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Medical Research. Practical Action.

Epidemiology of HIV & STIs

Carol El-Hayek
Centre for Population Health

Overview

HIV

- National HIV epidemiology
- HIV epidemiology in Victoria

Other STIs

- National and state epidemiology of chlamydia, syphilis and gonorrhoea

Summary/Discussion



National HIV Epidemiology

2009 Annual Surveillance Report

Published by National Centre in HIV Epidemiology and Clinical
Research (NCHECR)

www.nchechr.unsw.edu.au/NCHECRweb.nsf/page/Annual+Surveillance+Reports



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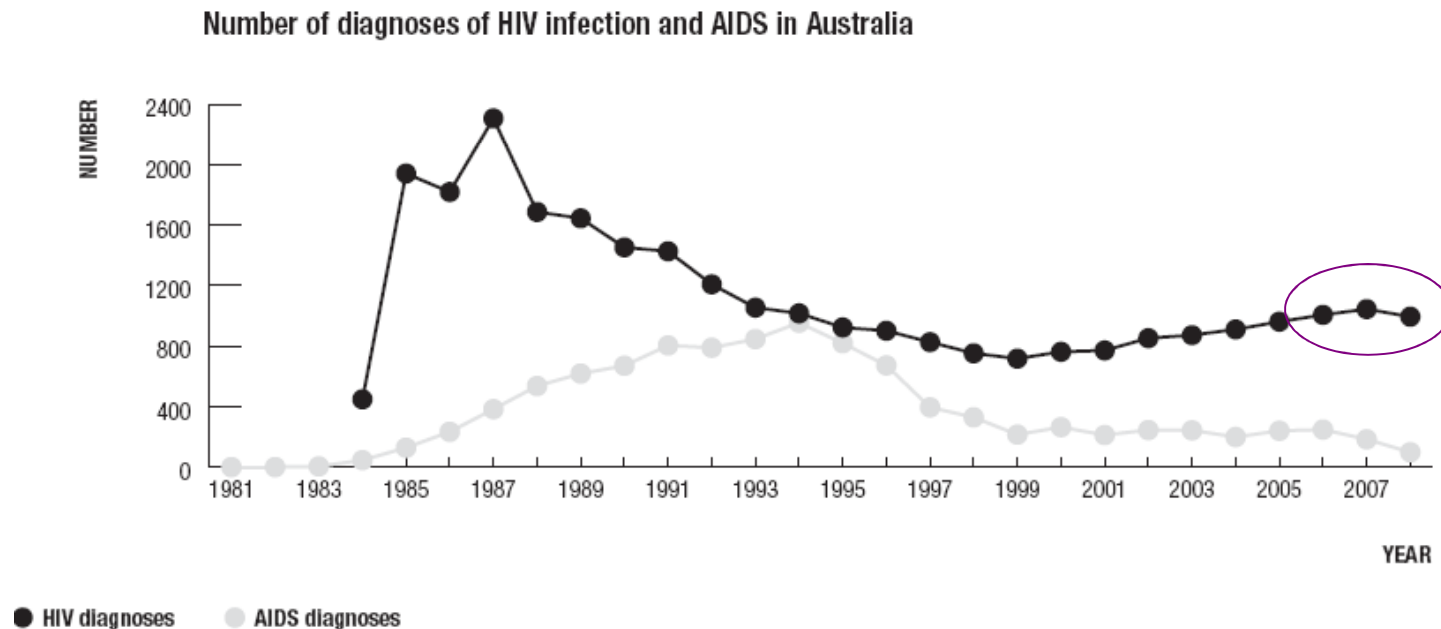
Overview of HIV in Australia

- <30,000 people living with HIV in Australia
- ~1000 people are diagnosed each year
- Trends in diagnosis differ across states and territories
- HIV is transmitted primarily through male-to-male sex
- Similar rate among Indigenous & non Indigenous populations
- Much higher population rate among sub-Saharan African born than Australian born



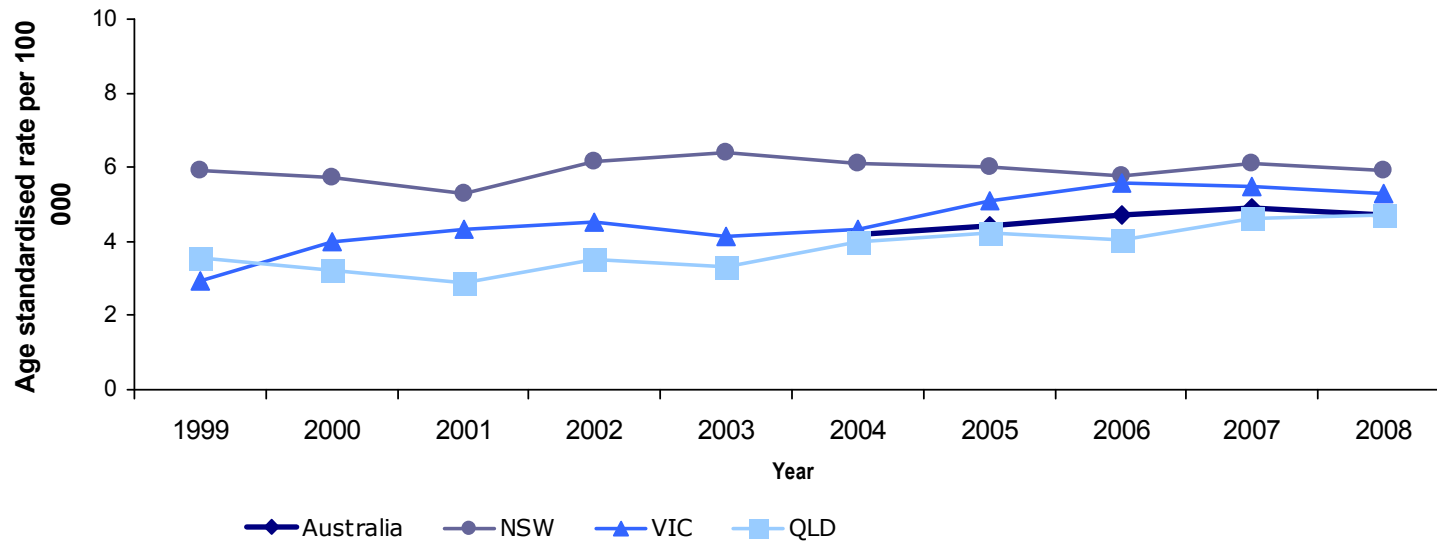
HIV Diagnosis Trends, Australia, 1983-2008

- Long period of decline in new HIV diagnoses before a resurgence
- The annual number of peaked at 1000 cases/year recently
- What will happen next?



