

Sexually Transmitted Diseases in South Australia in 2008

Epidemiologic Report No. 22

ISSN 1033-0607

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This publication is also available at the Internet address: <http://www.stdservices.on.net/publications/>

ACKNOWLEDGEMENTS:

Contributions were made by Russell Waddell, Tess Davey and Kirsten Kennington. Russell Waddell and Monica Winter reviewed and edited the report. Desk top publishing: Tess Davey.

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Summary Statistics

Sexually Transmitted											
Diseases	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Chlamydia	1049	1009	1012	1474	1836	2026	2465	2751	3191	3529	3700
Gonorrhoea	224	230	274	225	208	297	371	400	503	457	485
Syphilis	22	16	13	23	29	21	14	11	41	49	47

Blood Borne											
Diseases	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
HIV cases [†]	35	22	23	45	32	45	55	50	61	55	47
AIDS cases*	24	12	5	13	16	5	12	9	14	3	6
AIDS deaths	19	8	6	11	15	7	11	4	7	3	-
HIV deaths	2	3	6	4	4	6	3	4	4	5	3
Hepatitis B (acute)	16	15	25	19	10	10	8	8	4	12	9
Hepatitis D		3	-	3	3	1	1	8	6	11	14
Hepatitis C (incident)	70	88	92	91	45	76	64	51	53	47	43

[†]Newly diagnosed cases only.

*Includes individuals whose HIV infection may have been diagnosed interstate

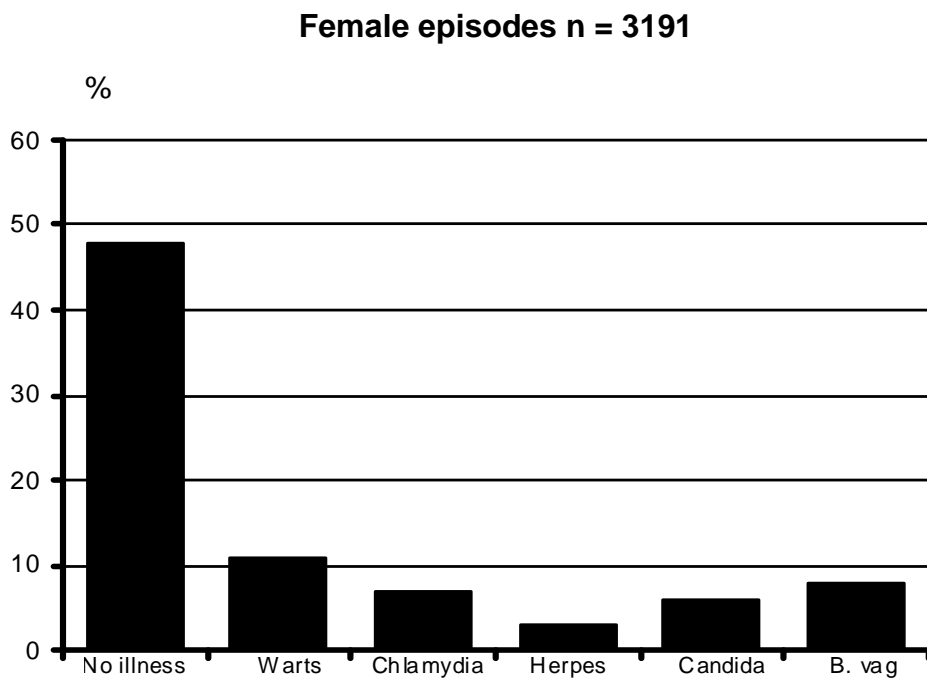
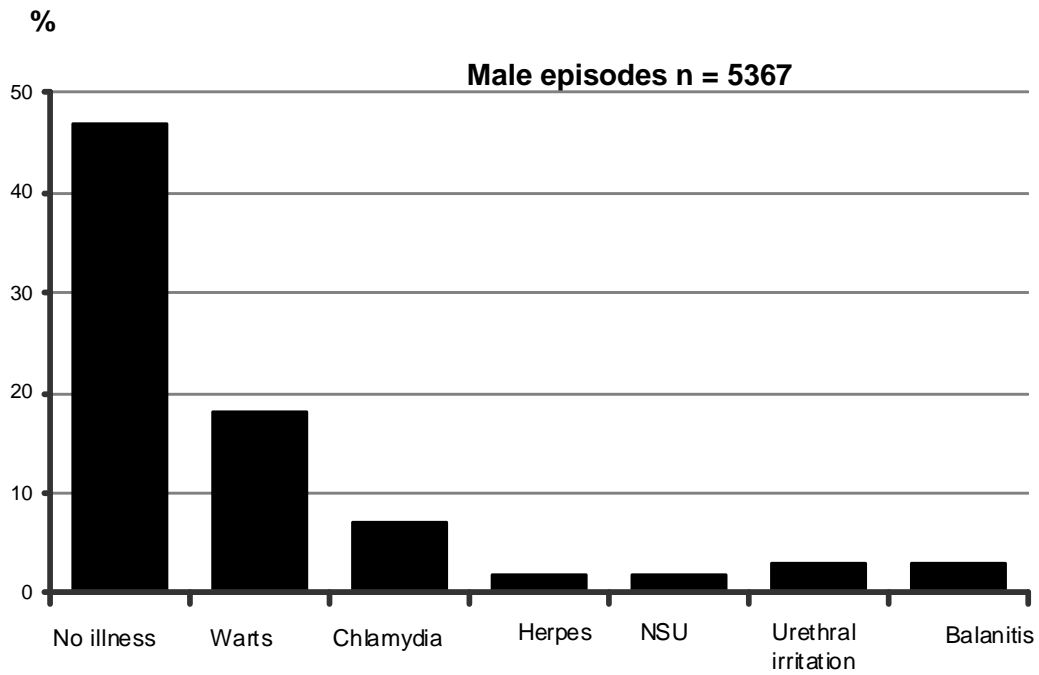
Clinic 275

Diagnoses (2008)	Male	Female	Total
No illness	2536	1539	4075
HIV	11	-	11
Gonorrhoea	133	40	173
Syphilis ¹	26	7	33
Herpes	126	99	225
Chlamydia	387	213	600
NSU	123	na	123
Warts	979	345	1324
Trichomoniasis	3	9	12
Candida vaginitis	na	201	201
Crabs	17	2	19
Scabies	17	2	19
Molluscum contagiosum	181	88	269
Bacterial vaginosis	na	246	246
Acute Hepatitis B	1	-	1
Hepatitis B Carrier	25	15	40
Hepatitis C - incident	1	1	2
- new	7	5	12
- known	25	25	50
Urethral irritation	165	na	165
Balanitis	180	na	180
Post coital contraception	na	137	137
nPEP	53	3	56
Non STD illness	484	235	719
Other/uncertain	36	28	64
Clinic attendances	10837	5856	16693
Episodes of care	5371	3075	8466
Individual clients	4087	2414	6503
New registrations	1991	1336	3327

na: not applicable

¹ includes new diagnosis of late latent syphilis.

