



# Southern African HIV Clinicians Society 3rd Biennial Conference

13 - 16 April 2016  
Sandton Convention Centre  
Johannesburg

**Our Issues, Our Drugs,  
Our Patients**

[www.sahivsoc.org](http://www.sahivsoc.org)  
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**Sexually Transmitted Infections  
in Vulnerable Groups**

Kevin Rebe

[www.sahivsoc.org](http://www.sahivsoc.org)  
[www.sahivsoc2016.co.za](http://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

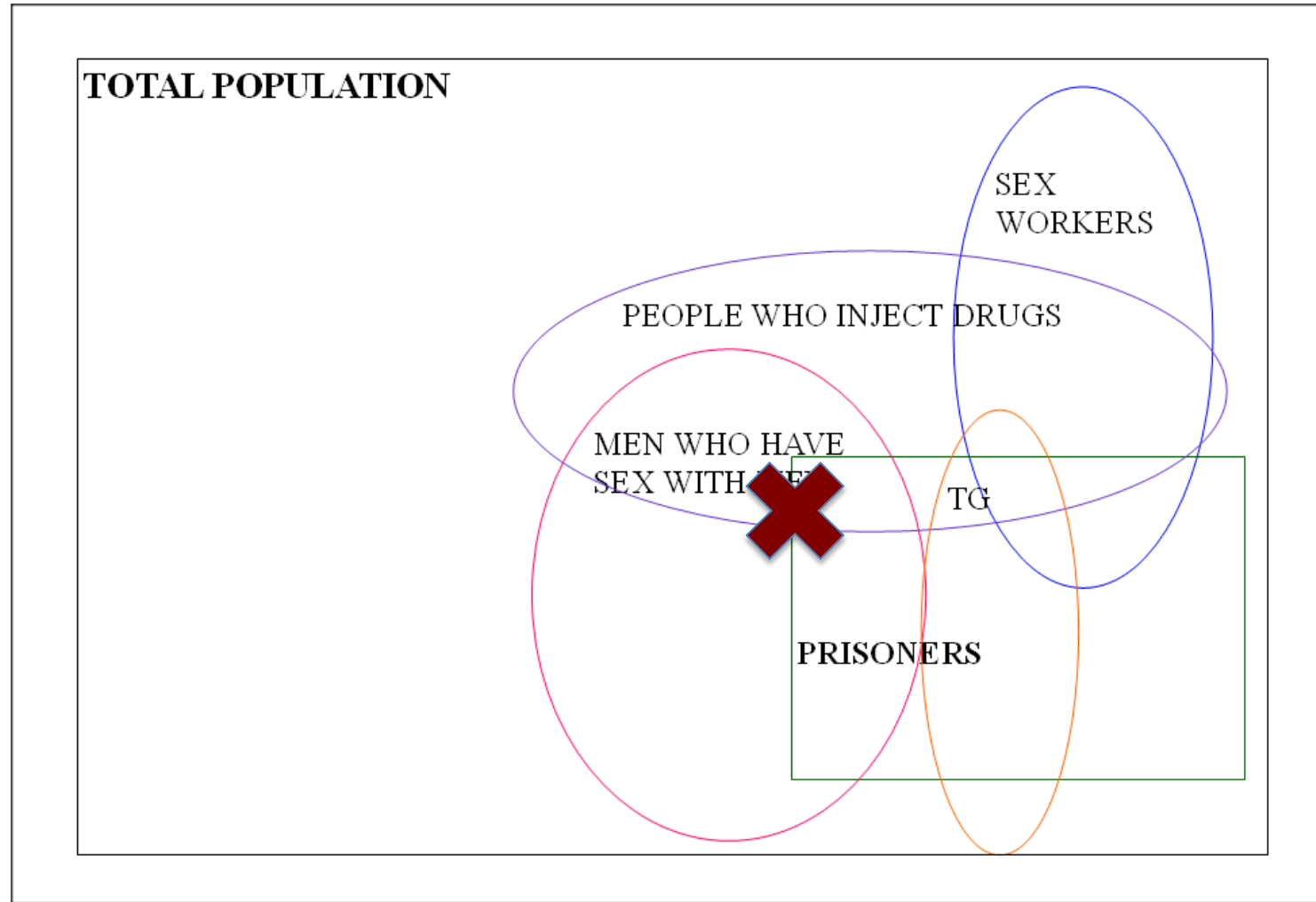
# Vulnerable Populations in South Africa

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%).