Population Rate of HIV Diagnoses by State, Australia 1999-2008

- NSW have had a stable population rate since 2004
- In Victoria it has begun to decline after a long period of increase
- In Queensland it continues to increase



Characteristics of People Newly Diagnosed with HIV in Australia, 2008

Total Number New HIV Diagnoses	995 (4.7)
Males	86%
Indigenous	2% (3.7)
Median age	
Males	37 years
Females	32 years
Exposure	
MSM	66%
Heterosexual	27%
Heterosexual exposure	
Partner or person from HPC	68%
Country of birth	
Aus born	55% (4.1)
Overseas born**	39% (6.4)
Overseas born	
Sub Saharan***	10% (41.6)
Other Oceania***	6% (10.7)

*Rates are per 100 000 Australian population (ABS)

**Rates per 100 000 overseas born population

*** Rates per 100 000 population born in specific region



HIV Epidemiology in Victoria

Prepared by Centre for Population Health, Burnet Institute
Published by Victorian Department of Health

www.health.vic.gov.au/ideas/surveillance

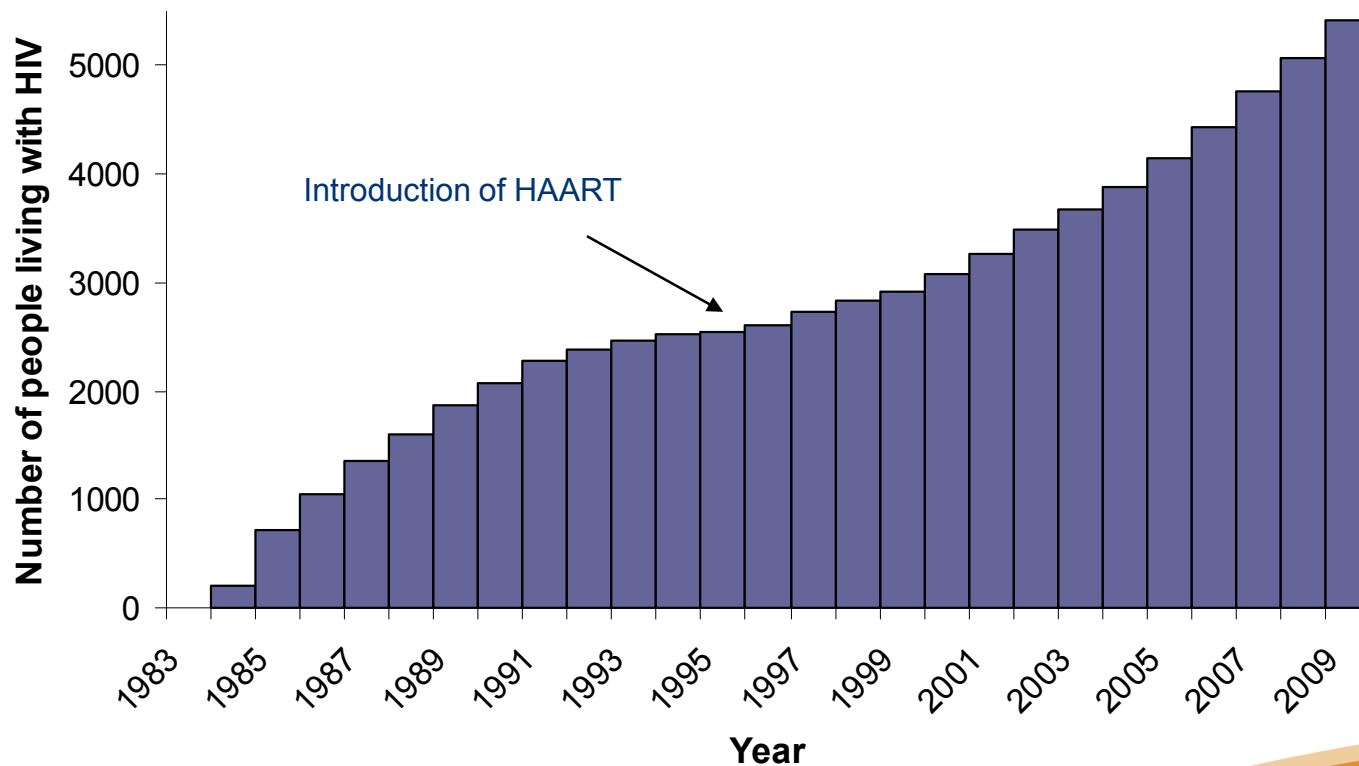
Overview of HIV in Victoria

- <5,500 people living with HIV in Australia
 - 14% in Regional VIC
- ~260 people are diagnosed each year
 - ~20 per year in regional VIC
- HIV is transmitted primarily through male-to-male sex
- Very low rates among Indigenous population

