

Victorian Primary Care Network for Sentinel Surveillance on BBVs and STIs*

Chlamydia Report 1: April – December 2006

Welcome to our new report.

We are pleased to present the first report in a new series. The report is intended to present new information on trends and patterns in chlamydia in Victoria, with a particular focus on the findings from a sentinel surveillance network that has been established with the collaboration of a number of primary health services.

This report will be produced every six months. Each issue will include standard tabulations from the sentinel surveillance network. It will also feature updates from other surveillance systems of relevance to chlamydia, as new information comes to hand. A briefer summary will be also produced every other quarter for participating clinics.

The establishment of the new surveillance network comes at a time when there is a need to gain insight into the ongoing increases in chlamydia diagnoses in Victoria. The network complements other data sources, in that it provides, for the first time information about chlamydia testing and prevalence.

Sentinel Surveillance for Chlamydia

Method: In March 2006, a sentinel surveillance system based on primary care sites commenced operation involving collection and linking of two data sets i) demographic data and chlamydia test results collected by the laboratory on all individuals routinely tested for chlamydia at the site ii) extra demographic information and risk behaviour information collected through brief questionnaires completed voluntarily by patients while in the doctor's room. Only one test was included for patients where multiple chlamydia specimens were taken in one visit. The test outcome was categorised as positive if any of these tests were positive.

Sentinel sites were chosen if (i) they diagnosed a high number of chlamydia infections per year, (ii) had a high case load of young people, women or men who have sex with men (MSM) and (iii) were willing to participate. Twelve clinics were approached and agreed to participate. This report provides chlamydia sentinel surveillance results for the period April 2006 to December 2006.

Table 1: Number of chlamydia tests and questionnaires by chlamydia result, April to December 2006

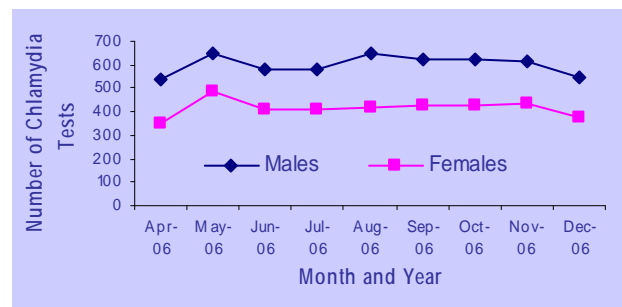
Site Number:	Non-MSM sites							Sexual health			MSM sites				All	
	2	3	7	9	14	15	16	All	6	18	All	4	5	10		All
Chlamydia tests																
Number of tests	1207	1220	82	26	58	73	112	2278	101	3032	3133	523+	939+	1436+	2898	8809
Positive tests (n)	84	36	6	0	1	3	5	135	2	173	175	33	45	86	164	474
Positive Tests (%)	7.0	3.0	7.3	0.0	1.7	4.1	4.5	4.9	2.0	5.7	5.6	6.1	4.8	6.0	5.7	5.3 (4.8-5.7)
Chlamydia questionnaires																
Forms (n)	704	552	30	5	42	55	65	1453	24	2985	3009	35	359	623	1017	5479
Response rate (%)*	58.3	45.2	36.6	19.2	72.4	75.3	58.0	52.3	23.8	98.4	96.0	6.7	38.2	43.4	35.1	62.2
Positive tests (n)**	50	16	5	0	1	2	5	79	0	173	173	1	16	27	44	296
Positive Tests (%)	7.1	2.9	16.7	0.0	2.4	3.6	7.7	5.4	0.0	5.8	5.7	2.9	4.5	4.3	4.3	5.4 (4.8-6.0)

*Response rate = total surveys completed / total number of males tested x 100

**Positive Tests (%) = total positive tests in sentinel surveillance form /sentinel surveillance forms x 100

+ Chlamydia tests, results and response rate for MSM sites estimated for males only

Figure 1: Monthly number of chlamydia tests by gender, all clinics



Results - All tests: Between April and December 2006, a total of 8809 chlamydia tests were conducted in individuals attending the twelve sites. An average of 601 tests (range: 540-651) were conducted among males per month and 417 (range 354-489) among females per month (Figure 1). A total of 5479 chlamydia questionnaires were completed. The average response rate was 62% (Table 1). The overall prevalence of chlamydia from all individuals tested at all sites was 5.3% (95%CI: 4.8-5.7).