Figure 1.1 Distribution of illness detected in male and female clients at Clinic 275, 2008.





Section 1 STD Overview

South Australia

In 2008, 3700 cases of chlamydia, 485 cases of gonorrhoea and 47 cases of syphilis were notified.

In the same period, 47 individuals (42 Male, 5 female) were notified with HIV infection and six individuals were notified with AIDS. Of the three deaths notified, none were attributed to an AIDS defining illness (Summary statistics).

During 2008, 574 medical notifications of hepatitis C infection included 43 incident cases (acquired in the previous 12 months). Hepatitis B medical notifications in 2008 included nine acute cases (Summary statistics).

Clinic 275

The most common infection diagnosed at Clinic 275 continues to be genital warts (18% male, 11% female) (Figure 1.1). Other common conditions in males were chlamydia (7%), balanitis (3%), urethral irritation (3%), NSU (2%), and genital herpes (2%). In females, conditions included bacterial vaginosis (8%), candida vaginitis (6%), chlamydia (7%) and genital herpes (3%). A high proportion of clients attending Clinic 275 had no illness (47% males, 48% female). Overall there were 16693 clinic attendances in 2008 (Summary statistics).

Contact tracing at Clinic 275

Clinic 275 followed up 533 cases of genital chlamydial infection. Contact tracing was effective in detecting 77 new cases of chlamydia among the contacts of males, and 73 in contacts of females. The yield of contacts per index case was 1.7 for male cases and 1.8 for female cases (Table 1.2). Of 150 new infections detected, 131 (87%) individuals were examined within 14 days of being contacted (Table 1.3).

Clinic 275 followed up 129 cases of gonorrhoea. Thirty-nine new cases were detected in contacts of males examined, and ten new cases were detected among contacts of female cases (Table 1.2). Twenty-nine contacts had been diagnosed prior to being located.

Table 1.1 Summary of diagnoses made on clients attending Clinic 275 during 2008. Specific diagnoses by number of clients, episodes and sex.

Diagnosis	Male episodes					*Total diagnoses
	1	2	3	4	5+	
No illness	1984	387	113	34	18	2536
HIV	11	-	-	-	-	11
Gonorrhoea	109	18	6	-	-	133
Syphilis	22	2	-	1	1	26
Herpes	111	13	2	-	-	126
Chlamydia	326	39	19	2	1	387
NSU	94	24	3	2	-	123
Warts	658	197	75	32	17	979
Trichomoniasis	1	2	-	-	-	3
Crabs	12	5	-	-	-	17
Scabies	4	-	-	-	-	4
Molluscum contagiosum	129	36	9	5	2	181
Urethral irritation	131	28	4	1	1	165
Balanitis	151	22	5	2	-	180
Non STD illness	380	82	14	7	1	484
Uncertain	15	1	1	-	-	17
Other	17	1	1	-	-	19
*Total	4155	857	252	86	41	5391
*Total male episodes 5367						
Diagnosis	Female episodes					*Total diagnoses
	1	2	3	4	5+	
No illness	1242	213	60	15	9	1539
HIV	-	-	-	-	-	-
Gonorrhoea	36	3	1	-	-	40
Syphilis	6	1	-	-	-	7
Herpes	72	20	5	2	-	99
Chlamydia	184	21	6	1	1	213
Warts	240	71	22	6	6	345
Trichomoniasis	6	2	1	-	-	9
Candida vaginitis	167	24	8	2	-	201
Crabs	1	1	-	-	-	2
Scabies	1	-	-	-	-	1
Molluscum contagiosum	63	17	4	4	-	88
Bacterial vaginosis	187	44	9	4	2	246
Post coital contraception	97	28	7	4	1	137
Non STD illness	184	38	8	3	2	235
Uncertain	20	3	1	-	-	24
Other	2	1	-	1	1	5
*Total	2508	487	132	42	22	3191
*Total female episodes 3068						
*Grand total episodes 8436						

*since an episode of care may result in multiple diagnoses, total diagnoses exceed total episodes

Table 1.2 Chlamydia and gonorrhoea contact tracing analysis - Clinic 275, 2008. Cases by sex.

	Chlamydia				Gonorrhoea			
	Male		Female		Male		Female	
	No.	%	No.	%	No.	%	No.	%
Cases	340	64	193	36	103	80	26	20
Contacts								
Elicited	561	165 [#]	342	177 [#]	156	151 [#]	52	200 [#]
Located	336		219		83		33	
Locating index		60 [*]		64 [*]		53 [*]		64 [*]
Contacts infected								
Existing	92		52		13		16	
New cases	77		73		39		10	

