Spatial And Temporal Epidemiology Of Infectious Syphilis In Victoria, 2015-2018

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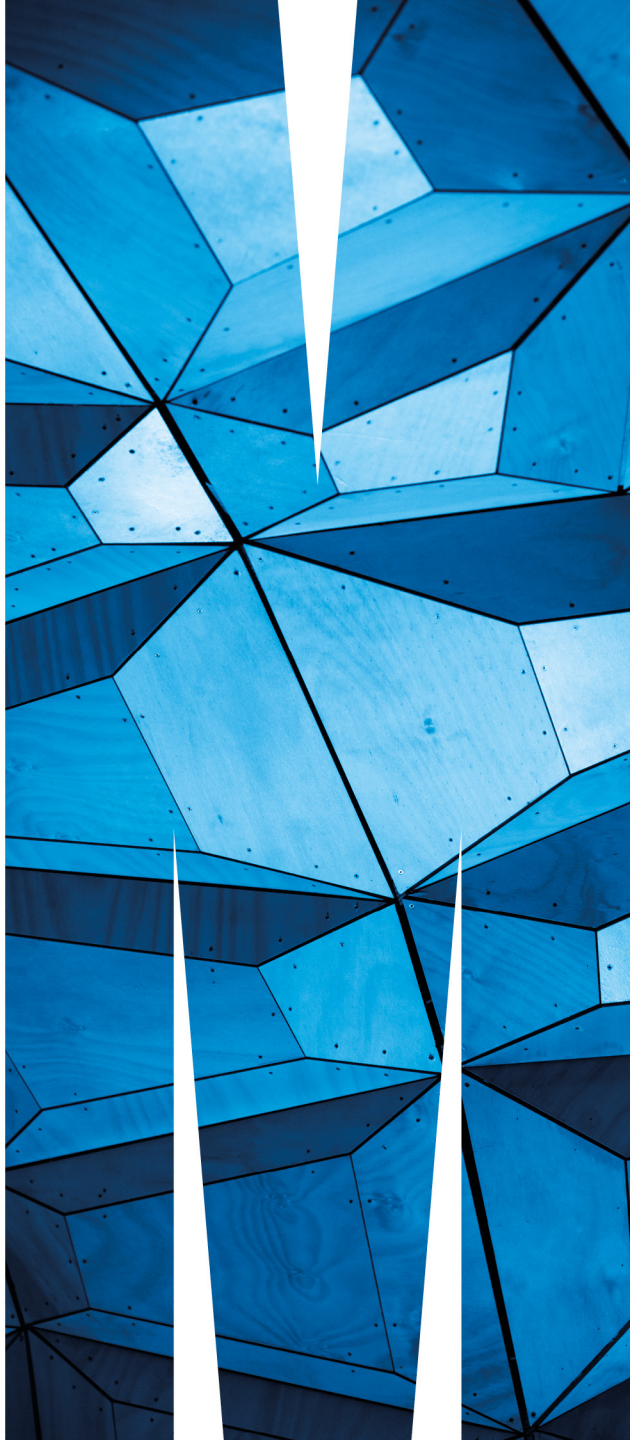
Disclosure

No conflict of interest to declare.