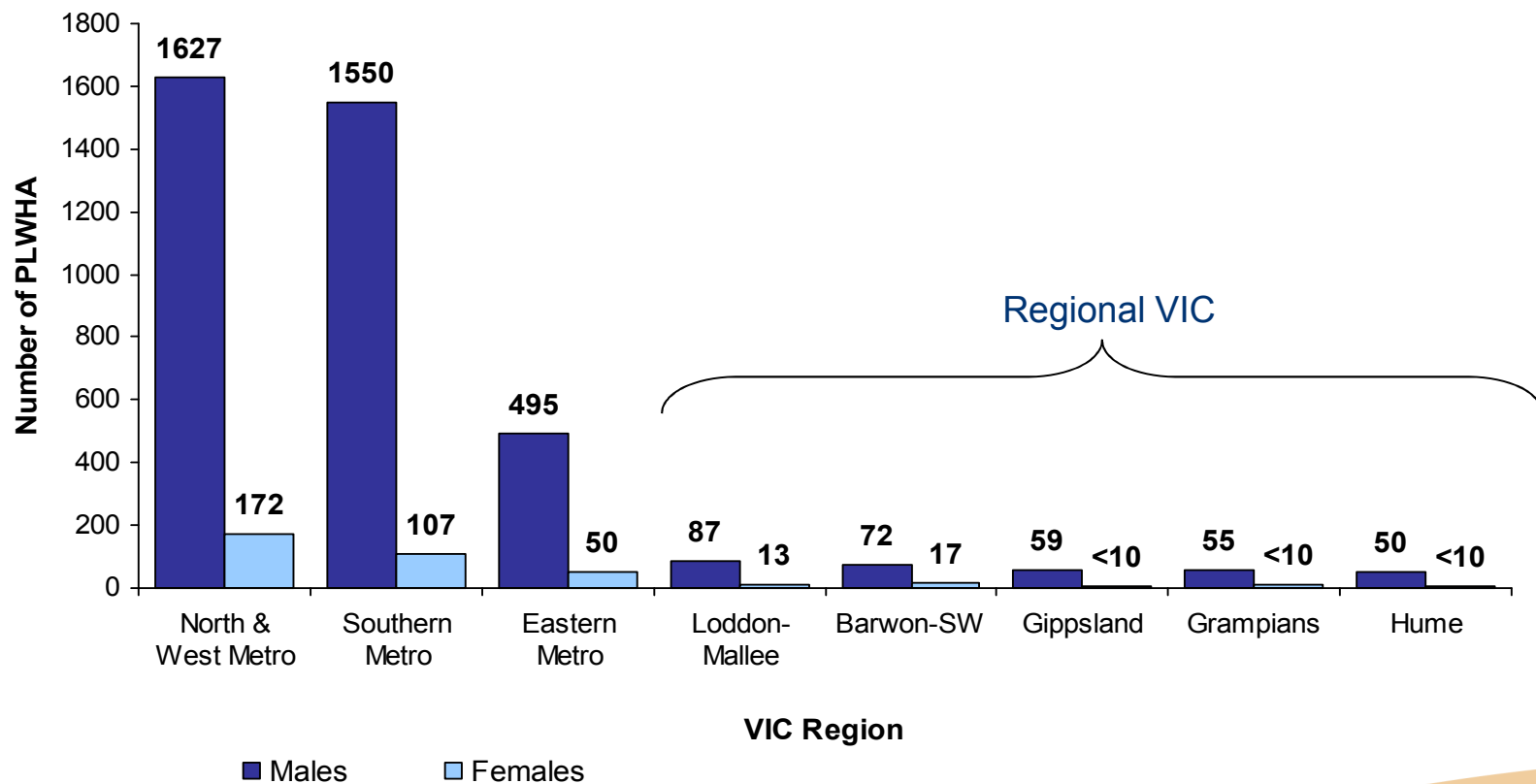


People Living With HIV in Victoria, 2009

- <5,500 PLWH in Australia, 14% in Regional VIC
- Ageing population, median age is 44 years



PLWH in Victoria by Region of Residence and Gender, December 2009



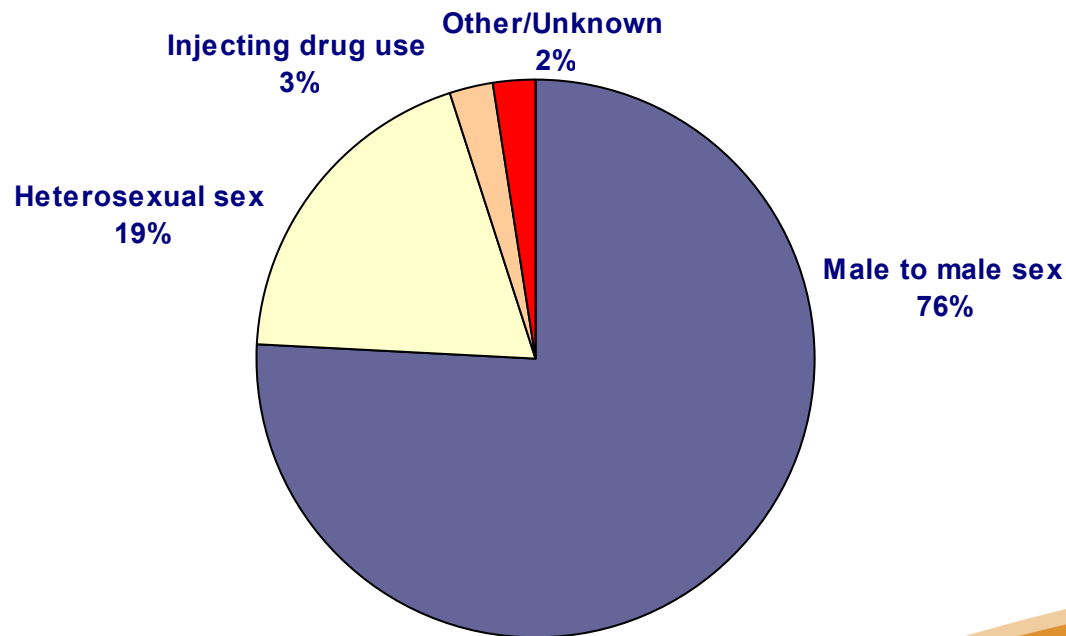
Characteristics of People Newly Diagnosed with HIV in Victoria & Australia, 2008

	VIC	Australia
Total Number HIV cases	260	995
Males	88%	86%
Indigenous	<1%	2%
Median age		
Males	36 years	37 years
Females	30 years	32 years
Exposure		
MSM	72%	66%
Heterosexual	22%	27%
Heterosexual exposure		
Partner or person from HPC	41%	68%
Country of birth		
Aus born	69%	55%
Overseas born	30%	39%
Overseas born		
Asia	39%	29%
Sub-Saharan Africa	24%	25%