Results – Heterosexuals: A total of 3748 questionnaires were completed; 1535 (41%) in males and 2210 (59%) in females. Among heterosexual **males** surveyed and tested, 30% were aged 16 to 24 years and 41% were aged 25 to 34 years. Forty one percent of those surveyed and tested were symptomatic and **85%** reported multiple female sexual partners in the past 12 months. Of those having sexual intercourse with casual partners 65% reported not always using condoms and 56% reported having a new sexual partner in the past three months. The prevalence of chlamydia infection for males was **7.4% (95% CI 6.1-8.8)** with the highest prevalence observed in those (i) aged 16-24 years (ii) of Aboriginal or Torres Strait Islander descent (iii) reported multiple sexual partners in the past 12 months and (iv) not always using condoms with a regular or casual partner/s (Table 2 and 3).

Among **females** surveyed and tested, 54% were aged 16 to 24 years and 24% aged 25 to 34 years, just 14% were symptomatic when tested and 39% reported multiple male sexual partners in the past 12 months. Of those having sexual intercourse with casual partners 61% reported not always using condoms and 38% reported having a new sexual partner in the past three months. The overall chlamydia prevalence was **3.8% (95% CI 3.0-4.6)** with the highest estimates observed in those (i) aged 16-24 years (ii) reported multiple male sexual partners in the past 12 months (iii) not always using condoms with a regular or casual partner/s (iv) new sexual partner/s within the last three months (Tables 2 and 3).

In regards to sentinel surveillance, BBVs (blood borne viruses) refers to hepatitis C and STIs (sexually transmissible infections) refers to HIV, chlamydia and syphilis

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Table 2: Characteristics of non-MSM^a surveyed and tested for chlamydia, all sites (unknowns excluded), Apr-Dec 2006

		Males				Females			
		Tested		Positive		Tested		Positive	
		n	%	n	%	n	%	n	%
All		1535	100	113	7.4 (6.1-8.8)	2210	100	83	3.8 (3.0-4.6)
Age group (years)	16-19	119	7.8	12	10.1	509	23.0	34	6.7
	20-24	343	22.4	34	9.9	694	31.4	31	4.5
	25-34	647	42.2	46	7.1	524	23.7	10	1.9
	35+	426	27.8	21	4.9	483	21.9	8	1.7
	16 to 24 years	462	30.1	46	10.0 (7.4-13.1)	1203	54.4	65	5.4 (4.2-6.8)
Country of Birth*	Australia	1013	68.8	71	7.0	1477	70.6	60	4.1
	Other	460	31.2	36	7.8	614	29.4	22	3.6
Aboriginal and/or Torres Strait Islander	No	1404	98.5	99	7.1	2058	99.0	82	4.0
	Yes	21	1.5	7	33.3	21	1.0	0	0.0
STI symptoms	No	953	62.5	63	6.6	1791	86.4	74	4.1
	Yes	571	37.5	50	8.8	281	13.6	8	2.9
Male sexual partners, past 12 months	None	1488	98.0	110	7.4	463	21.7	4	0.9
	1	8	0.5	0	0	831	39.0	25	3.0
	2+	22	1.5	1	4.6	836	39.3	51	6.1
Female sexual partners, past 12 months	None	223	14.6	16	7.2	1936	94.7	65	3.4
	1	307	20.1	20	6.5	67	3.3	1	1.5
	2+	997	65.3	76	7.6	41	2.0	2	4.9

Table 3: Characteristics of non-MSM^a surveyed and tested for chlamydia, excluding site 18* (unknowns excluded), Apr-Dec 2006