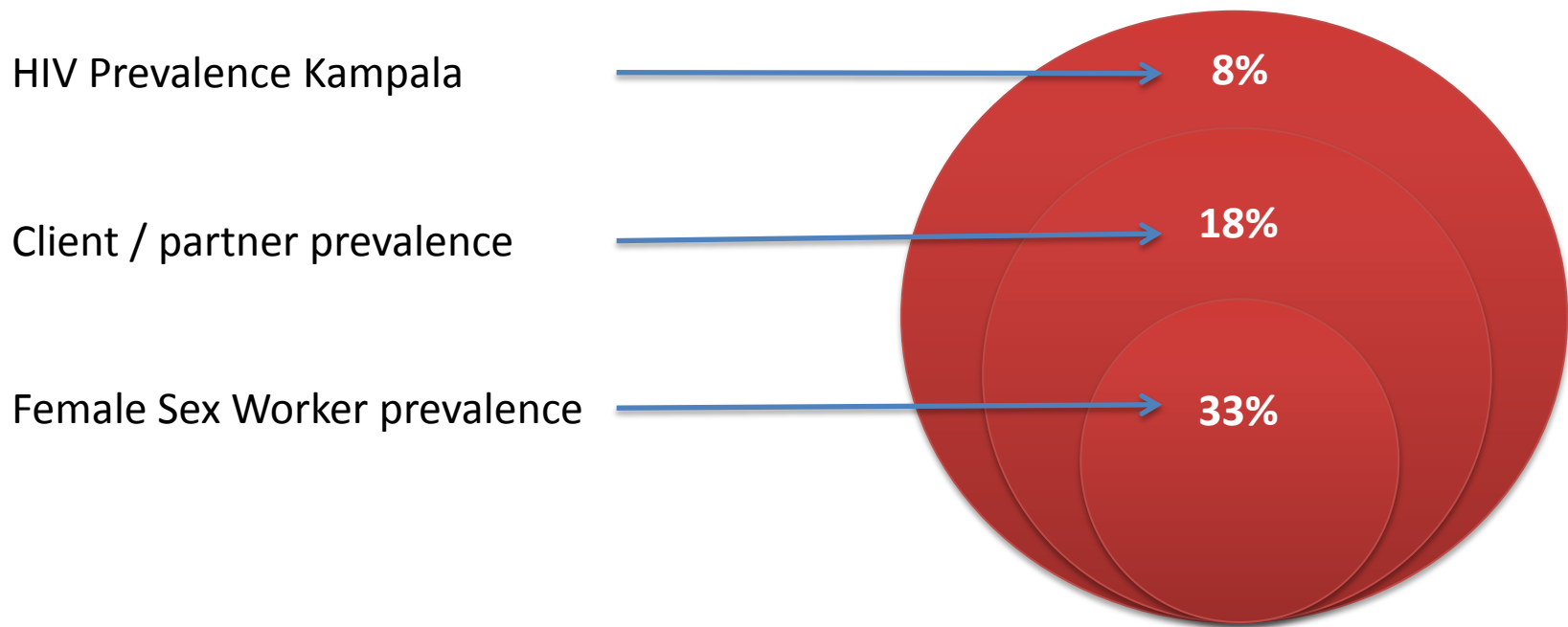
Shisana, O et al. (2014) *South African National HIV Prevalence, Incidence and Behaviour Survey, 2012*. Cape Town, HSRC Press.

# Key Populations

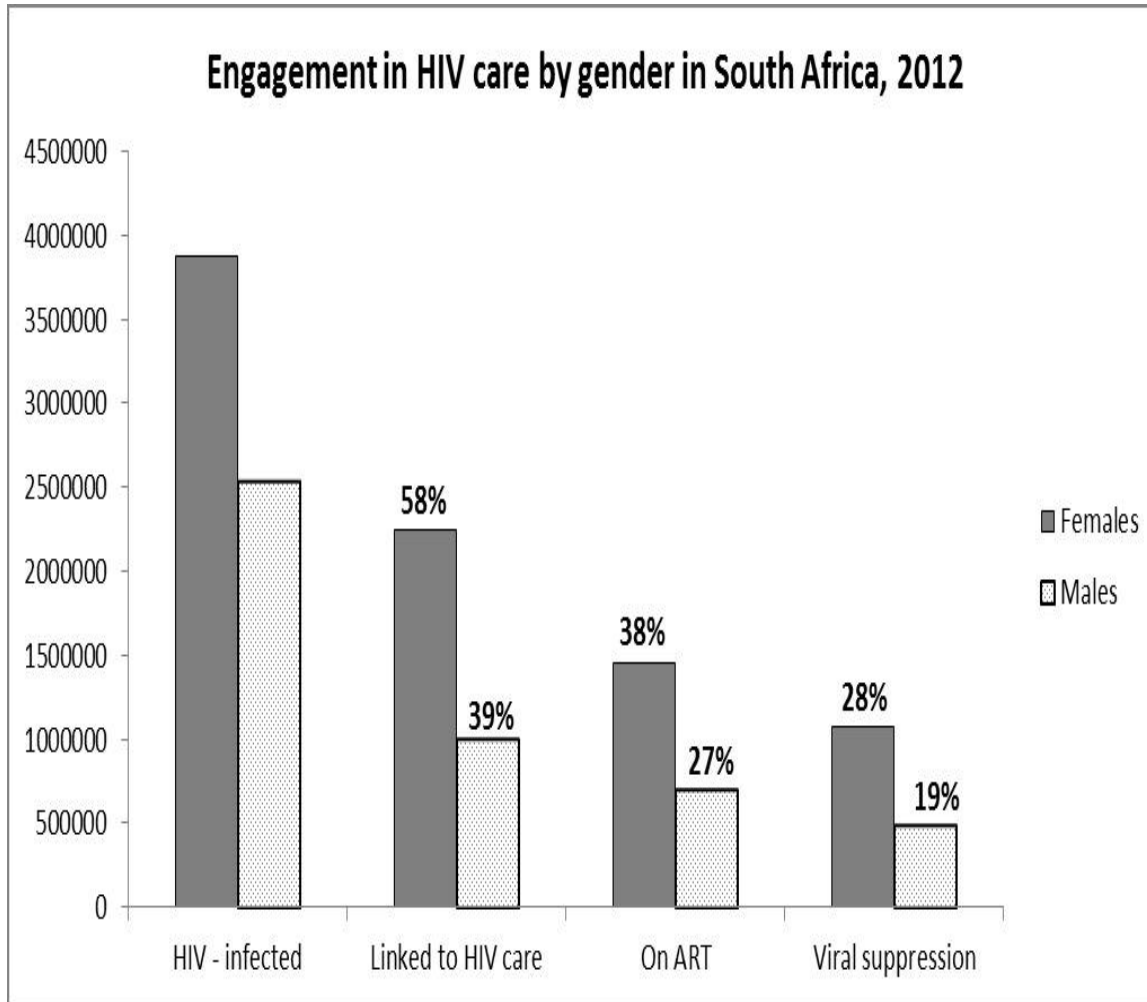


# Intersection of Key Populations:

## Crane Study 2013: Kampala, Uganda



# 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

Takuva S et al; Disparities in Engagement Within HIV Care in South Africa, CROI 2015 February 23-26, 2015. Seattle, Washington Abstract #154

# 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



Dunkle KL, et al. Prevalence of Consensual Male-Male Sex and Sexual Violence and Associations with HIV in South Africa: A Population-Based Cross Sectional Study. 2013. PLoS Med 10(6): e1001472.