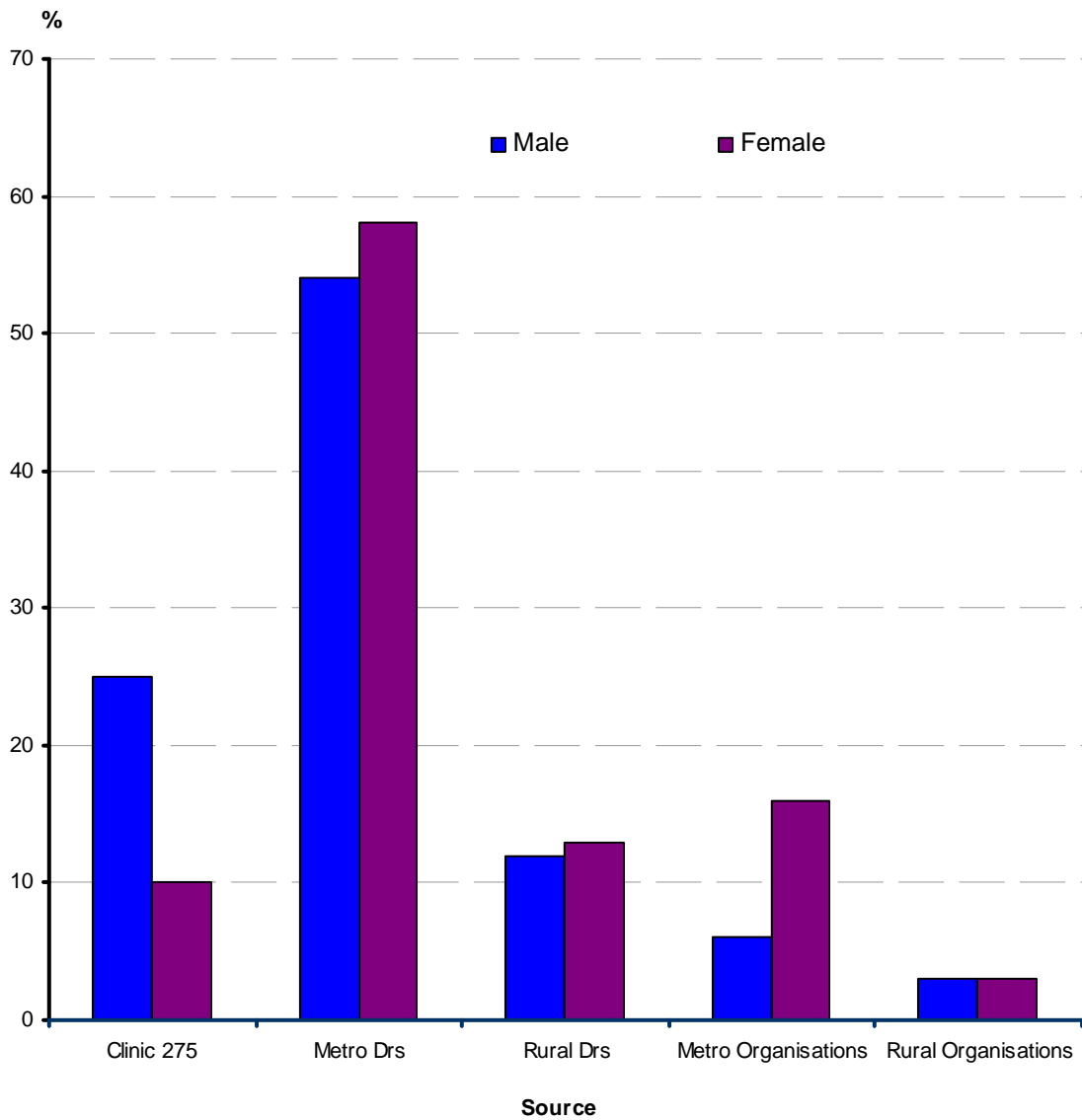
[#] Percentage compares the number of contacts elicited with number of index cases

^{*} Percentage compares the number of contacts located with number of contacts elicited

Table 1.3 New cases of chlamydial and gonococcal infection identified by Clinic 275, 2008. Days taken to examine contacts by sex of index case.

Days	Chlamydia			Gonorrhoea		
	Male	Female	Total	Male	Female	Total
0-2	38	36	74	19	8	27
3-7	19	15	34	7	1	8
8-14	12	11	23	10	1	11
Over 14	8	11	19	3	-	3
Total	77	73	150	39	10	49

Figure 2.1 Notification sources of genital chlamydial infection, 2008.





Section 2 Genital Chlamydial Infection in South Australia, 2008

In 2008, STD Services received 3703 laboratory notifications of *Chlamydia trachomatis* infection. Of these, 3700 (99.9%) were notified by medical practitioners. Chlamydial infection occurred in 1513 (41%) males and 2187 (59%) females (Table 2.1).

In 2001, there was a substantial increase in notifications and since then there has been a subsequent increase in the number of cases reported each year. In 2008, a further increase occurred in notified cases; 3700 compared to a range of 1025 to 3529 in the years 1996 to 2007 (Table 2.2).

Metropolitan and rural doctors combined reported 996 (66%) cases of infection in males and 1559 (71%) in females, while Clinic 275 notified 384 (25%) chlamydial infections in males and 214 (10%) in females. Other metropolitan health services notified 86 (8%) cases of infection in males and 344 (16%) in females (Table 2.1). These patterns are likely to reflect the gender ratio of clients being tested in the respective health services rather than the sex ratio of infected individuals in the community.

Forty-two percent of males and 27% of females diagnosed with chlamydia in South Australia in 2008 had symptoms of genital discharge and/or dysuria (Table 2.3).

In 2008 in South Australia, 2399 (65%) cases of chlamydial infections notified were detected using polymerase chain reaction (PCR) on urine samples; 1355 (90%) of chlamydia detected in males, and 1044 (48%) detected in females (Table 2.4). In females, 824 (38%) of chlamydial infections were detected using samples collected from the cervix.

Demographic Characteristics

A high proportion (79% males, 77% females) of chlamydial infection occurred in those under 30 years of age, with incidence peaking in the 20 to 24 year age group (Table 2.5). Those most likely to be infected were single (83% males, 82% female) and identified as Caucasian (84% males, 82% female) (Table 2.6, 2.7). The majority (88% males, 94% females) were reported to have acquired their infection in South Australia (Table 2.8).

Laboratory Testing

The annual total of chlamydia testing has increased in 2008. The male to female ratio of testing in 2008 was 0.46:1 (Figure 2.2, Table 2.9).