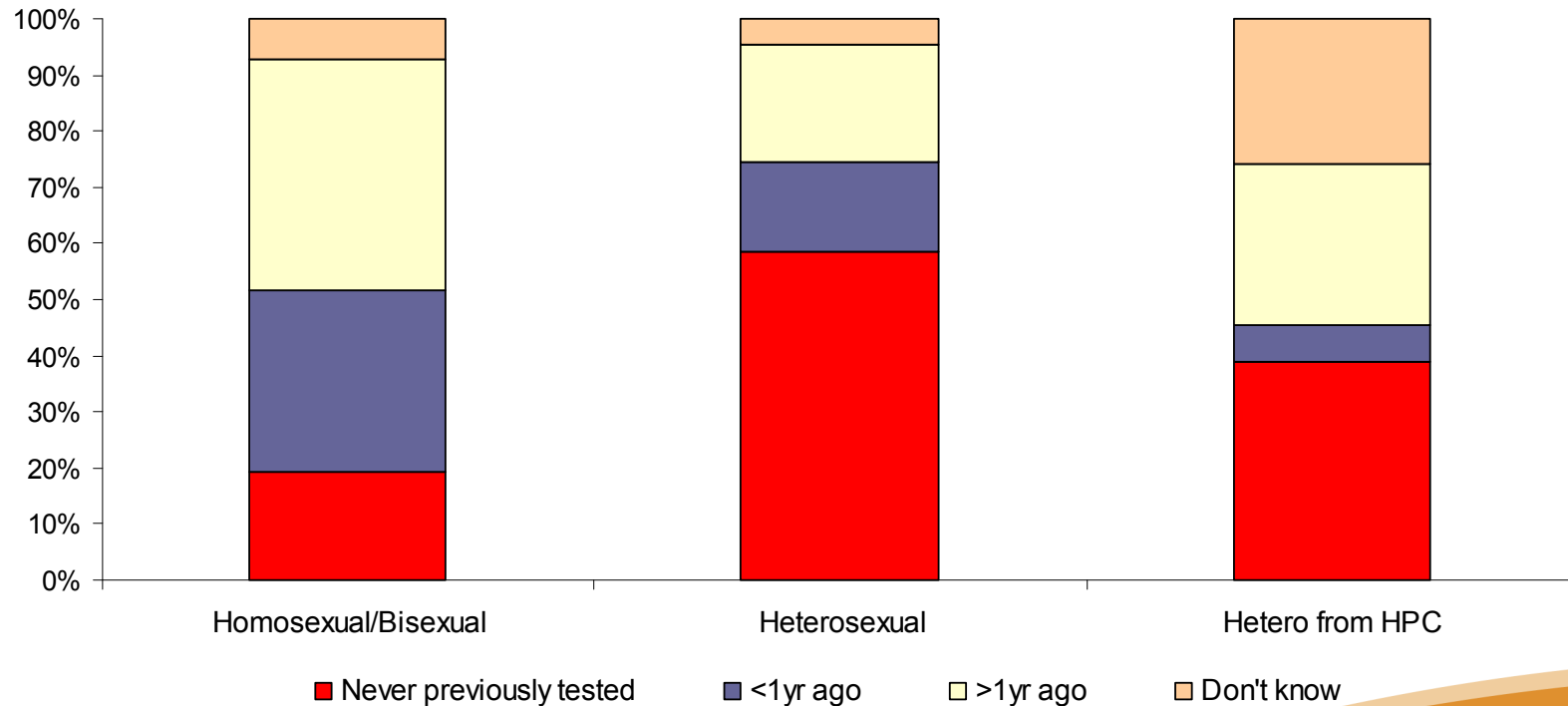
Exposure to HIV, Victoria 2005-2009

- Transmission of HIV occurs largely through sexual contact between men
- Efforts to prevent HIV have targeted MSM since they are the population most at risk
 - Age at diagnosis of MSM has declined
- Increasing number of HIV notifications among heterosexuals