2016

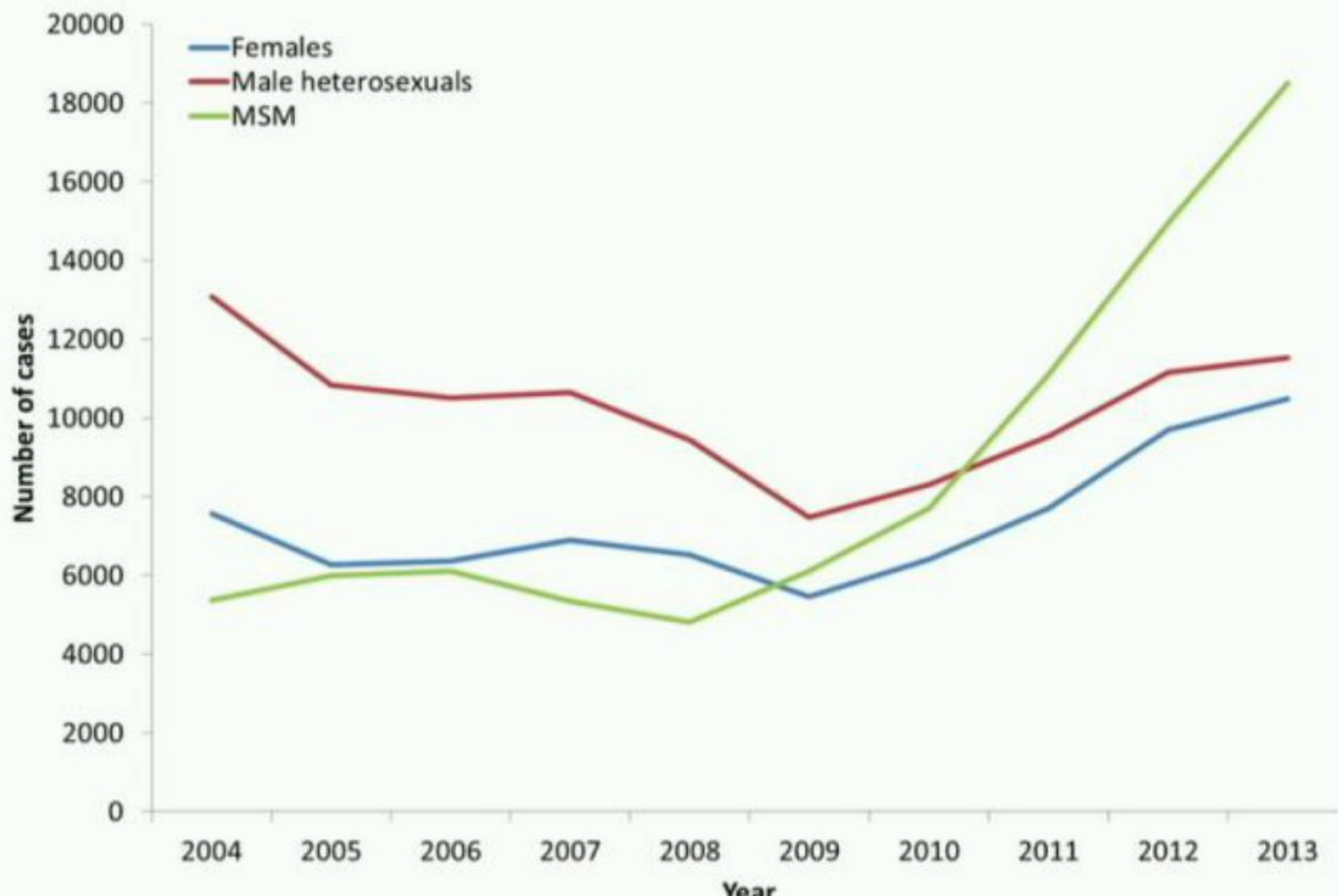




# Drivers of High STI Rates in KPs

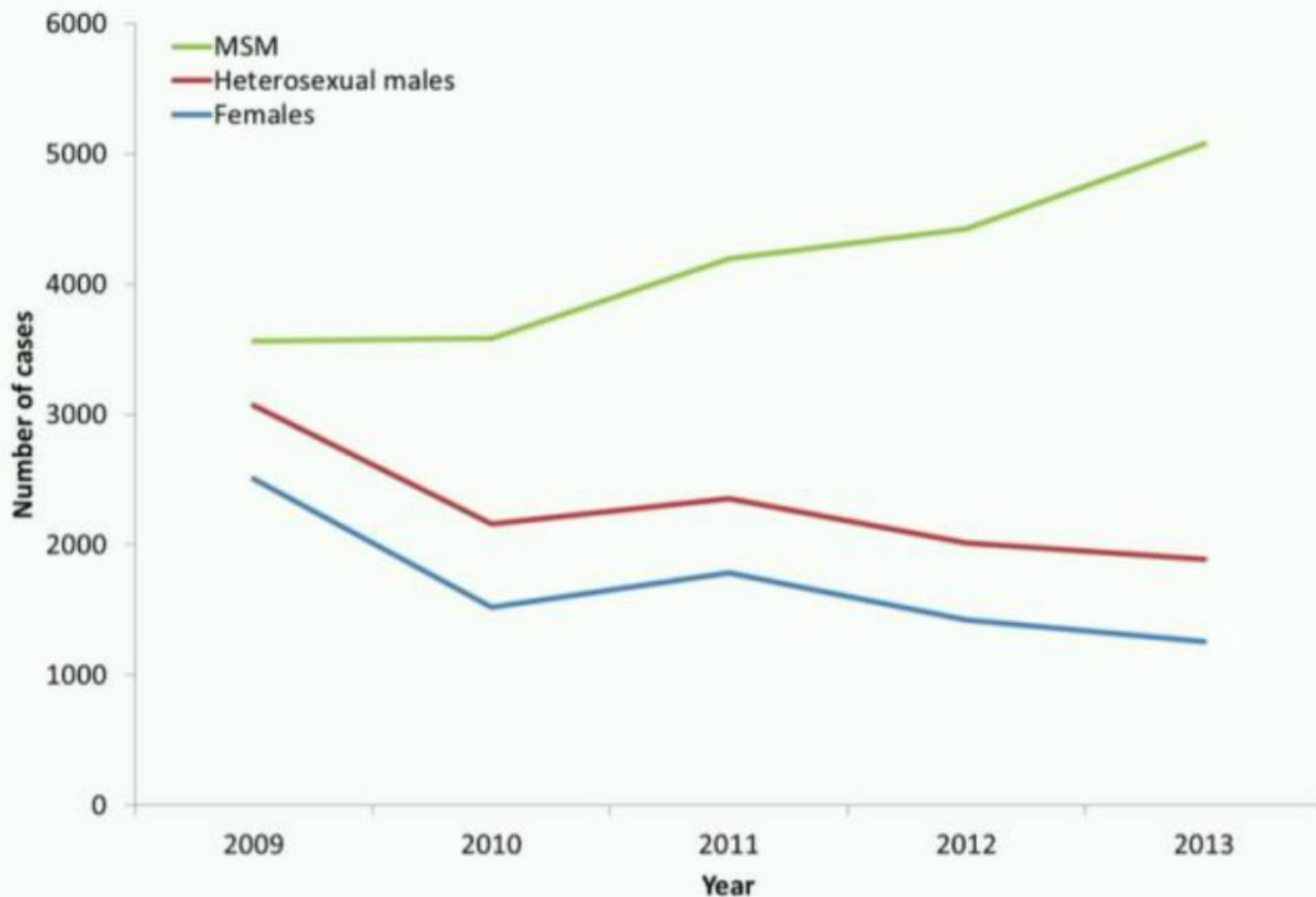
- **High rates of unprotected sex**
  - Prevention message fatigue
  - Lack of access to or use of condoms or lube
- **Presumed level of safety**
  - Miss-assessment of personal risk