Syphilis in Victoria

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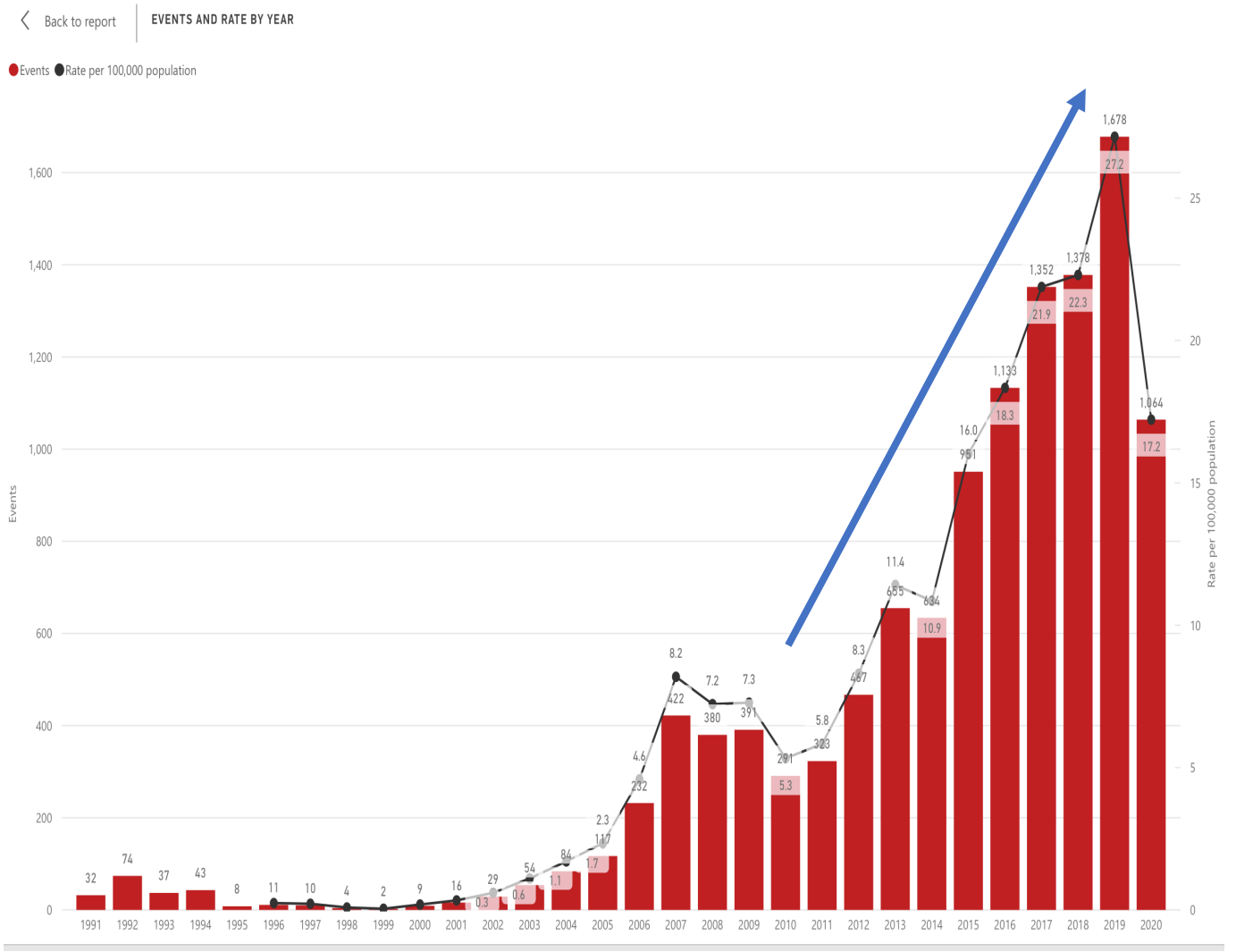
- Rate of syphilis has doubled since 2014 in Victoria[1,2].
- Ongoing epidemic of syphilis is observed in men who have sex with men (MSM).
- Increasing number of cases are reported in heterosexual population[1,2].
- Recent re-emergence of congenital syphilis in Victoria since 2017[2].
- 8 cases of congenital syphilis were reported in the last 3 years[2].
- Surveillance reports are usually categorized by sex i.e. male and female, not by their sexual risk[1,2].



Source: DHHS, Victoria

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1. Kirby Institute, UNSW. National update on HIV, viral hepatitis and sexually transmissible infections in Australia: 2009–2018
2. Department of health and human services, Victoria. Local government area surveillance reports [accessed 1st Oct 2020]

Spatial mapping of syphilis in Victoria

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- Aims:
  - To examine the demographic, clinical characteristics and geographical distribution of notified syphilis cases by population group in Victoria
- Method:
  - Notification data from Department of Health and Human Services, Victoria between 2015 and 2018 were collected.
  - Infectious syphilis cases were defined as primary, secondary and early latent syphilis.
  - Infectious syphilis cases were categorised into four population groups by sexual risk:
    - Men who have sex with men (MSM)
    - Heterosexual males
    - Females and
    - Bisexual males
- Outcomes: characteristics of notified cases , notification trends and geographical distribution of the cases were examined.