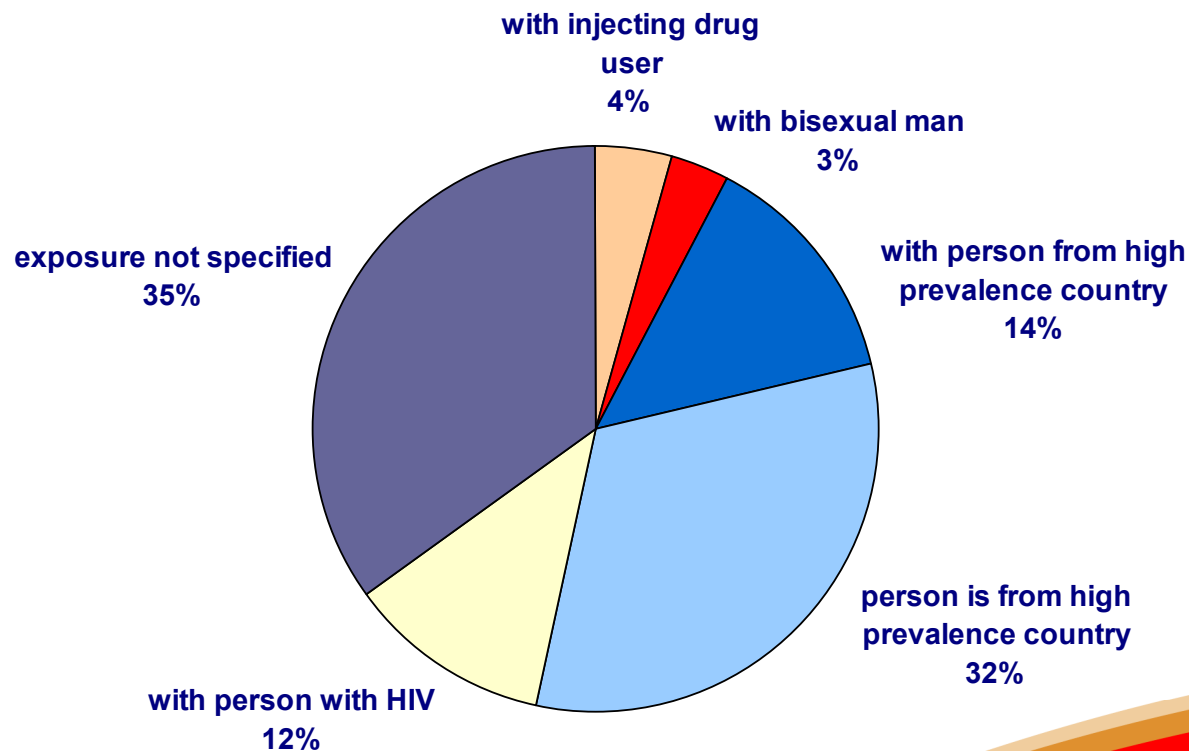
HIV Testing, Victoria 2005-2009

- Heterosexuals diagnosed with HIV test less frequently than MSM
 - Go longer without treatment and could transmit HIV without knowing
- Guidelines suggest MSM should test at least annually



Heterosexual Sex and HIV, Victoria 2005-2009

- 35% heterosexuals diagnosed with HIV are unsure of their exposure
- <50% of cases among heterosexuals involve a person from HPC



Summary of HIV Epidemiology

- In Regional VIC the epidemiology is similar to that in Metro VIC
 - Make up <10% of total diagnoses
- HIV is transmitted primarily through male-to-male sex
 - Sub populations we're monitoring
 - Unaware of their risk
 - Implications for testing
- PLWH is increasing with fewer deaths since ART
 - Ageing population with increasing health needs



National and Victorian Epidemiology of Chlamydia, Syphilis and Gonorrhoea

2009 Annual Surveillance Report, Published by NCHECR

www.nchechr.unsw.edu.au/NCHECRweb.nsf/page/Annual+Surveillance+Reports

September 2009 Victorian Infectious Diseases Bulletin

Published by Communicable Diseases, Department of Health

www.health.vic.gov.au/ideas/surveillance/vidb

www.health.vic.gov.au/ideas/surveillance/tabulated-summaries

Prepared by Centre for Population Health, Burnet Institute

For Department of Health

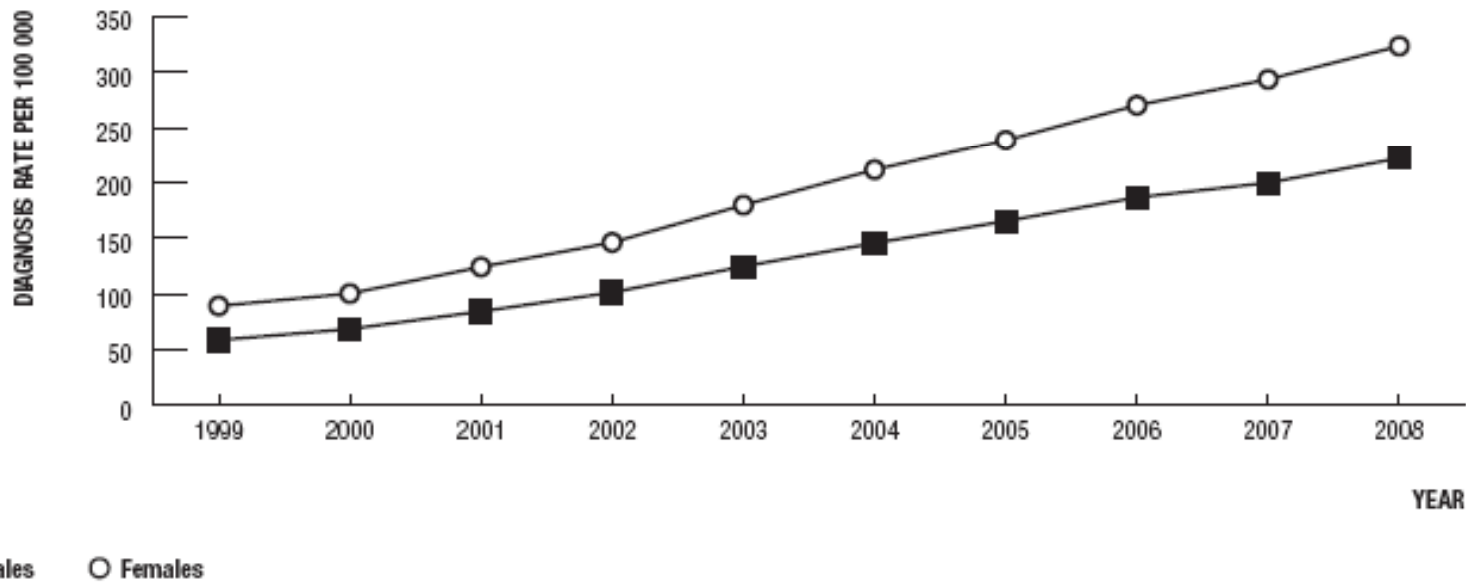
www.health.vic.gov.au/ideas/surveillance/descriptive_reports



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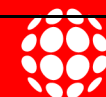
National View, Chlamydia in 2008

- Most frequently reported notifiable condition in Australia
 - 58,456 diagnoses in 2008
 - 270 per 100 000 population