  - HIV and STIs are manageable
  - Advertising by pharmaceutical companies
- **Modern youth**
  - Earlier onset of sexual 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



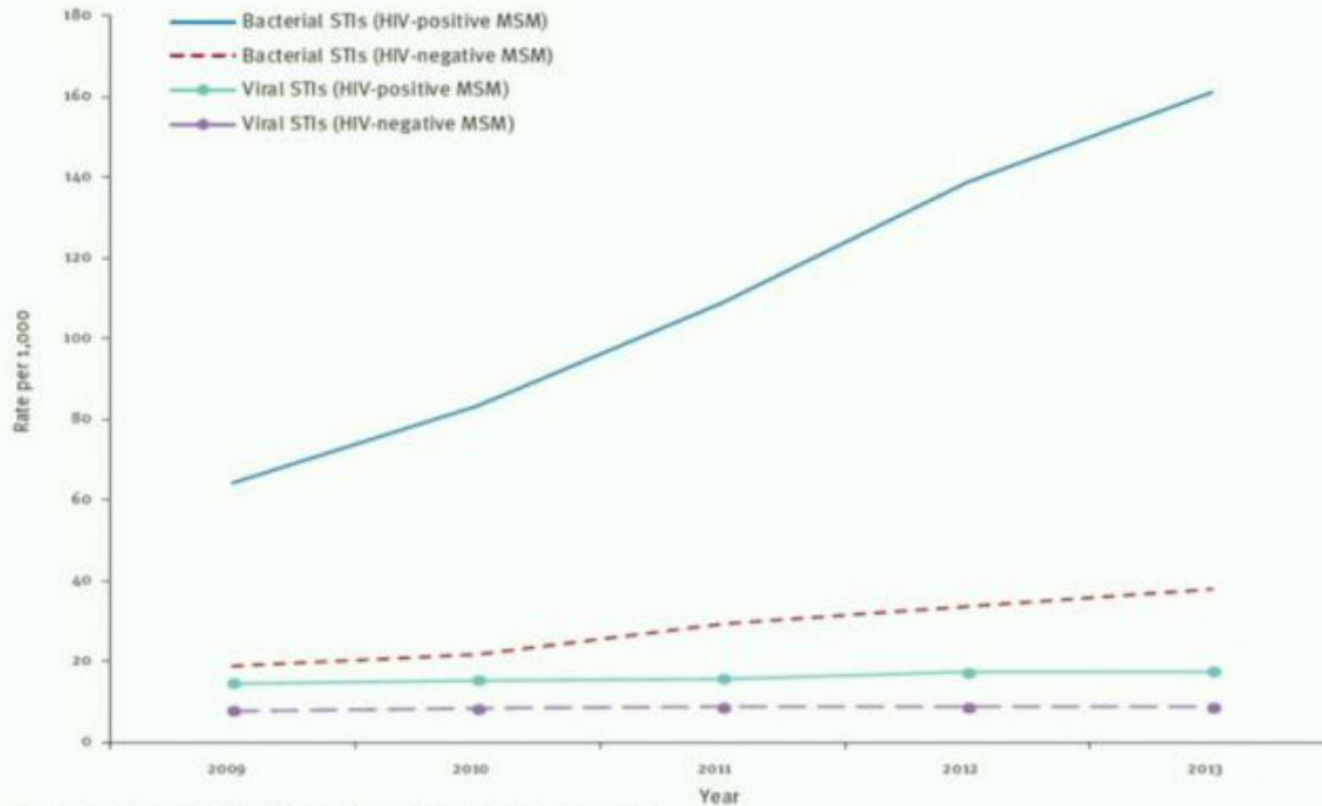
McCormack, S. European STI Surveillance Data. Innovations in PrEP. CROI 2016.

