

Seasonal variation in gonorrhoea incidence among men who have sex with men

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After reviewing urethral gonorrhoea cases among men who have sex with men (MSM) at the South Australia Specialist Sexual Health (SASSH) in Adelaide, Australia, we noticed peaks of gonorrhoea among MSM occurred predominantly in the first quarter of the year (January–March).

Aim

To assess whether seasonal variations in urethral gonorrhoea diagnoses were evident in MSM in three Australian states. If there was significant variation in rates, it might allow policy makers to target demand for clinical services and health promotion activities to periods where demand on services was greater and risks higher.

Methods

This study was a retrospective analysis of computerised records at the three Australian sexual health services. Potential risk factors for urethral gonorrhoea among MSM were also reviewed at the SASSH.

Statistical Analysis

We undertook logistic regression to examine the association between urethral gonorrhoea and a range of risk factors. Risk factors with a P-value <0.05 in the univariate analyses were included in the multivariable logistic regression to identify risk factors associated with urethral gonorrhoea. Data analysis was performed using STATA (Version 14).

Figure 1: Number of urethral gonorrhoea cases in men who have sex with men each quarter at South Australia Specialist Sexual Health (SASSH), Melbourne Sexual Health Centre (MSHC) and Sydney Sexual Health Centre (SSHC), 2002–2013

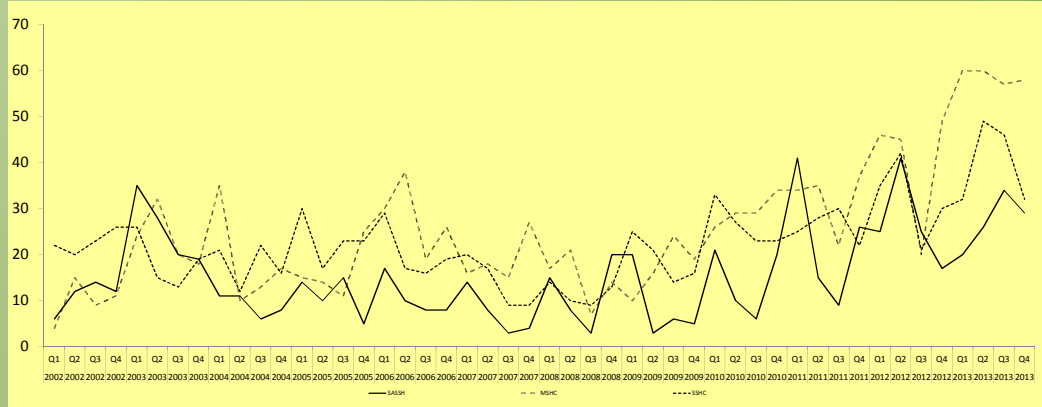


Table 1: Factors associated with urethral gonorrhoea among men who have sex with men (MSM) attending South Australia Sexual Health (SASSH), 1990–2013

	MSM diagnosed with urethral gonorrhoea		MSM not diagnosed with urethral gonorrhoea		Unadjusted		Adjusted	
	n	Proportion (%)	n	Proportion (%)	OR	(95% CI)	OR	(95% CI)
	N=1038		N=20817					
Age group in years								
<20	61	5.9	1188	5.7	2.22	1.55-3.19	2.27	1.56-3.30
20-24	241	23.2	4236	20.4	2.46	1.86-3.27	2.45	1.81-3.31
25-29	238	22.9	3872	18.6	2.66	2.00-3.54	2.55	1.89-3.44
30-49	436	42.0	8839	42.5	2.14	1.63-2.80	2.03	1.53-2.67
≥50	62	6.0	2685	12.9	1.00		1.00	
Marital status								
Never married	874	84.3	16247	78.1	1.00		1.00	
Married/de facto	106	10.2	2832	13.6	0.70	0.57-0.85	0.80	0.64-0.98
Divorced, separated or widowed	57	5.5	1724	8.3	0.61	0.47-0.81	0.78	0.59-1.05
Race								
Indigenous Australian	15	1.5	230	1.1	1.29	0.76-2.18	1.07	0.61-1.88
Asian	48	4.6	1329	6.4	0.71	0.53-0.96	0.65	0.48-0.87
African or other	21	2.0	443	2.1	0.93	0.60-1.45	0.87	0.56-1.36
Caucasian	954	91.9	18810	90.4	1.00		1.00	
No. partners in past 3 mths								
1	206	19.9	5677	27.3	1.00		1.00	
2	218	21.0	4131	19.8	1.45	1.20-1.77	1.45	1.19-1.77
3	144	13.9	2827	13.6	1.40	1.13-1.75	1.39	1.11-1.73
4	107	10.3	1638	7.9	1.80	1.42-2.29	1.78	1.40-2.27
≥5	352	33.9	5677	27.3	1.71	1.43-2.04	1.71	1.43-2.06
Sex contact in past 12mths								
SA only	630	60.7	13912	66.8	1.00		1.00	
Interstate	277	27.0	4228	20.3	1.45	1.25-1.67	1.28	1.10-1.49
overseas	87	8.4	1732	8.3	1.11	0.88-1.40	1.08	0.85-1.36
Interstate & overseas	34	3.3	495	2.4	1.52	1.06-2.17	1.35	0.94-1.94
Quarter								
Q1	317	30.5	5346	25.7	1.30	1.10-1.55	1.27	1.07-1.51
Q2	249	24.0	5012	24.1	1.09	0.91-1.31	1.09	0.90-1.31
Q3	232	22.4	5185	24.9	0.98	0.82-1.18	0.97	0.81-1.17
Q4	240	23.1	5274	25.3	1.00		1.00	

Conclusions

Our data suggest that gonorrhoea among MSM occurs in a seasonal pattern, particularly late summer into early autumn. This has implications for the provision of health services over the year and for the timing of health promotion activities.

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