial Infections among Men—Who—Have—Sex—with—Men in Cape Town, South Africa

• Convenience sample of 200 MSM in Cape Town
• Behavioural questionnaire and STI assessment
• PCR for GC and CT at three anatomical sites

Table 2. Symptomatic and asymptomatic Gonorrhoea and Chlamydia by site of infection.

<table>
<thead>
<tr>
<th></th>
<th>N. gonorrhoeae site-related infections in 32 MSM</th>
<th>C. trachomatis site-related infections in 23 MSM</th>
<th>Dual infections at the same site (n = 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Symptomatic</td>
<td>Asymptomatic</td>
<td>Symptomatic</td>
</tr>
<tr>
<td>Anal</td>
<td>3 (8%)</td>
<td>14 (36%)</td>
<td>2 (9%)</td>
</tr>
<tr>
<td>Oro-pharyngeal</td>
<td>3 (8%)</td>
<td>12 (31%)</td>
<td>0</td>
</tr>
<tr>
<td>Urethral</td>
<td>7 (18%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Any</td>
<td>13 (33%)</td>
<td>26 (67%)</td>
<td>2 (9%)</td>
</tr>
</tbody>
</table>

Total MSM with symptomatic NG/CT infections: 9/200 (5%)
Total MSM with asymptomatic NG/CT infections: 38/200 (19%)
Total proportion of ASTIs were significantly more common than total proportion of SSTIs, p <0.001

1 Seven MSM had dual N. gonorrhoeae and C. trachomatis infections at the same anatomical site
2 There was one MSM with dual infection at different anatomical sites (NG positive in oro-pharynx and CT positive in urine)
A Cross Sectional Analysis of Gonococcal and Chlamydial Infections among Men-Who-Have-Sex-with-Men in Cape Town, South Africa

Fig 1. Symptomatic and asymptomatic gonorrhoea and chlamydia by site of infection.

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transgender identity</td>
<td>OR= 4.09, CI 1.38- 12.12</td>
</tr>
<tr>
<td>&gt;5 male sex partners within the past 12 months</td>
<td>OR= 2.56, CI 1.16- 5.62</td>
</tr>
<tr>
<td>Engaging in transactional sex in the past year</td>
<td>OR= 2.33, CI 1.13- 4.79</td>
</tr>
</tbody>
</table>

No association between ASTI and HIV status
Undertreated GC promotes HIV transmission

– Key Populations prevalence already high → high community viral load

– Highly effective HIV transmission in UAI (20 X vaginal sex risk)  

– Untreated urethritis increases seminal HIV viral load by a factor of approximately 8.  
Contact Tracing and Key Populations

- Best practice STI management includes contact tracing but difficult in Key Populations because:
  - Social and sexual networks often hidden
  - May have been casual contact
  - Sex in public spaces
  - Anonymous
  - Multiple clients
Syphilis

- Key Populations have chancre in atypical sites e.g. Anal / rectal / oral / vaginal
- Increasing rates in developed and developing world
- Increases transmissibility of HIV
- Some evidence of increased viral load in HIV positives
- Interpreting serology

Diagnosis can be difficult
RPR can miss early disease
THPA may remain positive post treatment
HPV, Anal Health, AIN and Cancer

- HPV commonest STI seen at the Ivan Toms Clinic in Cape Town

- Increased risk of HPV infection, infection with multiple serotypes and oncogenic serotypes

- HIV positive MSM at increased risk of
  - HPV persistence
  - Anal cancer

- Anal examination is usually not done during consultations
- No AIN screening exists
- Boys are excluded from HPV vaccination programs

80% of ASTI Study Patients screened positive for HPV
(Muller, E. In Press)
Recommendation of qHPV Vaccine for Men

• All men age <21 years
• MSM or those who have a compromised immune system (including HIV) <26 years
• All SW should also receive HPV vaccine.

What about sexually active MSM/CSW/IDU?

What about those with prior HPV?

Too little too late?

Why Cervarix?