**Table 2.1 Notification sources of chlamydia in South Australia, 2008.
Medical notification source by sex.**

Notification source	Male		Female		Total	
	No.	%	No.	%	No.	%
Clinic 275	384	25	214	10	598	16
Metro GPs	809	53	1268	58	2077	56
Rural GPs	187	12	291	13	478	13
Public hospitals [#]	23	2	120	5	143	4
Private hospitals [#]	1	<1	2	<1	3	<1
Community health centres [#]	4	<1	12	1	16	<1
Nganampa Health Service	41	3	58	3	99	3
Rural Aboriginal health services	6	<1	12	1	18	<1
<i>Shine</i>	9	1	41	2	50	1
Second Story	7	<1	40	2	47	1
Other [#]	42	3	129	6	171	5
Lab. Notification only*	2		1		3	
Total	1513		2187		3700	

*laboratory notifications (no medical notification received) excluded from percentages

[#]included in metropolitan health services, Figure 2.1

**Table 2.2 Notification of chlamydia in South Australia,
1992 - 2008. Year by number of notifications.**

Year	No.	%*
1992	936	100
1993	756	81
1994	726	78
1995	769	82
1996	1025	110
1997	1048	112
1998	1049	112
1999	1009	108
2000	1012	108
2001	1474	157
2002	1836	196
2003	2026	216
2004	2465	263
2005	2751	294
2006	3191	341
2007	3529	377
2008	3700	395

* Percentages compare annual totals with those for 1992

**Table 2.3 Chlamydial infection notified in South Australia, 2008.
Symptomatology by notification source and sex.**

Symptomatology	Male					Female						
	Clinic 275		Non-Clinic		Total	Clinic 275		Non-Clinic		Total		
	No.	%	No.	%	No.	%	No.	%	No.	%		
Symptomatic	162	42	479	42	641	42	56	26	534	27	590	27
Asymptomatic	222	58	638	57	860	57	158	74	1431	73	1589	73
Not stated	-		12	1	12	1	-		8		8	
Total	384		1129		1513		214		1937		2187	

NB: Cases are classified as "Symptomatic" only if genital discharge and/or dysuria are reported

**Table 2.4 Chlamydial infection notified in South Australia, 2008.
Specimen site by sex.**

Specimen site	Male		Female		Total	
	No.	%	No.	%	No.	%
Urine	1355	90	1044	48	2399	65
Cervix	na		824	38	824	22
Vagina	na		312	14	312	8
Urethra	113	7	1		114	3
Rectum	45	3	4		49	1
Other	-		2		2	
Total	1513		2187		3700	

**Table 2.5 Chlamydial infection notified in South Australia, 2008.
Age group by sex.**

Age group (yrs)	Male		Female		Total	
	No.	%	No.	%	No.	%
< 15	-		22	1	22	1
15-19	216	14	669	31	885	24
20-24	597	39	878	40	1475	40
25-29	340	22	329	15	669	18
30-34	141	9	134	6	275	7
35-39	85	6	86	4	171	5
40-44	52	3	34	2	86	2
45-50	32	2	17	1	49	1
>50	50	3	18	1	68	2
Total	1513		2187		3700	

**Table 2.6 Chlamydial infection notified in South Australia, 2008.
Race by sex.**

Race	Male		Female		Total	
	No.	%	No.	%	No.	%
Caucasian	1270	84	1792	82	3062	83
Aboriginal	78	5	142	6	220	6
Asian	63	4	137	6	200	5
African	23	2	23	1	46	1
Other	30	2	26	1	56	2
Not stated	49	3	67	3	116	3
Total	1513		2187		3700	

**Table 2.7 Chlamydial infection notified in South Australia, 2008.
Marital status by sex.**

Marital Status	Male		Female		Total	
	No.	%	No.	%	No.	%
Single	1194	79	1675	77	2869	78
Married/Defacto	208	14	339	16	547	15
Wid/Sep/Div	65	4	120	5	185	5
Not stated	46	3	53	2	99	3
Total	1513		2187		3700	

**Table 2.8 Chlamydial infection notified in South Australia, 2008.
Likely location of acquisition of infection by sex.**

Likely location	Male		Female		Total	
	No.	%	No.	%	No.	%
South Australia	1326	88	2053	94	3379	91
Interstate	68	4	67	3	135	4
Overseas	100	7	51	2	151	4
Not stated	19	1	16	1	35	1
Total	1513		2187		3700	

Table 2.9 Laboratory testing for genital chlamydial infection, 2003 - 2008. Laboratory and sex by year.

		2003	2004	2005	2006	2007	2008
Laboratories	Public	25092	31442	33940	30788	41281	43913
	Private	13726	13778	14633	15649	16729	19249
Sex	Male	12548	13799	14625	11502	18015	19783
	Female	26263	31421	33948	32544	39993	43379
	M:F ratio	0.48:1	0.44:1	0.43:1	0.35:1	0.45:1	0.46:1
Total tests		38818	45220	48573	44046	58010	63162

Figure 2.2 Laboratory testing for genital chlamydial infection, 2001 - 2008. Number of tests by year and sex.