# Syphilis: trends by risk group among 14 countries reporting consistently



McCormack, S. European STI Surveillance Data. Innovations in PrEP. CROI 2016.

# STIs by HIV status in MSM in England



MSM: men who have sex with men; STI: sexually transmitted infection.

Bacterial STIs: gonorrhoea, chlamydia and syphilis

Viral STIs: first episode of genital warts and first episode of genital herpes

Malek, Mitchell et al Euro Surveill. 2015;20(15):pii=21093.  
<http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=21093>

McCormack, S. European STI Surveillance Data. Innovations in PrEP. CROI 2016.

# 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



2016

# CSW STI Rates

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

*Sex Transm Infect* 2005;**81**:287-293 doi:10.1136/sti.2004.013904

L F Johnson<sup>1</sup>, D J Coetzee<sup>2</sup>, R E Dorrington<sup>1</sup>

Author	Year	Site	Sample Size	Syphilis	CT	NG
Ramjee	1996-2000	Jhb-DBN truck stops	416 145	42.1	16.4	14.3
Steen	1996-1997	Lesedi	407	33.8	14.3	17.3
Williams	1998	Carletonville	121	25.0	9.1	15.7
	2000	Carletonville	93	34.4	12.9	16.1



2016



# 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

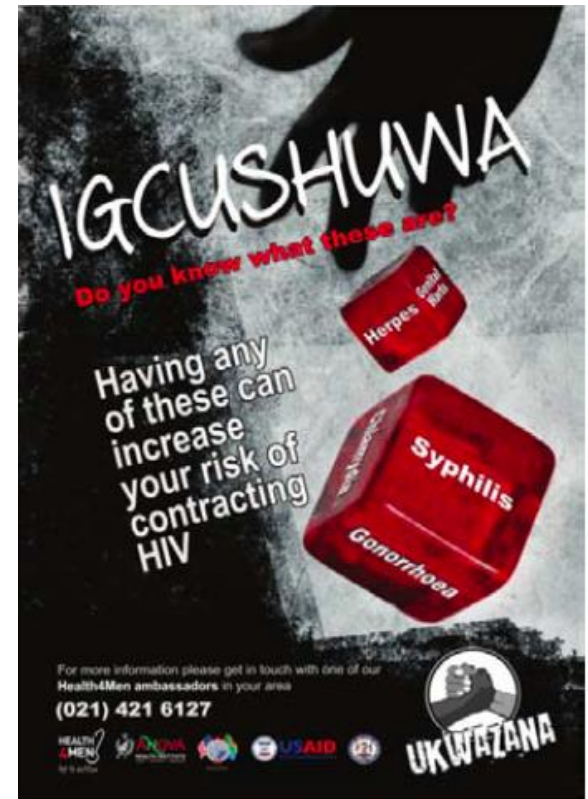
PCR screening of pharynx, anus and urethra based on sexual history

### 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

Rebe, K et al. PLOS ONE · SEPTEMBER 2015

- 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.**

	<i>N. gonorrhoeae</i> site-related infections in 32 MSM <sup>1</sup>		<i>C. trachomatis</i> site-related infections in 23 MSM		Dual infections at the same site (n = 7 <sup>2</sup> )	
	Symptomatic	Asymptomatic	Symptomatic	Asymptomatic	Symptomatic	Asymptomatic
Anal	3 (8%)	14 (36%)	2 (9%)	14 (61%)	2 (29%)	5 (71%)
Oro-pharyngeal	3 (8%)	12 (31%)	0	0	0	0
Urethral	7 (18%)	0	0	7 (30%)	0	0
<b>Any</b>	<b>13 (33%)</b>	<b>26 (67%)</b>	<b>2 (9%)</b>	<b>21 (91%)</b>	<b>2 (29%)</b>	<b>5 (71%)</b>
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						

<sup>1</sup> Seven MSM had dual *N. gonorrhoeae* and *C. trachomatis* infections at the same anatomical site