		Males				Females			
		Tested		Positive		Tested		Positive	
		n	%	n	%	n	%	n	%
All		161		20	12.5 (7.7-18.5)	1307		59	4.5 (3.5-5.8)
Regular sexual partner, past 12 months	No	19	11.9	3	15.8	94	7.3	6	6.4
	Yes	141	88.1	17	12.1	1189	92.7	53	4.5
Condom use, with regular partners, past 12 months	Did not always use condoms	117	83.0	17	14.5	1004	84.4	51	5.1
	Always used condoms	24	17.0	0	0	185	15.6	2	1.1
Casual sexual partner, past 12 months	No	51	31.9	7	13.7	582	45.9	37	6.4
	Yes	109	68.1	13	11.9	687	54.1	19	2.8
Condom use with casual partner/s, past 12 months	Did not always use condoms	71	65.1	11	15.5	355	61.0	29	8.2
	Always used condoms	38	34.9	2	5.3	227	39.0	8	3.5
New sexual partner/s, past three months*	No	71	44.4	10	14.1	786	61.6	22	2.8
	Yes	89	55.6	10	11.2	489	38.4	35	7.2

^a Includes all those tested and surveyed at non-MSM sites and non-MSM tested and surveyed at sexual health clinics

* Site 18 uses electronic data collection which collects briefer behavioural information than the sentinel surveillance form

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Results - MSM: A total of 1731 questionnaires were completed in MSM who were tested for chlamydia at primary health sites specialising in gay men's health or sexual health clinics.

Among MSM surveyed (excluding sex workers), 37% were aged 20 to 29 years and 34% aged 30 to 39 years and 1.0% of MSM surveyed were known to be HIV positive at the time of testing (Table 4). Of those reporting regular anal sex partners, 54% reported not always using condoms in the past six months and among those with casual anal sex partners, 33% reported not always using condoms in the past six months (Table 5).

The prevalence of chlamydia infection was **5.8% (95% CI 4.7-7.0)** among MSM tested and surveyed, with the highest prevalence observed in those who (i) were aged 20-29 years and 30-39 years, (ii) presented with STI symptoms (iii) reported six or more oral or anal sex partners in the past six months, and (iv) who reported that they did not always use condoms with casual partner/s (Table 3 and 4).

Table 4: Characteristics of MSM surveyed and tested for chlamydia, all sites (sex workers and unknowns excluded), Apr-Dec 2006

		Tested		Positive	
		n	%	n	%
All		1688	100	98	5.8 (4.7-7.0)
Age group (years)	16-19	41	2.4	5	12.2
	20-29	624	37.0	44	7.1
	30-39	578	34.2	40	6.9
	40-49	307	18.2	7	2.3
	50+	138	8.2	2	1.5
Country of Birth	Australia	1199	73.8	68	5.7
	Other	426	26.2	25	5.9
Aboriginal and/or Torres Strait Islander	No	1575	99.1	90	5.7
	Yes	15	0.9	0	0
STI symptoms	No	1450	87.2	71	4.9
	Yes	213	12.8	26	12.2
Known HIV status	Negative	1672	99.0	97	5.8
	Positive	16	1.0	1	6.3

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Table 5: Characteristics of MSM surveyed and tested for chlamydia, excluding site 18* (sex workers and unknowns excluded) Apr-Dec 2006

		Tested		Positive	
		n	%	n	%
All		1019	100	44	
Male oral sex partners, past 6 months*	None	20	2.0	0	0.0
	1 to 5	511	50.5	18	3.5
	6 +	480	47.5	26	5.4
Male anal sex partners, past 6 months*	None	108	10.7	1	0.9
	1 to 5	654	65.0	25	3.8
	6 +	245	24.3	18	7.4
Regular anal sex partners, past 6 months	No	347	35.9	29	4.7
	Yes	621	64.1	12	3.5
Condom use: anal sex with regular partner/s, past 6 months	Did not always use condoms	334	53.8	17	5.1
	Always used condoms	287	46.2	12	4.2
Casual anal sex partners, past 6 months	No	230	22.9	6	2.6
	Yes	776	77.1	38	4.9
Condom use: anal sex with casual partner/s, past 6 months	Did not always use condoms	259	33.4	19	7.3
	Always used condoms	517	66.6	19	3.7

* Site 18 uses electronic data collection which collects briefer behavioural information than the sentinel surveillance form

Conclusion: The sentinel surveillance found a chlamydia prevalence amongst heterosexual 16 to 24 year olds of 10.0% for males and 5.4% for females, whilst among MSM the chlamydia prevalence was 5.8%. The estimates for females and MSM are consistent with results from previous clinic-based surveys while the estimate for males is higher than previously reported. However, due to differences in populations and methodologies it is difficult to properly compare estimates from this surveillance system to previous reports. It will be useful to monitor the estimates from the sentinel surveillance system over time.