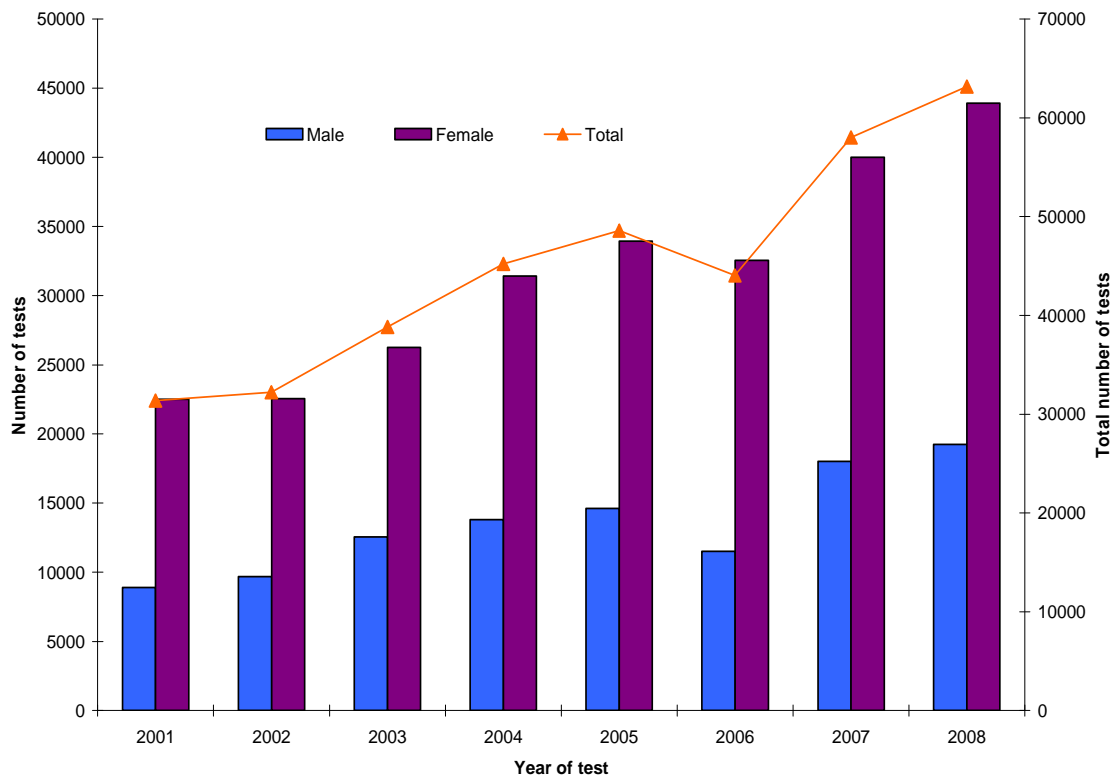


Figure 3.1 Gonorrhoea infection notified in South Australia, 1993-2008.
Percent of total male cases and percent of Aboriginal male cases.

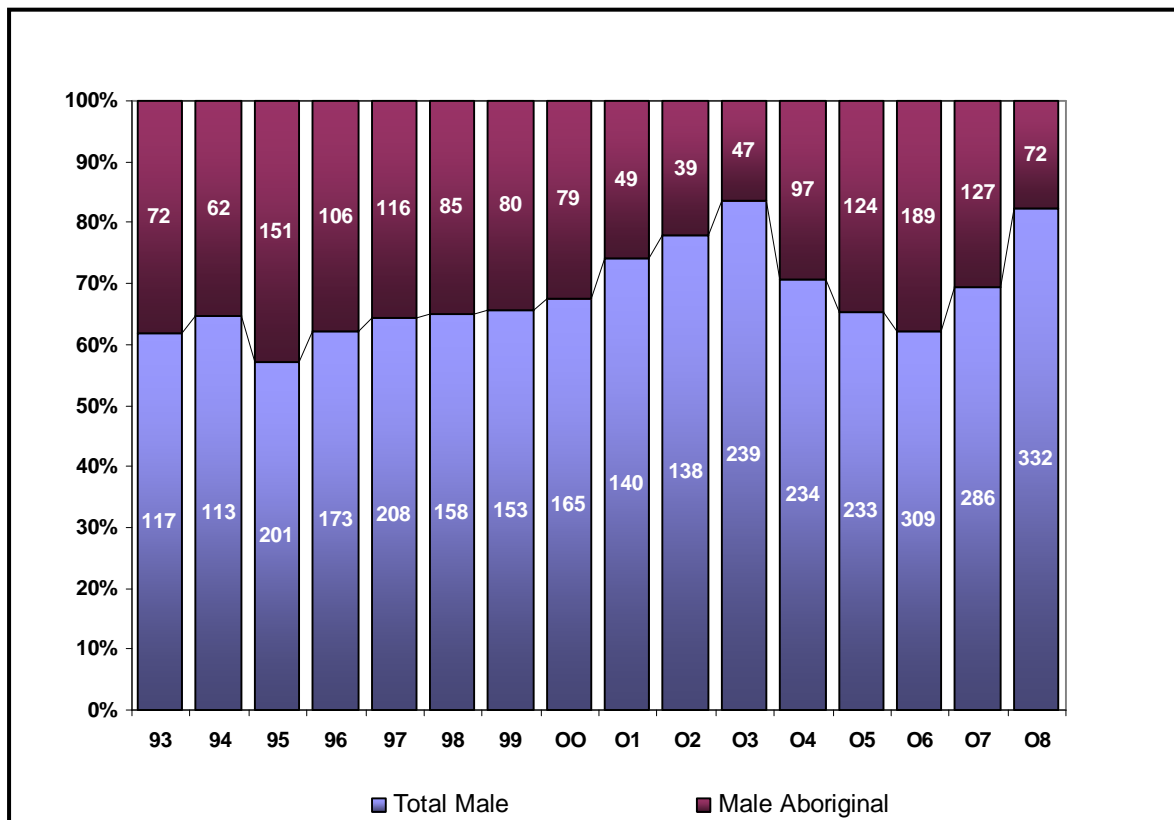
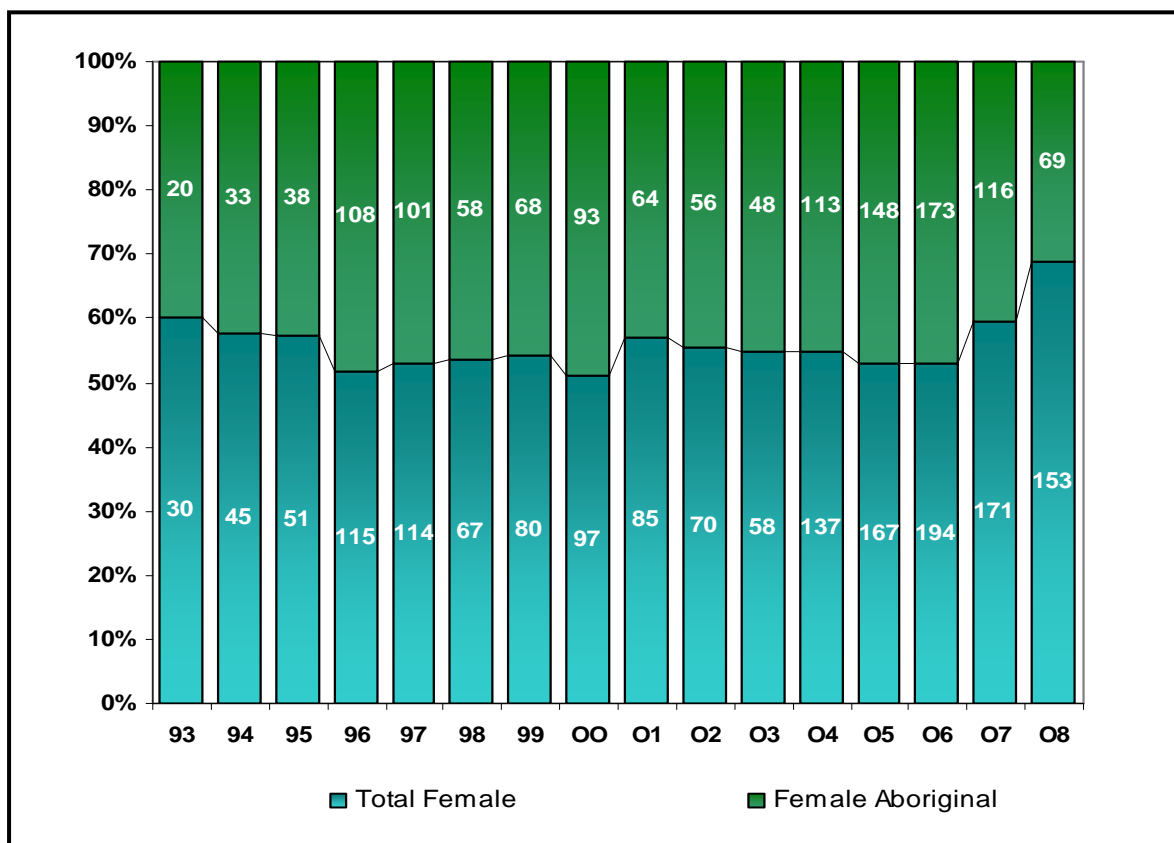