<sup>2</sup> 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



ARTICLE in PLOS ONE · SEPTEMBER 2015

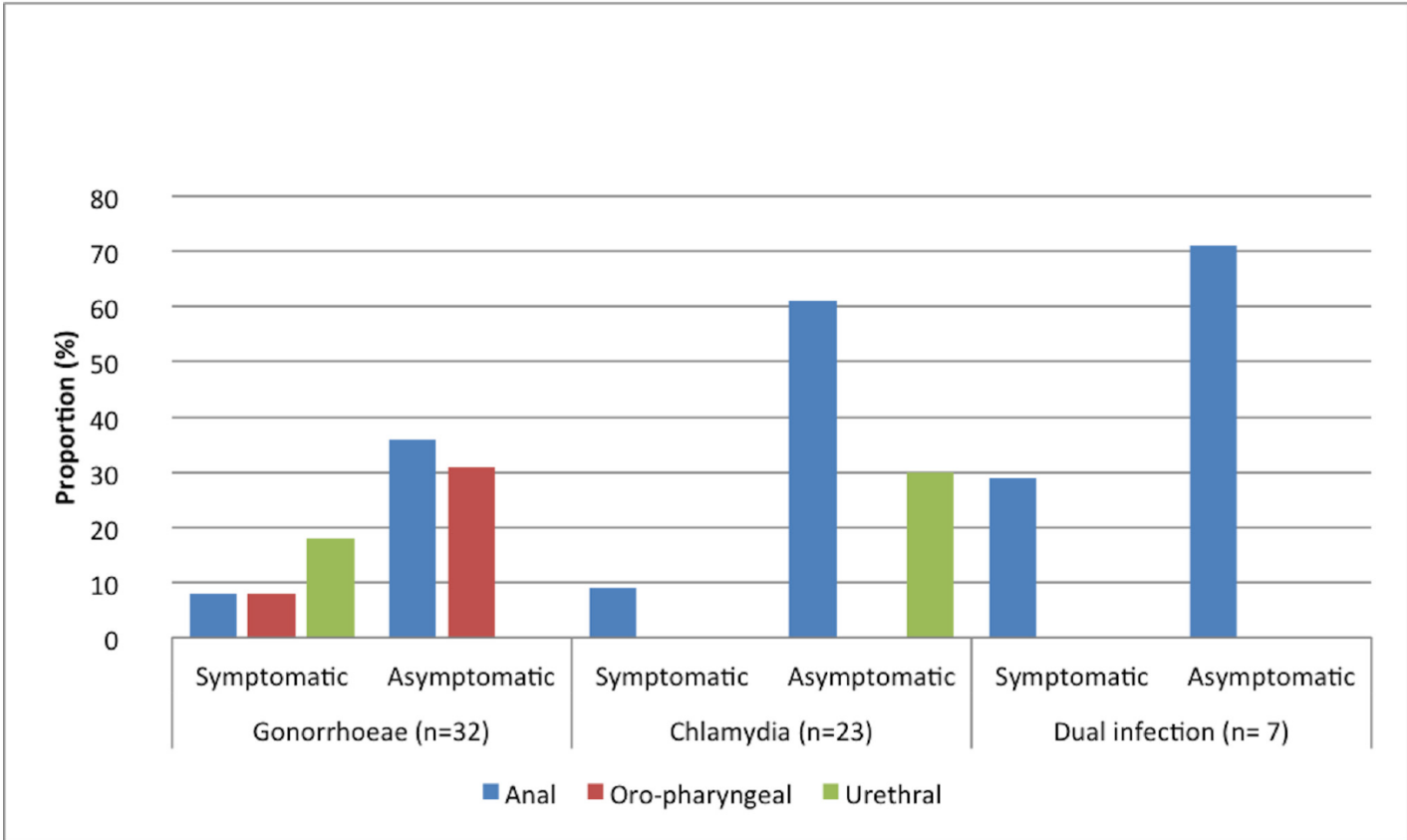


Fig 1. Symptomatic and asymptomatic gonorrhoea and chlamydia by site of infection.

# A Cross Sectional Analysis of Gonococcal and Chlamydial Infections among Men-Who-Have-Sex-with-Men in Cape Town, South Africa

ARTICLE *in* PLOS ONE · SEPTEMBER 2015

	OR (95% CI)
Transgender identity	OR= 4.09, CI 1.38- 12.12
>5 male sex partners within the past 12 months	OR= 2.56, CI 1.16- 5.62
Engaging in transactional sex in the past year	OR= 2.33, CI 1.13- 4.79

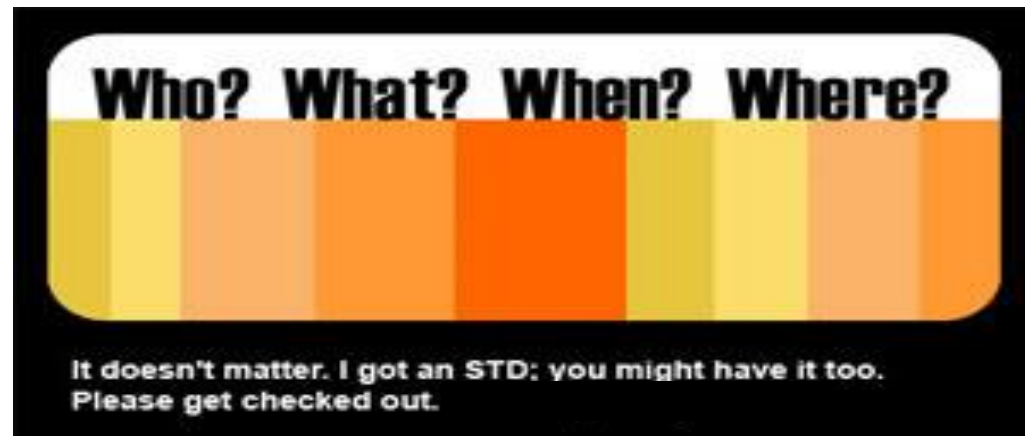
No association between ASTI and HIV status

# 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) Baggaley, R. Int J Epi. 2010.
- Untreated urethritis increases seminal HIV viral load by a factor of approximately 8. Cohen, M. Lancet. 1997.

# 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 chancres 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 Population