Limitations: (i) the sentinel system only includes individuals seeking health services and the results cannot be assumed to apply to all individuals from the same demographic groups, (ii) the STI questionnaire designed for completion by MSM when tested for chlamydia without a concurrent HIV test was infrequently completed and may lead to an under-representation of HIV positive MSM.

*Sites: Family Planning Victoria: Action Centre, Box Hill
Melbourne Juvenile Justice Centre, Parkville Youth Residential Centre, Young Peoples Health Service, Young Mums Clinic, Well Women's Clinic, Melbourne Sexual Health Centre, Prahran Market Clinic, The Centre Clinic, Carlton Clinic, Geelong Sexual health*

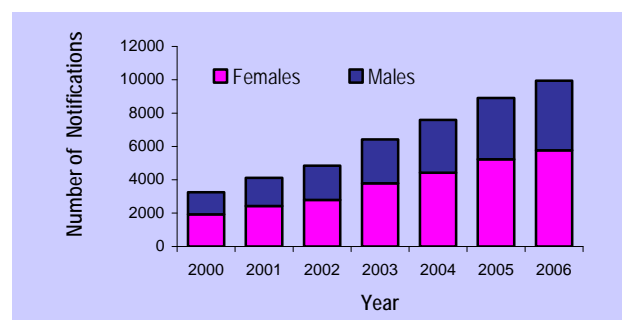
Collaborators: Burnet Institute, Victorian Infectious Diseases Reference Laboratory, Melbourne Sexual Health Centre, Department of Human Services (funders)

Updates from Other Surveillance Systems

Passive surveillance

Between 1996 and 2006, chlamydia notifications increased by 522% in Victoria, from 1611 in 1996 to 10015 in 2006 with the greatest number of notifications among women aged 15 to 24 years. During 2006, enhanced surveillance information was available for about a third of cases; 30% of cases in males were reported to be MSM. The number of chlamydia notifications by sex between 2000 and 2006 are shown in Figure 2.

Figure 2: Chlamydia notifications by gender (unknowns excluded), Victoria, 2000 to 2006

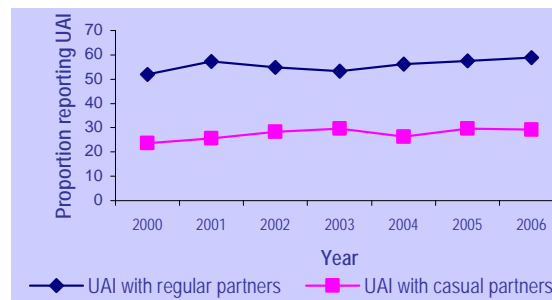


An analysis of chlamydia testing data conducted in 2002 showed testing has increased and was highly correlated with increasing notifications.

MSM - Periodic survey

Sexual risk behaviour among MSM is monitored through the annual Melbourne Periodic Gay Community Periodic Survey. The most recent round of the survey was conducted in February 2006 and found unprotected sex with casual partners had increased from 24% in 2000 to 29% in 2006 (Figure 3). Also in the same survey, 34.3% of respondents reported an anal swab in the past 12 months and 44.3% reported a urine test in the past 12 months, a significant increase from previous years.

Figure 3: Frequency of reported unprotected anal intercourse (UAI) in the past six months, by partner type and year, Victoria, 2000 to 2006



Updates from Ongoing Behavioural Studies

Big Day Out (BDO) Study

A survey of over 900 young people at the 2006 Melbourne BDO music festival found 34% had multiple sexual partners in the past year and 41% had new sexual partner(s) in the past three months. Of those with multiple and/or new sexual partners, 54% always used condoms in the past year. These results were consistent with similar BDO surveys conducted in 2005 and 2007.

Australian Study of Health & Relationships (ASHR)

This large cross-sectional study, conducted in 2001-02 found 65.2% of males aged 16-19 years with casual partners and 43.9% of females aged 16-19 years with casual partners always used a condom when having sex in the past 12 months. The proportion always using condoms was lower among those aged 20-29 years with casual partners (43.6% and 37.3% respectively). The ongoing ASHR longitudinal study will provide information about how these proportions have changed over time.

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