Figure 3.2 Gonorrhoea infection notified in South Australia, 1993-2008.
Percent of total female cases and percent of Aboriginal female cases.





Section 3 Gonorrhoea and Syphilis Infection in South Australia, 2008

Gonorrhoea

The number of gonococcal infections reported annually in South Australia has remained relatively stable up until 2002 (Table 3.1). In 2003, the increase was predominantly due to an increase in cases in homosexual men, while the increase between 2004 and 2006 is most likely attributed to screening programs in remote Aboriginal communities.

Of the 485 medical notifications reported in 2008, 332 (68%) occurred in males and 153 (32%) in females (Table 3.2).

Demographic Characteristics

Among females, 82 (53%) of infections occurred in the 15-24 year age group, while in males, the infection was more evenly distributed with a small peak in the 25-29 year age group accounting for 59 (18%) of reported cases (Table 3.3). Most cases of gonorrhoea were acquired in South Australia; 276 (83%) for males, and 142 (93%) for females (Table 3.4).

The racial origin of 141 (29%) notifications was reported as Aboriginal, 69 (45%) female cases and 72 (22%) male (Table 3.5). Aboriginal notifications have shown a marked decrease from 53% of notifications in 2007 to 29% of the notifications in 2008. The incidence of notification in Aboriginal persons largely reflects testing practices in the remote far north of South Australia (Figure 3.1, Figure 3.2).

In 2008, 58 (17%) males reported male sexual partners (Table 3.7). *Neisseria gonorrhoeae* was isolated from the rectum of 21 (36%) of males reporting male-to-male sex in 2008, as compared to 27% males in 2007 (Figure 3.3).

Sensitivity of *Neisseria gonorrhoeae* to Antibiotics

The IMVS Infectious Diseases Laboratories collect data on antibiotic sensitivity of *N. gonorrhoeae* isolates (Tables 3.8, 3.9, 3.10). Only gonorrhoea cases diagnosed by culture can be tested for antibiotic sensitivity, as PCR testing does not produce isolates for further testing.

In 2008, 176 (36%) of cases were diagnosed by PCR testing of predominantly urine (100) samples; of these samples, 45 (45%) were from remote Aboriginal communities with annual screening programs.