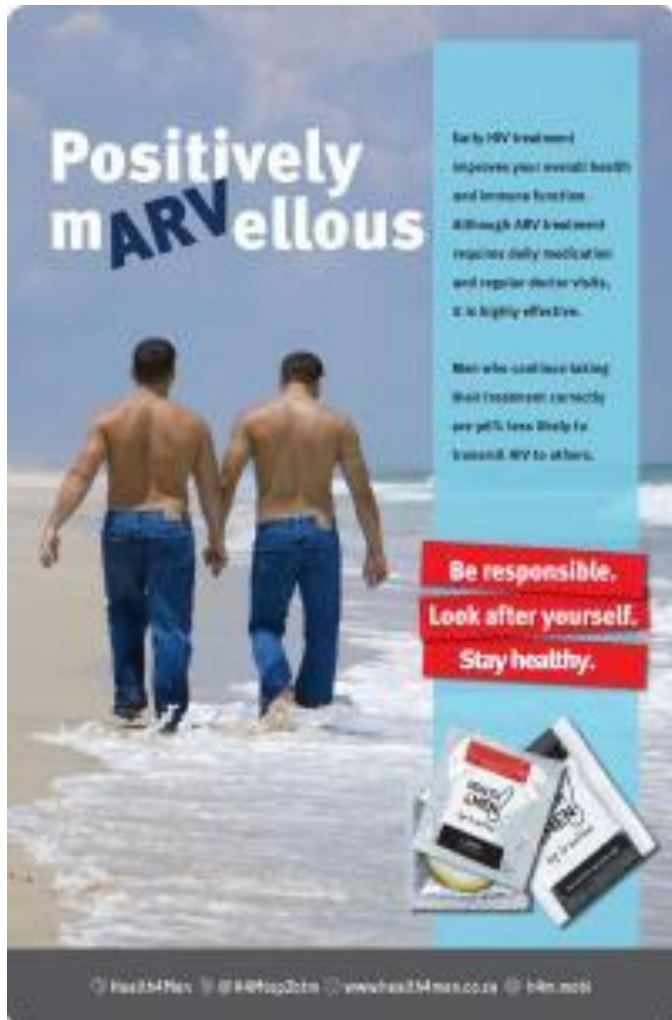
- 313 HIV positive participants screened for Hep C IgG  
– 170 (54%) positive

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

- 10 (25%) drug-using MSM in Cape Town screened for Hep C IgG  
– 9 (5.3%) in Johannesburg  
– 1 (0.7%) in Durban  
– 0 (0%) in Cape Town  
– 0 (0%) in Durban  
– 0 (0%) in Johannesburg  
– 0 (0%) in Durban  
– 0 (0%) in Johannesburg

Gcokela N, Sonderup, M, Rebe K et al. SAGES. Baltimore 2013.

# ARV-based Preventions



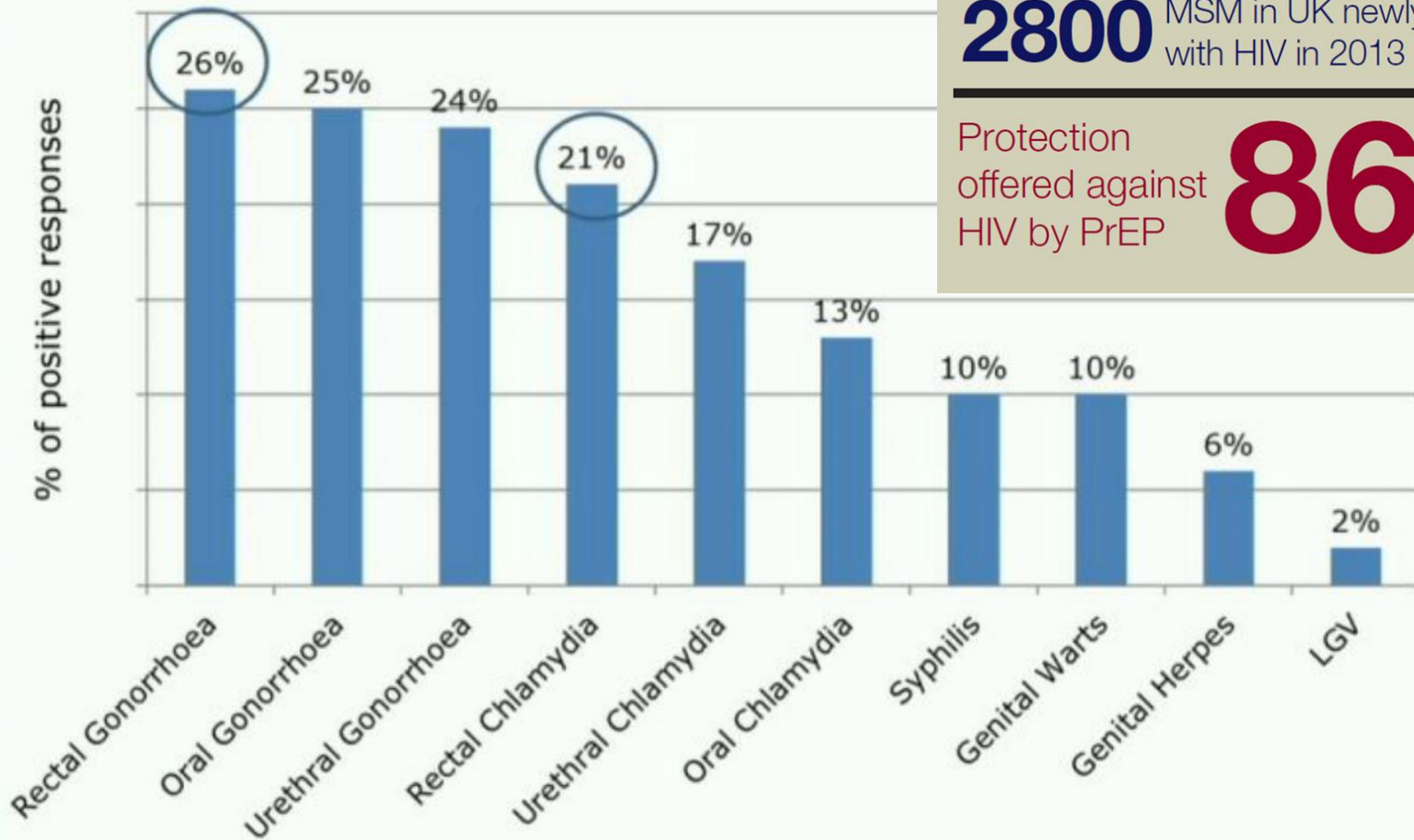
- Post exposure prophylaxis (PEP)
- Pre exposure prophylaxis (PrEP)  
*(Note: only for CSW at selected State facilities)*
- Early treatment ARVs (TasP)