Why systematically exclude the highest risk groups?
Hepatitis C (HCV)

- IV drug use (other drug use?).
- Sexual spread during unprotected anal sex.
- Much worse outcomes if HIV and HCV co-infected.
- No vaccine and often no accessible cure.
- Up to 85% of infections become chronic.
- Re-infection can occur.
- New Hep C PI’s unobtainable.
Hepatitis C in South African Key Populations

- 313 HIV infected patients screened for HCV
  - 170 (54%) MSM from Ivan Toms Clinic
  - 143 (46%) non-MSM from Groote Schuur

- 10 (3.2%) overall tested positive for HCV
  - 9 (5.3%) in MSM
  - 1 (0.7%) in non-MSM

11/41 (25%) drug-using MSM in Cape Town screened positive for Hep C IgG

ARV-based Preventions

- Post exposure prophylaxis (PEP)
- Pre exposure prophylaxis (PrEP)  
  *(Note: only for CSW at selected State facilities)*
- Early treatment ARVs (TasP)

Opportunity for engagement and retention

No STI prevention by ART
Self-reported STIs in the year before enrolment

- Rectal Gonorrhoea: 26%
- Oral Gonorrhoea: 25%
- Urethral Gonorrhoea: 24%
- Rectal Chlamydia: 21%
- Urethral Chlamydia: 17%
- Oral Chlamydia: 13%
- Syphilis: 10%
- Genital Warts: 10%
- Genital Herpes: 6%
- LGV: 2%

2800 MSM in UK newly infected with HIV in 2013

Protection offered against HIV by PrEP: 86%
# Ipergay PrEP STI Rates

## Baseline Characteristics

<table>
<thead>
<tr>
<th>Characteristics (Median, IQR) or (n, %)</th>
<th>TDF/FTC</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>35 (29-43)</td>
<td>34 (29-42)</td>
</tr>
<tr>
<td>White</td>
<td>190 (95)</td>
<td>184 (92)</td>
</tr>
<tr>
<td>Completed secondary education</td>
<td>178 (91)</td>
<td>177 (89)</td>
</tr>
<tr>
<td>Employed</td>
<td>167 (85)</td>
<td>167 (84)</td>
</tr>
<tr>
<td>Single</td>
<td>144 (77)</td>
<td>149 (81)</td>
</tr>
<tr>
<td>History of PEP use</td>
<td>56 (28)</td>
<td>73 (37)</td>
</tr>
<tr>
<td>Use of psychoactive drugs*</td>
<td>85 (44)</td>
<td>92 (48)</td>
</tr>
<tr>
<td>Circumcised</td>
<td>38 (19)</td>
<td>41 (20)</td>
</tr>
<tr>
<td>Infection with NG, CT or TP**</td>
<td>43 (22)</td>
<td>59 (29)</td>
</tr>
<tr>
<td>Nb sexual acts in prior 4 weeks</td>
<td>10 (6-18)</td>
<td>10 (5-15)</td>
</tr>
<tr>
<td>Nb sexual partners in prior 2 months</td>
<td>8 (5-17)</td>
<td>8 (5-16)</td>
</tr>
</tbody>
</table>

* in last 12 months: ecstasy, crack, cocaine, crystal, speed, GHB/GBL
** NG: Neisseria gonorrhoeae, CT: Chlamydia trachomatis, TP: Treponema pallidum
### STIs during VOICE 2009-2012

<table>
<thead>
<tr>
<th>Infection</th>
<th>S Africa N=3918</th>
<th>Uganda N=310</th>
<th>Zimbabwe N=615</th>
<th>All N=4843</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT incidence 95% CI</td>
<td>15.9 (14.7-17.2)</td>
<td>9.7 (6.7-12.7)</td>
<td>4.5 (2.9-6.2)</td>
<td>13.8 (12.7-14.8)</td>
</tr>
<tr>
<td>GC incidence 95% CI</td>
<td>3.8 (3.1-1.4)</td>
<td>5.9 (3.2-8.6)</td>
<td>1.1 (0.4-1.8)</td>
<td>3.5 (3-4.1)</td>
</tr>
<tr>
<td>Syphilis incidence 95% CI</td>
<td>0.7 (0.4-0.9)</td>
<td>5 (2.9-7)</td>
<td>0.4 (0-0.7)</td>
<td>1 (0.7-1.2)</td>
</tr>
</tbody>
</table>

**Personal communication from the VOICE team**

Kaiser SF PrEP: STIs

STI Incidence After 12 Months of PrEP Use

- Any STI: 50%
- Rectal STI: 33%
- Chlamydia: 33%
- Gonorrhea: 28%
- Syphilis: 5.5%
- HIV: 0% in 500+ person-years

Volk. CID. 2015 from CROI 2016.
Recommendations

• Create an enabling environment
• Take a sexual history
• Perform a relevant clinical examination
• Improve screening technologies
• Innovative messaging
• STIs are increasing globally (Pre PrEP and on PrEP)
Thank You

SA Clinicians Society
PEPFAR / USAID
Elton John Foundation
Anova Health Institute

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