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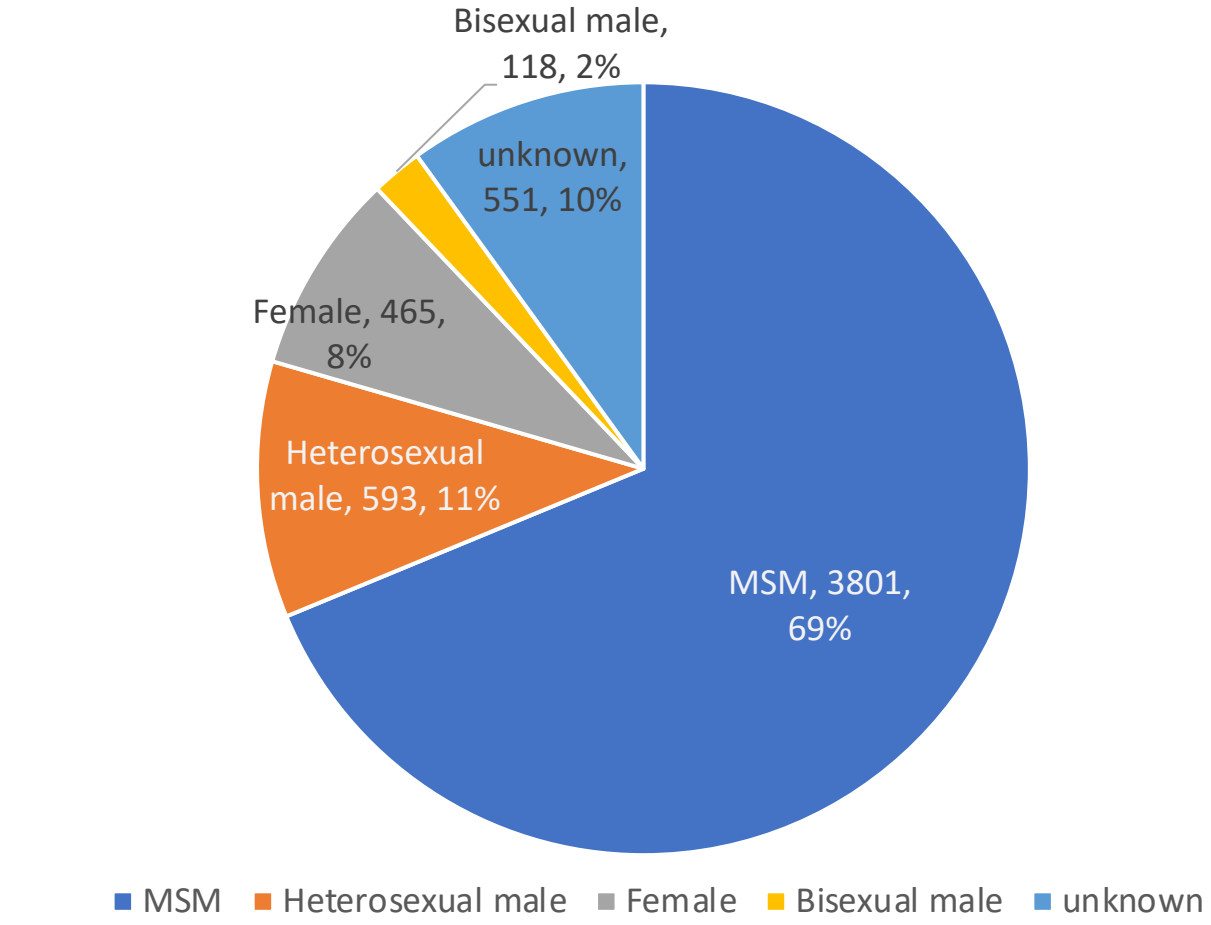
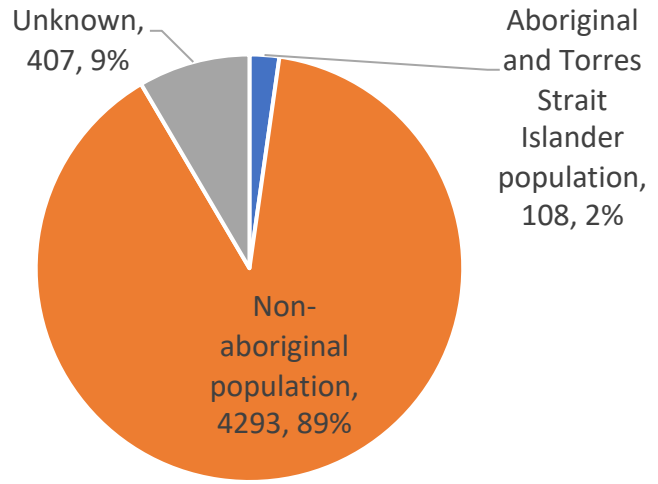
Results

4,808 notified infectious syphilis cases.



	MSM	Heterosexual males	Females	Bisexual males
HIV positive	1097 (87%)	67 (5%)	12 (1%)	17 (1%)
Re-infection	1142 (37%)	63 (11%)	46 (10%)	18 (15%)