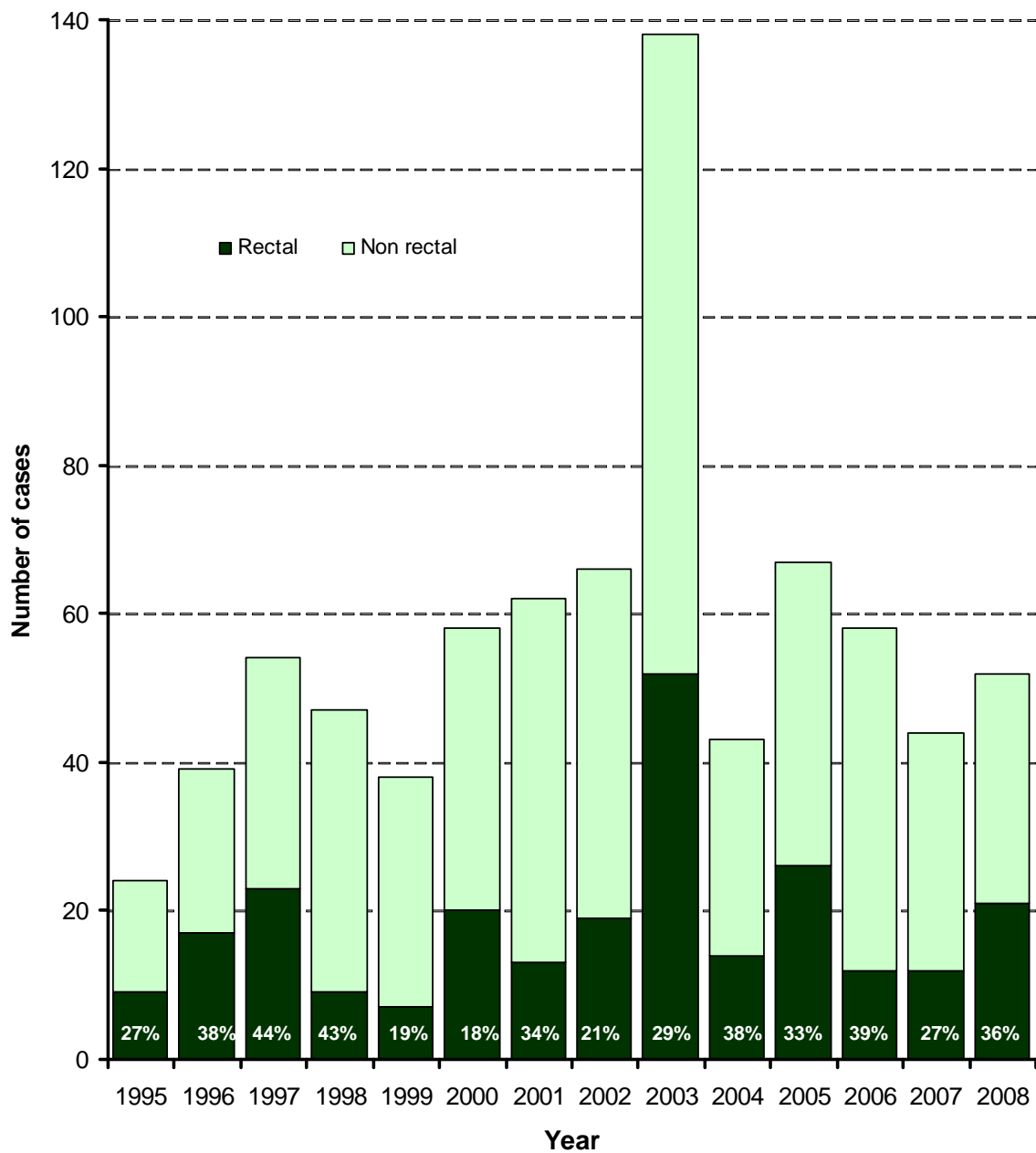
Penicillin

The trends in sensitivity for penicillinase producing *N. gonorrhoeae* (PPNG) strains in South Australia have been recorded since 1985 and data is shown since 1986 (Tables 3.9, 3.10).

In 2008, 174 (63%) of tested isolates were classified as non-PPNG resistant to penicillin compared with 60 (30%) in 2007 (Tables 3.9, 3.10). Of the 2008 isolates, 158 (91%) were acquired in South Australia, ten (6%) interstate and six (4%) overseas.

During the period 1986-2008 the proportion of PPNG strains fluctuated from 0 to 14% of isolates (Tables 3.9, 3.10). In 2008, 25 (9%) of tested isolates were PPNG of which 10 (40%) were acquired in South Australia, 12 (48%) acquired overseas, one (4%) acquired interstate and in two cases location was not reported.

Figure 3.3 Proportion of rectal gonorrhoea in homosexual men diagnosed with gonorrhoea, 1995 – 2008.



Other antibiotics

In 2008, 99% of all isolates were fully susceptible to spectinomycin, 99% to ceftriaxone and 90% to tetracycline (Table 3.8). Eighty percent of isolates were resistant to ciprofloxacin in 2008 as compared to 55% in 2007 (Table 3.11).

In 2008, for strains where the infections were believed to be acquired in South Australia, 80% were resistant to ciprofloxacin compared to 55% in 2007 (Table 3.11). Of the infections acquired overseas 81% (compared to 53% in 2007) were resistant and for those acquired interstate 78% (compared to 54% in 2007) were resistant to ciprofloxacin (Table 3.11). There has been a slight decrease in resistance to tetracycline (Table 3.12).

Syphilis

In 2008, 47 (42 males, 5 females) individuals were notified with infectious syphilis compared with 52 cases notified in 2007 (Table 3.13). Since 2006 there has been an increase in the number of syphilis cases reported predominately in homosexual men (Figure 3.4).

Of the cases notified, 40 identified as Caucasian (37 males 3 females), five individuals identified as Aboriginal (4 males, 1 female) and the remaining two cases (1 male, 1 female) were recorded as Asian (3.14). Thirty-four (81%) of the males notified were aged 30 years and over (Table 3.15).

The majority of male cases (34) were notified by metropolitan GP's and Clinic 275 with a further 18 cases (Table 3.16). Metropolitan organizations notified six male and one female case. The remaining 3 cases (2 males, 1 female) were notified by the Nganampa Health Care Service in the remote far north of South Australia (Table 3.16).

In 2008, 36 of the cases were in men who reported homosexual contact as compared to 32 cases in 2008. Thirty-two (89%) of the 36 cases in homosexual men were in those aged 30 years and over. Twenty (56%) of the 36 cases in homosexual men were also HIV antibody positive (Figure 3.4).

Of the 47 cases notified, seven presented with primary syphilis, 17 with symptoms of secondary syphilis, and the remaining 23 were classified as early latent syphilis (infection less than 2 years duration) (Table 3.17).

Table 3.1 Notification of gonorrhoea in South Australia, 1992 – 2008. Year by infection.

Year	No.	%*
1992	164	100
1993	147	90
1994	158	96
1995	252	154
1996	288	176
1997	322	196
1998	224	137
1999	230	142
2000	274	160
2001	225	137
2002	208	127
2003	297	181
2004	371	226
2005	400	244
2006	503	307
2007	457	279
2008	485	297

*Percentages compare annual totals with those from 1992

Table 3.2 Sources of gonorrhoea notifications in South Australia, 2008. Notification source by sex.

Notification source	Male		Female		Total	
	No.	%	No.	%	No.	%
Clinic 275	122	37	38	25	160	33
Metro GPs	117	35	31	20	148	30
Rural GPs	23	7	10	6	33	7
Hospitals	7	2	10	6	17	4
Nganampa Health Service	51	15	56	36	107	22
Rural Aboriginal health services	7	2	3	2	10	2
Other	5	2	5	3	10	2
Total	332		153		485	

**Table 3.3 Gonococcal infection in South Australia, 2008.
Age group by sex.**

Age group (yrs)	Male		Female		Total	
	No.	%	No.	%	No.	%
Under 15	2	<1	3	2	5	1
15-19	27	8	40	26	67	14
20-24	55	17	42	27	97	20
25-29	59	18	16	10	75	15
30-34	47	14	20	13	67	14
35-39	37	11	20	14	57	12
40-44	44	13	7	5	51	10
45-49	28	8	2	1	30	6
≥ 50	33	10	3	2	39	7
Total	332		153		485	

**Table 3.4 Gonococcal infection in South Australia, 2008.
Likely location of acquisition of infection by sex.**

Location	Male		Female		Total	
	No.	%	No.	%	No.	%
South Australia	276	83	142	93	418	86
Interstate	23	7	7	5	30	6
Overseas	29	9	3	2	32	7
Unknown	4	1	1	1	5	1
Total	332		153		485	

**Table 3.5 Gonococcal infection in South Australia, 2008.
Race by sex.**

Race	Male		Female		Total	
	No.	%	No.	%	No.	%
Caucasian	240	72	78	51	318	66
Aboriginal	72	22	69	45	141	29
Asian	10	3	4	3	14	3
African	4	1	1	<1	5	1
Other/Unknown	6	2	1	<1	7	2
Total	332		153		485	

Table 3.6 Gonococcal infection in South Australia, 2008. Marital status by sex.