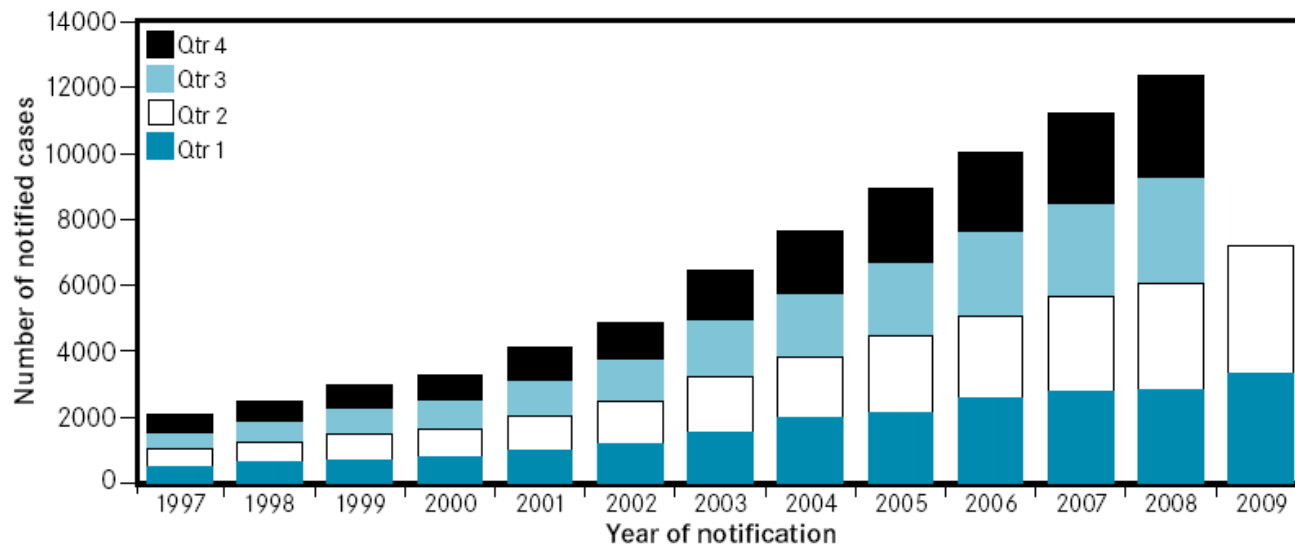
National View, Chlamydia in 2008

Sexual Health Clinics	Males	Females
Overall		
Tested	74%	72%
Positive	9.7%	9.2%
Indigenous		
Tested	60%	57%
Positive	17.7%	13.9%
Heterosexual aged <25 yrs		
Tested	80%	77%
Positive	14.9%	14.2%
Men who have sex with men		
Tested	82%	
Positive	7.8%	
Seen at general practice		
Tested	4%	7%
Positive	14.4%	8.1%



Notified Cases of Chlamydia by Quarter, Victoria Jan 1997-Jun 2009

- Chlamydia notifications continue to increase in Victoria
 - 13,725 cases notified in Victoria in 2009
 - 30% from regional Victoria
- Median age of females diagnosed 22 years and males 25 years
- From sentinel surveillance – testing has increased among men

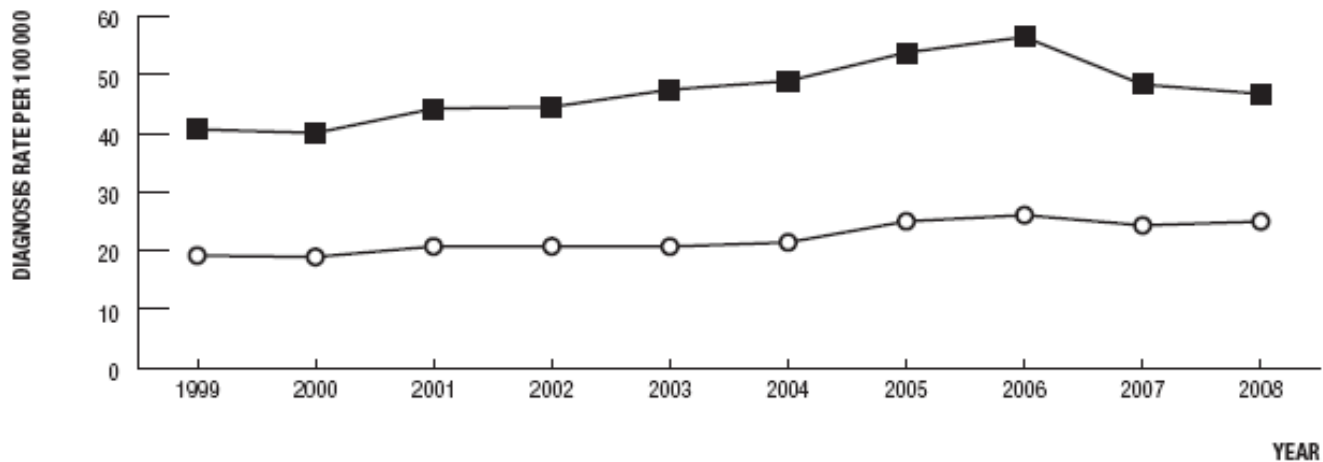


Predictors of Infection for Chlamydia

- Among females predictors of infection include
 - being aged 16-24 years and
 - reporting new sexual partners in the previous 3 months
- Among heterosexual males predictors include
 - being Indigenous
 - presenting with STI symptoms
 - not always using condoms with casual partners.
- Among MSM predictors of infection include
 - having 6 or more anal sexual partners
 - being HIV positive

National View, Gonorrhoea in 2008

- The population rate of diagnosis of gonorrhoea has stabilised from 2004–2008
 - 36 per 100 000 population in 2008
 - Higher population rate among Indigenous populations
- Most frequently reported in the 20-29 year age group