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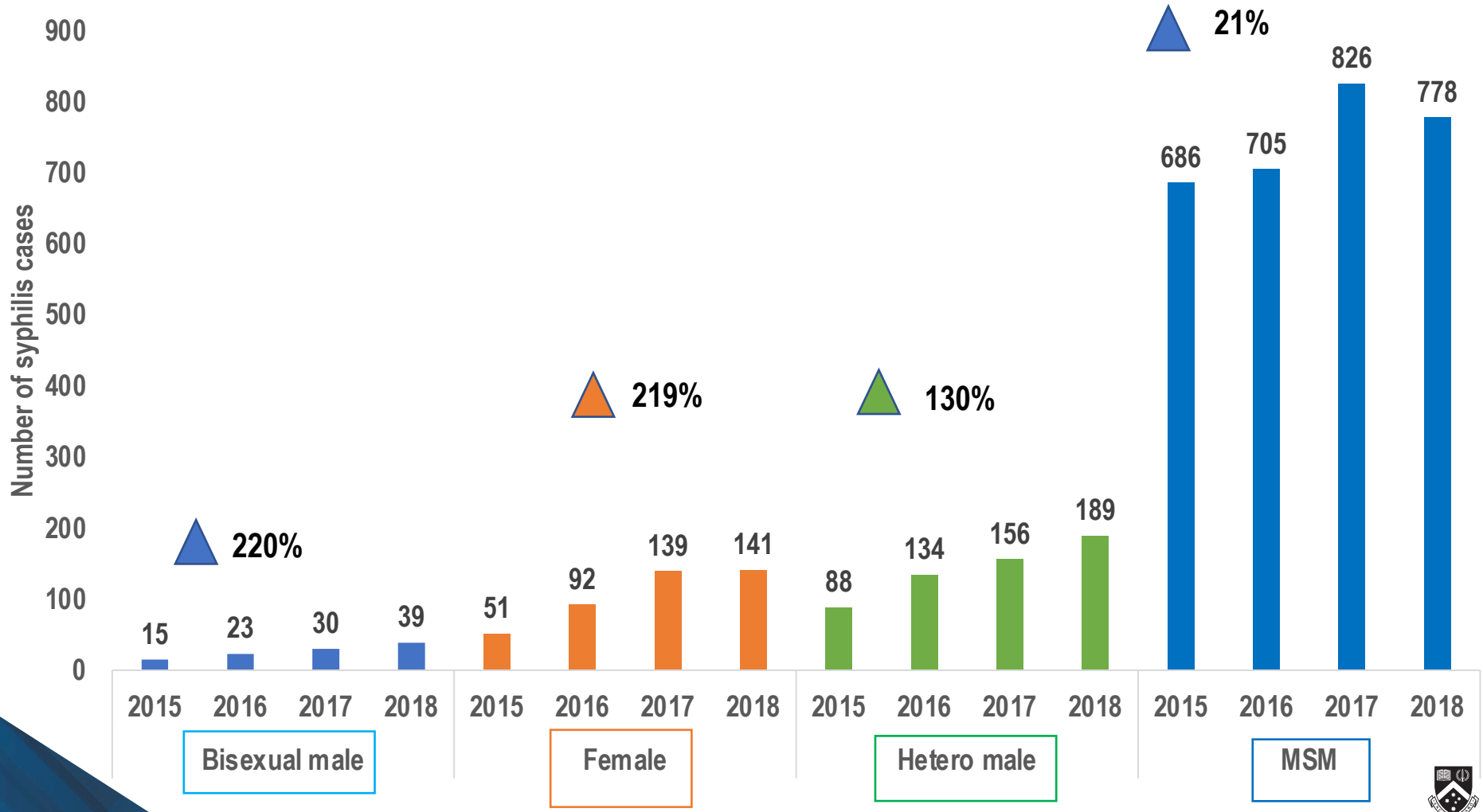
Number of infectious syphilis cases reported per year, Victoria, 2015-2018.



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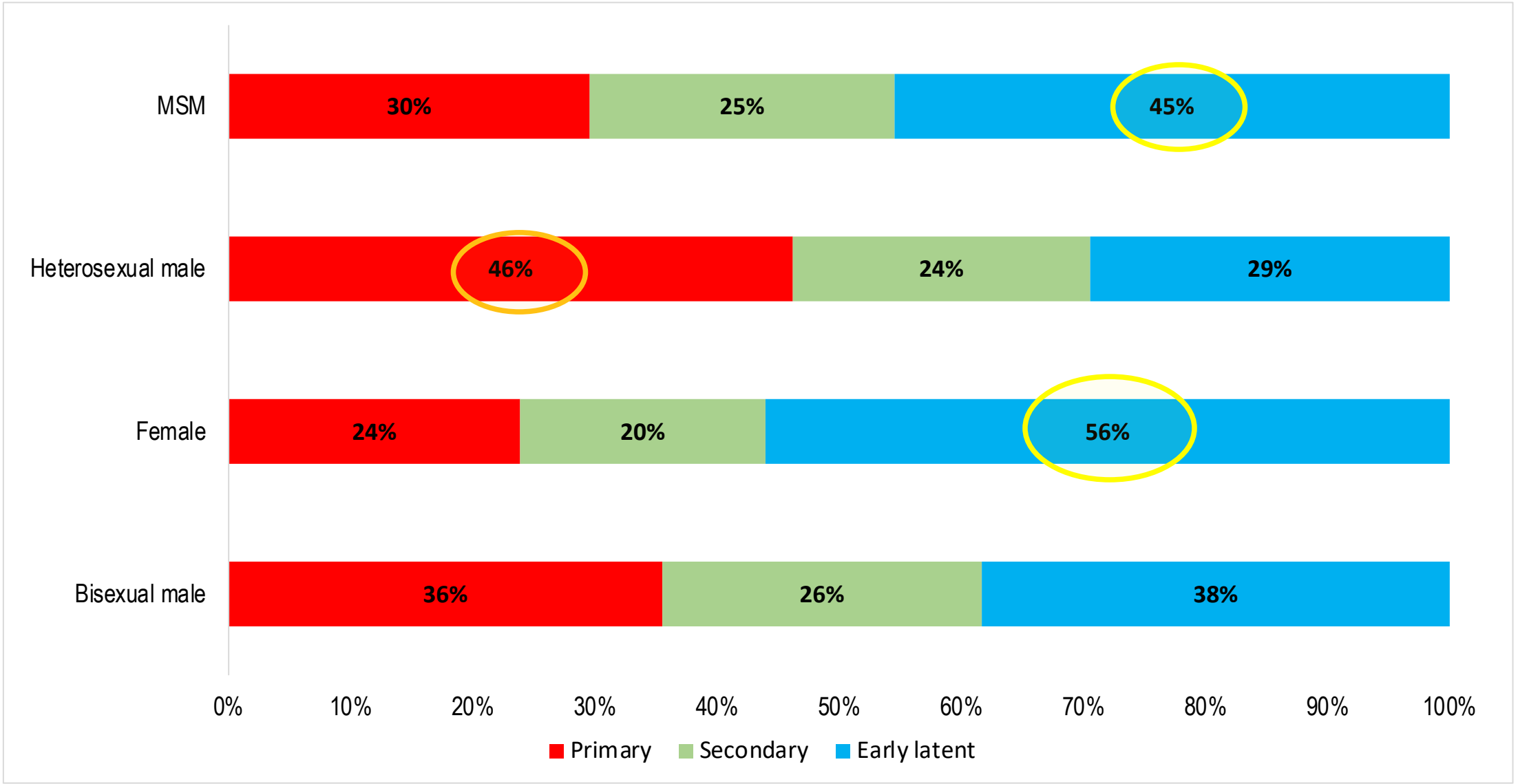
Stages of syphilis by population group