Opportunity for engagement and retention

No STI prevention by ART



# Self-reported STIs in the year before enrolment



**2800** MSM in UK newly infected with HIV in 2013

Protection offered against HIV by PrEP

**86%**

# Ipergay PrEP STI Rates

86%



## Baseline Characteristics

Characteristics (Median, IQR) or (n, %)	TDF/FTC n = 199	Placebo n = 201
Age (years)	35 (29-43)	34 (29-42)
White	190 (95)	184 (92)
Completed secondary education	178 (91)	177 (89)
Employed	167 (85)	167 (84)
Single	144 (77)	149 (81)
History of PEP use	56 (28)	73 (37)
Use of psychoactive drugs*	85 (44)	92 (48)
Circumcised	38 (19)	41 (20)
Infection with NG, CT or TP**	43 (22)	59 (29)
Nb sexual acts in prior 4 weeks	10 (6-18)	10 (5-15)
Nb sexual partners in prior 2 months	8 (5-17)	8 (5-16)

\* 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

Infection	S Africa N=3918	Uganda N=310	Zimbabwe N=615	All N=4843
CT incidence 95% CI	15.9 14.7-17.2	9.7 6.7-12.7	4.5 2.9-6.2	13.8 12.7-14.8
GC incidence 95% CI	3.8 3.1-4.4	5.9 3.2-8.6	1.1 0.4-1.8	3.5 3-4.1
Syphilis incidence 95% CI	0.7 0.4-0.9	5 2.9-7	0.4 0-0.7	1 0.7-1.2

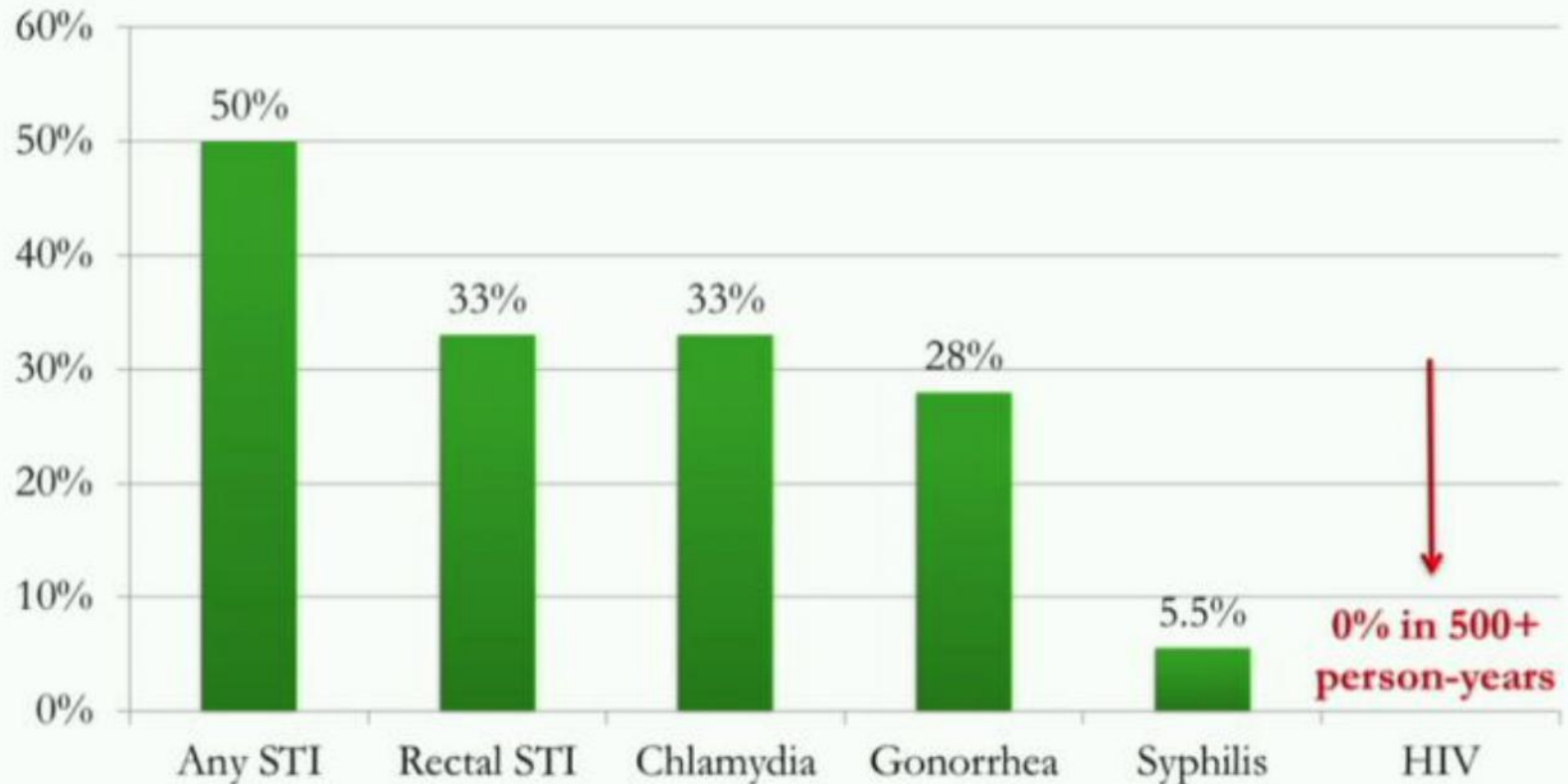
**Personal communication from the VOICE team**

McCormack, S. European STI Surveillance Data. Innovations in PrEP. CROI 2016.



# Kaiser SF PrEP: STIs

## STI Incidence After 12 Months of PrEP Use



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)



Condoms provide additional protection against HIV, other STIs and unintended pregnancy.

# Thank You

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

## Contact:

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[www.wethebrave.co.za](http://www.wethebrave.co.za)



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