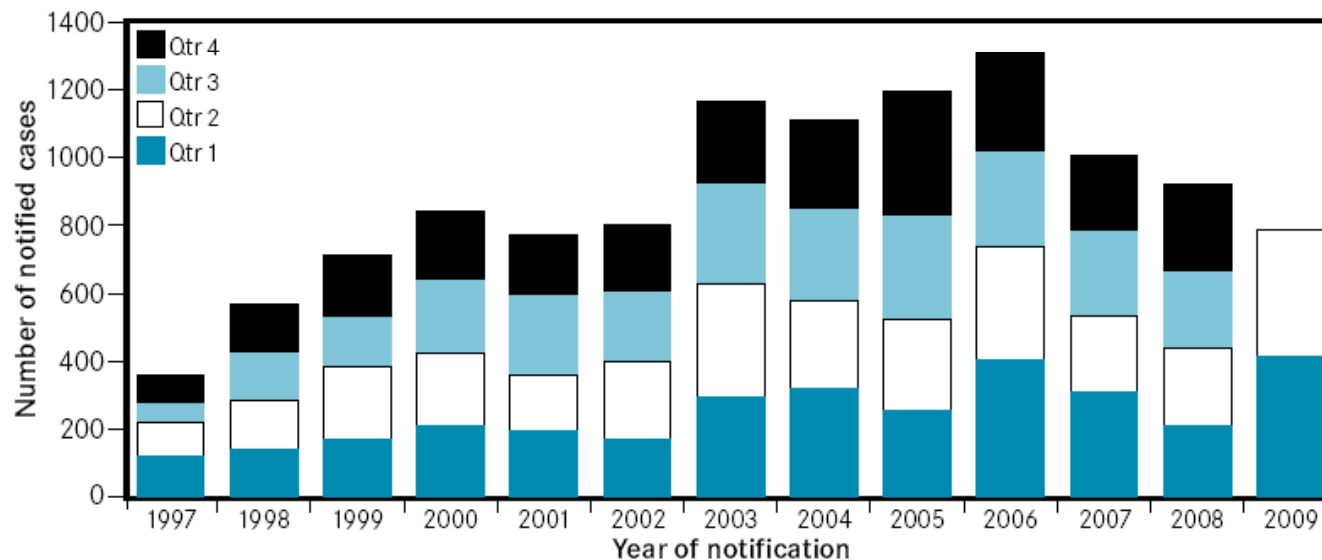
■ Males ○ Females



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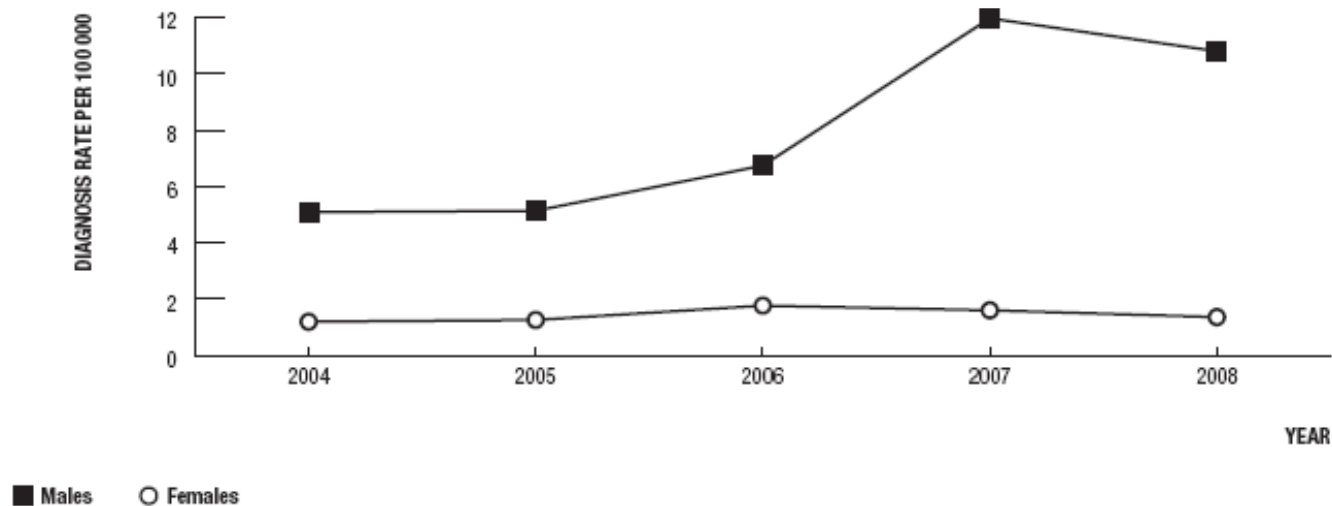
Notified Cases of Gonorrhoea by Quarter, Victoria Jan 1997-Jun 2009

- Gonorrhoea notifications increased in Victoria in 2009
 - 1,491 cases notified in Victoria in 2009, 61% increase on 2008
 - 19% from regional Victoria
- ~78% were reported in males
- Enhanced data is collected in 50-60% of cases
 - ~55% MSM