Reasons for syphilis testing by population group

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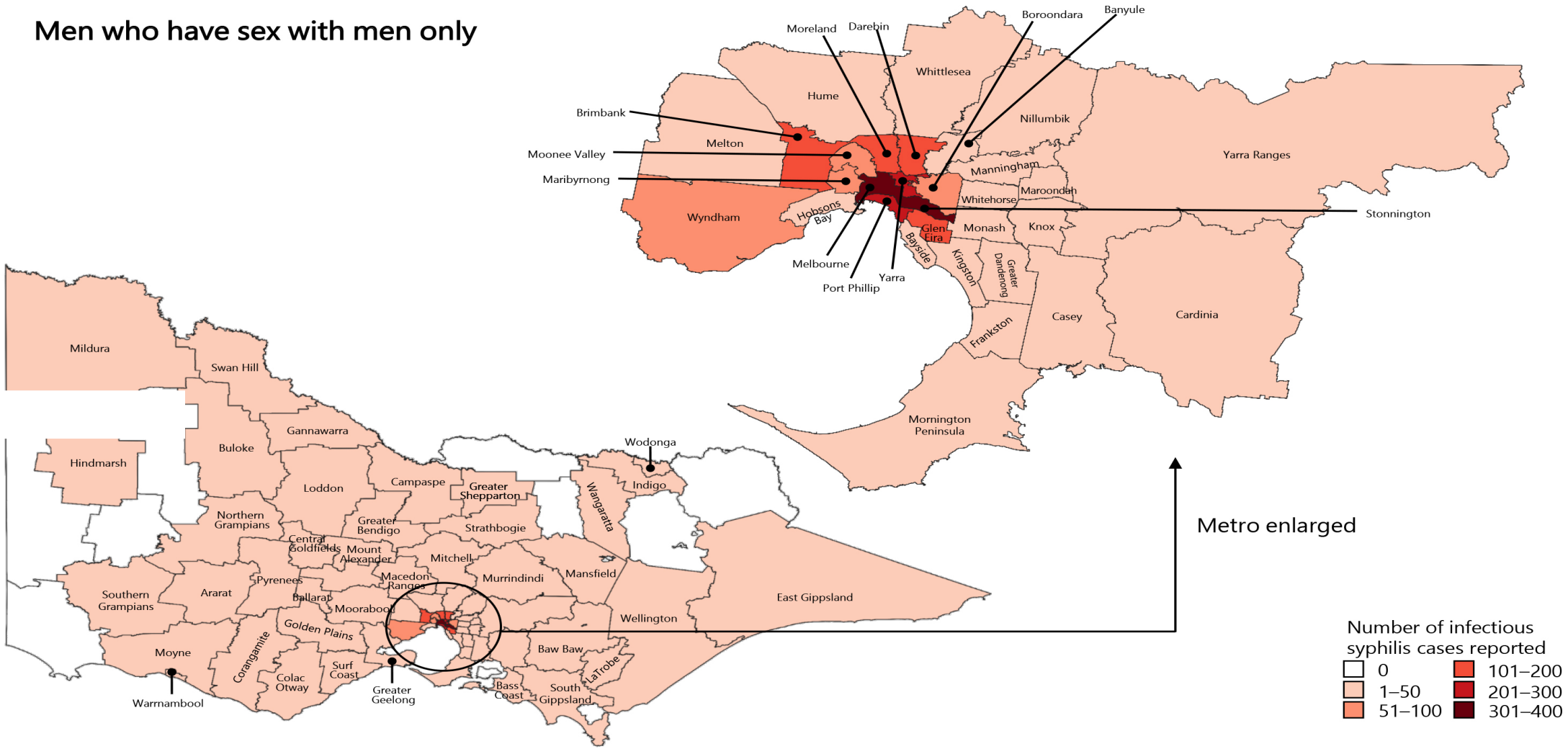
Reasons for testing *	Men who have sex with men (n=3081)		Heterosexual males (n=593)		Bisexual males (n=118)		Females (n=465)		Others/ unknown (n=551)	
Requested by case	912	26%	150	22%	46	32%	124	25%	94	26%
Requested by doctor	820	24%	111	16%	25	17%	93	18%	86	23%
Presented with signs and symptoms of syphilis	1195	35%	296	43%	47	33%	122	24%	113	31%
Presented with signs and symptoms of another STI	87	3%	23	3%	9	6%	17	3%	14	4%
Contact with a person with syphilis	131	4%	47	7%	8	6%	50	10%	4	1%
Antenatal screening	0	0%	0	0%	0	0%	30	6%	1	0%
Screening for PrEP #	127	4%	5	1%	1	1%	0	0%	1	0%
Other	177	5%	50	7%	8	6%	69	14%	54	15%

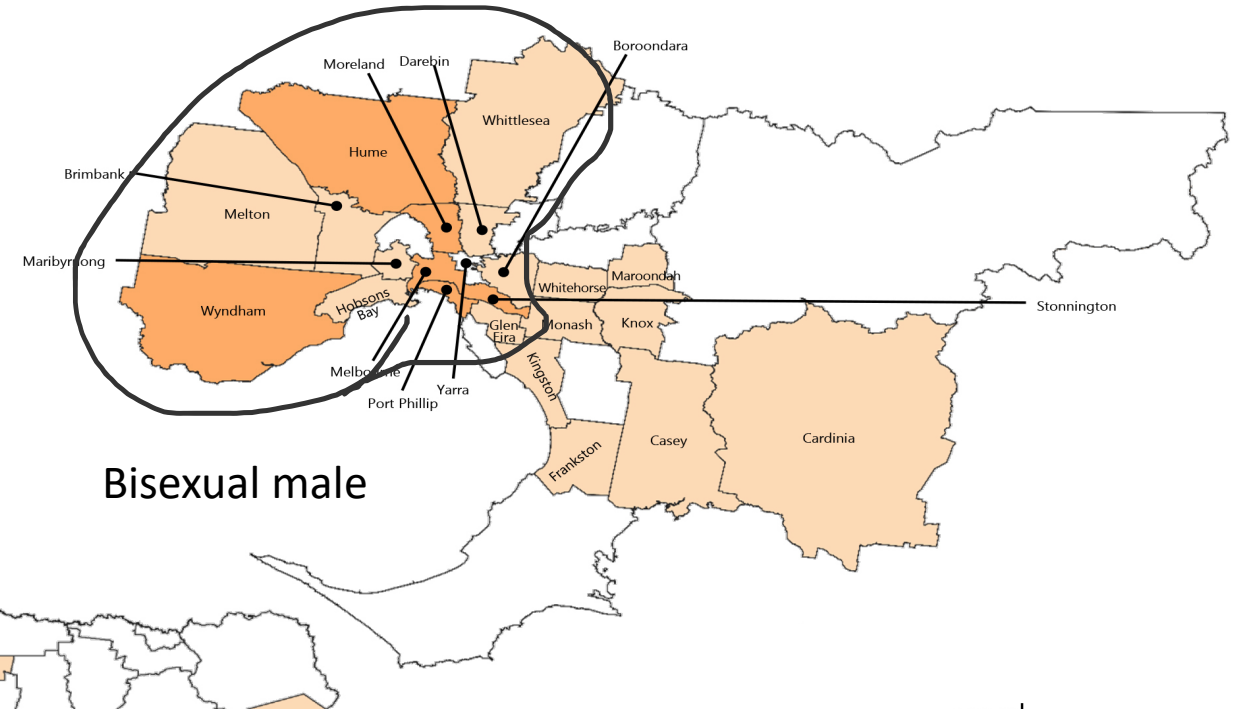
Source of syphilis notification by risk group