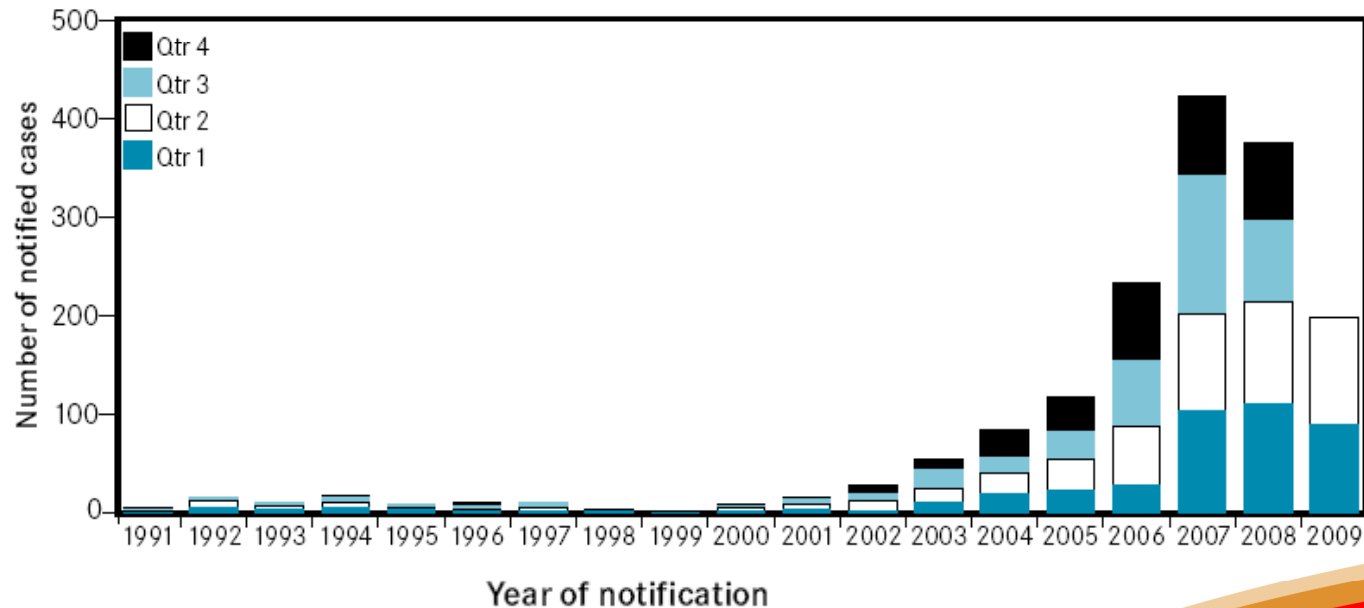
National View, Syphilis in 2008

- The rate of diagnosis of infectious syphilis declined in 2008 after a steep incline
 - 6.1 per 100 000 population in 2008
- These increases occurred largely among MSM
- Victoria has a higher rate of syphilis per head of population than any other state in Australia



Notified Cases of Syphilis by Quarter, Victoria Jan 1991-Jun 2009

- Syphilis notifications peaked in Victoria in 2007
 - 391 cases of infectious syphilis in 2009
 - 19% from regional Victoria
 - ~96% of cases in males
- Transmission occurs mainly through male-to-male-sex (~85%)
 - >50% of cases in HIV positive MSM



Compliance With Testing Guidelines

Recommendation 1

Annual testing - any male-to-male sex in the previous 12 months

	Baseline	3m	6m	9m	12m	15m	18m
	n	%	%	%	%	%	%
Sexual Health Clinics	1100	3.2	14.7	23.9	33.6	39.9	44.2
General Practice Clinics	1063	3.4	13.8	27.1	36.9	45.5	52.3

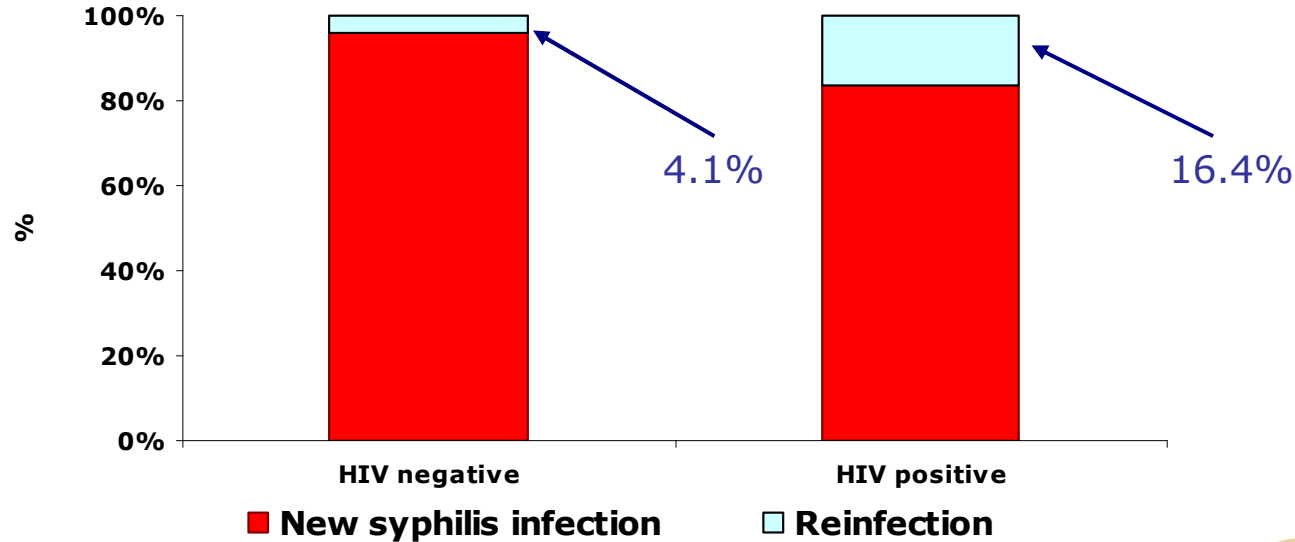
Recommendation 2

Bi-annual testing - high risk MSM

	Baseline	3m	6m	9m	12m	15m	18m
	n	%	%	%	%	%	%
Sexual Health Clinics	960	3.2	15.8	25.5	36.3	42.2	46.3
General Practice Clinics	902	3.5	14.6	28.3	37.7	46.5	53.3

Predictors of Infection for Syphilis

- Among MSM predictors of infection include
 - having 6 or more anal sexual partners
 - unprotected anal sex
 - presenting with STI symptoms
 - being HIV positive
 - 4 times more likely to have a re-infection when HIV positive



Summary of STI Epidemiology

- Notifications in Regional VIC make up 30% of chlamydia notifications, 19% of syphilis and gonorrhoea notifications
- Chlamydia notifications continue to increase with young males and females being most at risk
- Syphilis is transmitted primarily through male-to-male sex, with 50% of cases diagnosed in HIV positive men
- Gonorrhoea notifications increased in both heterosexual and MSM populations
- All STIs (other than HIV) occur at a higher rate among indigenous than non indigenous populations



Conclusion

- Large increase in HIV and STI notifications in Victoria and nationally over the past 10 years
- Rates of HIV and syphilis seem to have stabilised recently after a period of increasing notifications
 - MSM remain the main risk group
 - STI testing is not at the levels it should be for MSM
- Testing is a critical factor in prevention
 - Benefit the individual
 - Important for reducing HIV & STI transmission
 - Having another STI substantially increases the risk of HIV
- We need to encourage more frequent testing for HIV and STIs
 - Some people are not aware that they are at risk

Questions & Discussion...

Acknowledgements:

- HIV/STI Surveillance Team at Burnet
- Communicable Diseases, Department of Health
- Victorian Infectious Diseases Reference Laboratory
- National Centre in HIV Epidemiology and Clinic Research
- Participating clinics and laboratories of the Victorian Primary Care Network for Sentinel Surveillance of BBVs and STIs