Notifying sources (doctor type/ hospital)	Men who have sex with men (n=3081)		Heterosexual males (n=593)		Bisexual males (n=118)		Females (n=465)		Others/ unknown (n=551)	
High caseload clinic	1564	51%	90	15%	41	35%	49	11%	60	11%
Low caseload clinic	353	12%	232	39%	40	34%	218	47%	165	30%
Hospital	102	3%	40	7%	2	2%	35	8%	50	9%
Prison	3	0%	33	6%	0	0%	24	5%	24	4%
Other	12	0%	10	2%	0	0%	7	2%	8	2%
Unknown	1047	34%	188	32%	35	30%	132	28%	244	44%

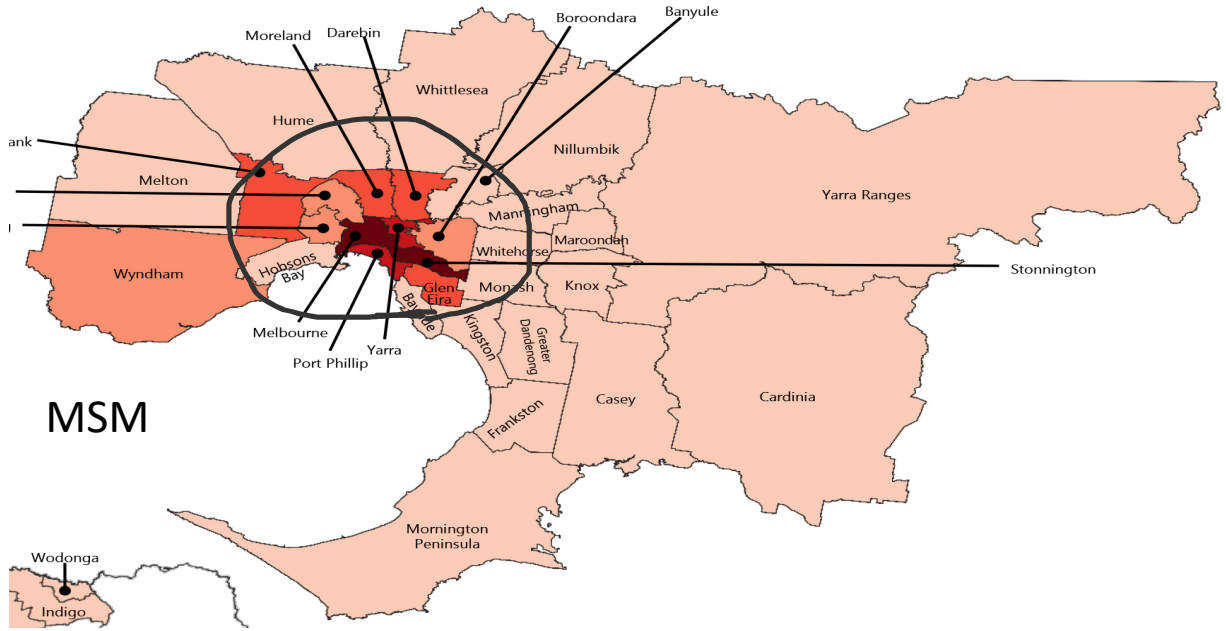
High caseload clinics = GP clinics with strong STI focus and sexual health clinics
Low caseload clinics = GP clinics with lower number of STI presentations

Case distribution by local government areas (LGA) of Victoria

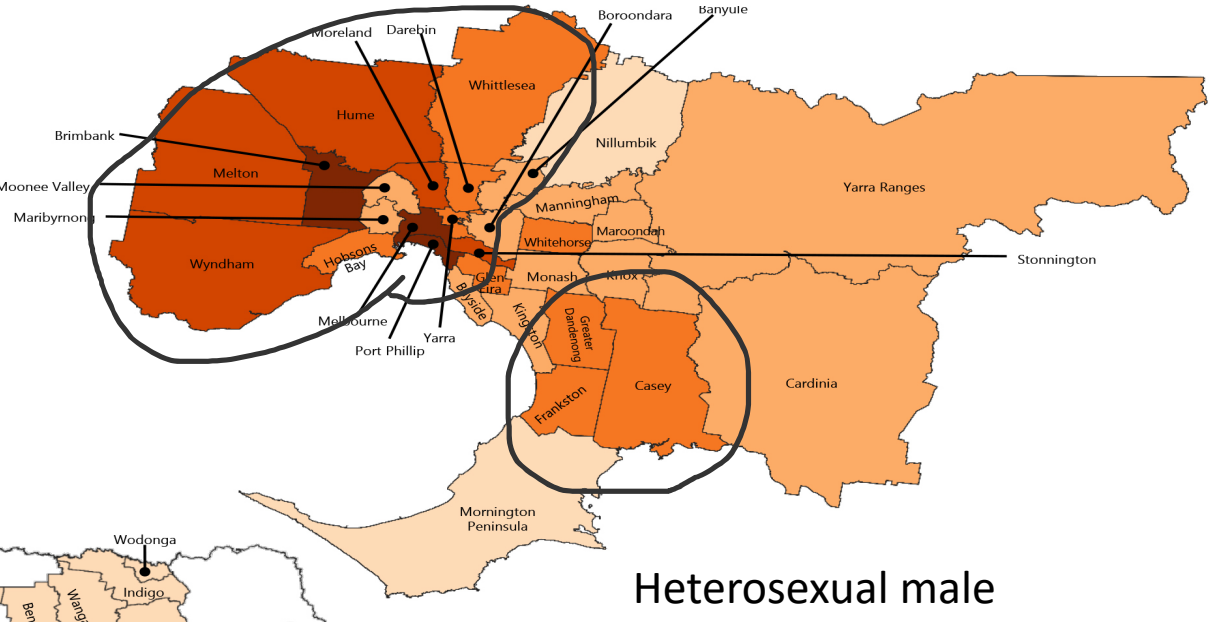




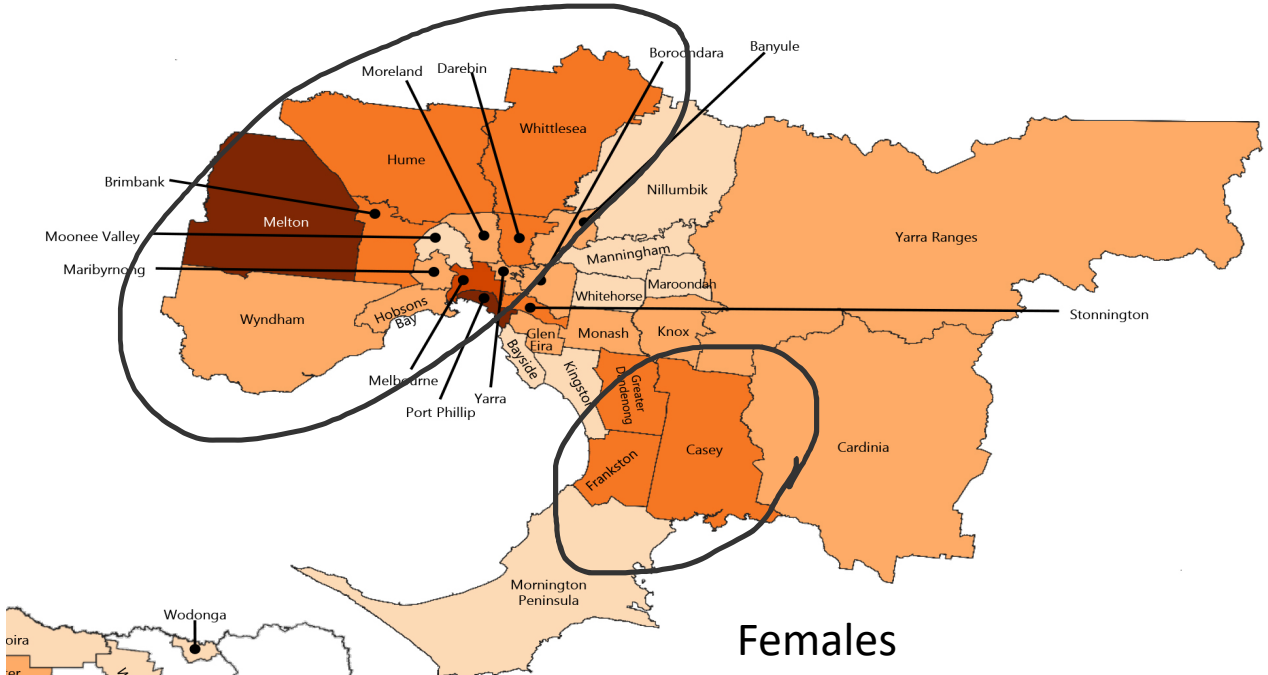
Bisexual male



MSM



Heterosexual male



Females

Conclusion

- The study confirms syphilis infection had significantly increased in all population groups, particularly in females and bisexual males.
- Based on geographical mapping and epidemiological data, interventions should target
  - Females, heterosexual males and bisexual males
  - Social economic disadvantaged suburbs
  - Low caseload clinics
- Further research to understand the dynamic interaction and transmission between these population groups, how the transmission occurs and how to break the transmission is warranted.

5. www.censusdata.abs.gov.au

Acknowledgments

MSHC	• A/Pro Eric PF Chow, Prof Marcus Chen, Prof Christopher Fairley, Dr Kathy Cook, Dr Jo Peel, Dr Vino Dharmakulasinghe
DHHS	• Nasra Higgins, Dr Charles Alpren
University of Melbourne	• A/Pro Deborah Williamson, A/Pro Jane Tomnay
Chapter of Sexual Health Medicine and Monash University	• RTP and RACP scholarship

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