Marital status	Male		Female		Total	
	No.	%	No.	%	No.	%
Single	215	65	83	54	298	61
Married/defacto	70	21	54	35	124	26
Wid/sep/div	37	11	12	8	49	10
Unknown	10	3	4	3	14	3
Total	332		153		485	

Table 3.7 Gonococcal infection in homosexual men in South Australia, 2008. Site of infection.

Site	Homosexual males	
	No.	% ¹
Urethral	17	29
Rectal	21	36
Pharyngeal	17	29
Other	3	5
Total	58	
Total males in SA	332	(17)²

¹ % refers to the proportion of cases infected at the specified site amongst males reporting male-to-male sex (only one site recorded per patient)

² () % of men diagnosed with gonorrhoea who reported male-to-male sex

Table 3.8 Antibiotic susceptibility of *Neisseria gonorrhoeae* in South Australia, 2008¹. Antibiotic sensitivity by antibiotic.

Antibiotic sensitivity	Antibiotic				
	Penicillin	Ceftriaxone	Ciprofloxacin	Spectinomycin	Tetracycline
Fully sensitive	4	262	52	277	251
Less sensitive	75	16	4	-	-
Resistant	199 ²	-	222	1	27

¹ Antibiotic sensitivity results are available for 57% of South Australian cases of gonorrhoea in 2008

² This group comprised 25 penicillinase producing *N. gonorrhoeae* (PPNG) isolates and 174 chromosomal mediated penicillin resistance (CMR) isolates

Table 3.9 Penicillin susceptibility of *N. gonorrhoeae* isolates in males in South Australia, 1986- 2008. Year by sensitivity.

Year	Penicillin susceptibility non-PPNG			PPNG ¹	Total No.
	Sensitive (≤ 0.03) ²	Less sensitive (0.06-0.5) ²	Resistant (≥ 1.0) ²	No.	
1986	112	213	7	25	357
1987	85	159	9	26	279
1988	18	101	4	13	136
1989	22	85	5	6	118
1990	15	71	7	12	105
1991	15	42	3	8	68
1992	37	55	-	7	99
1993	14	53	5	7	79
1994	12	63	1	5	81
1995	8	54	-	-	62
1996	3	49	9	1	62
1997	8	40	28	2	78
1998	1	45	22	5	73
1999	4	45	14	2	65
2000	24	18	13	9	64
2001	12	55	9	4	80
2002	11	72	4	8	95
2003	27	122	8	15	172
2004	30	67	8	6	111
2005	8	67	17	13	105
2006	5	117	22	9	153
2007	1	99	42	12	154
2008	3	62	127	20	212

¹ PPNG - penicillinase producing *N. gonorrhoeae*

² units $\mu\text{g/ml}$

Table 3.10 Penicillin susceptibility of *N. gonorrhoeae* isolates in females in South Australia, 1986 - 2008. Year by sensitivity.

Year	Penicillin susceptibility non-PPNG			PPNG ¹	Total No.
	Sensitive (≤ 0.03) ²	Less sensitive (0.06-0.5) ²	Resistant (≥ 1.0) ²	No.	
1986	122	151	3	19	295
1987	75	94	2	8	179
1988	24	49	3	2	78
1989	17	32	1	2	52
1990	3	23	3	2	31
1991	4	18	-	4	26
1992	3	17	-	2	22
1993	1	17	-	2	20
1994	2	20	1	1	24
1995	11	70	-	-	81
1996	1	12	1	-	14
1997	-	7	3	-	10
1998	1	16	-	1	18
1999	-	14	1	1	16
2000	1	7	1	1	10
2001	3	16	4	2	25
2002	1	9	2	-	12
2003	1	1	-	4	6
2004	4	13	-	1	18
2005	-	35	3	4	42
2006	-	59	3	-	62
2007	-	25	18	3	46
2008	1	13	47	5	66

¹ PPNG - penicillinase producing *N. gonorrhoeae*

² units $\mu\text{g/ml}$

Table 3.11 Antibiotic resistance of *Neisseria gonorrhoeae* to Ciprofloxacin in South Australia by location of acquisition of infection 1998- 2008

Year	Location of acquisition						Total	
	South Australia		Interstate		Overseas			
	No.	%	No.	%	No.	%	No.	%
1998								
Resistant	2	5	1	7	-		3	5
Total	42		14		1		57	
1999								
Resistant	2	3	-		-		2	3
Total	62		11		5		78	
2000								
Resistant	na.*		na.*		na.*		7	9
Total							74	
2001								
Resistant	5	6	2	22	6	46	13	13
Total	79		9		13		101	
2002								
Resistant	2	2	-		3	30	5	5
Total	90		7		10		107	
2003								
Resistant	9	7	1	5	9	36	19	11
Total	134		20		25		179	
2004								
Resistant	13	13	2	17	12	75	28	22
Total	98		12		16		126	
2005								
Resistant	27	23	3	30	16	89	46	31
Total	119		10		18		147	
2006								
Resistant	38	21	2	11	10	67	50	23
Total	181		19		15		215	
2007								
Resistant	92	55	7	54	10	53	109	55
Total	168		13		19		200	
2008								
Resistant	184	80	14	78	22	82	222	80
Total	231		18		27		278**	

*na=not available

**2 unknown location acquired included in total

Table 3.12 Antibiotic resistance of *Neisseria gonorrhoeae* to Tetracycline in South Australia by location of acquisition of infection 1998- 2008

Year	Location of acquisition						Total	
	South Australia		Interstate		Overseas			
	No.	%	No.	%	No.	%	No.	%
1998								
Resistant	-		-		1	100	1	2
Total	42		14		1		57	
1999								
Resistant	1	2	-		3	60	4	5
Total	62		11		5		80	
2000								
Resistant	na*		na*		na*		5	5
Total							102	
2001								
Resistant	-		-		3	23	3	3
Total	79		9		13		101	
2002								
Resistant	2	2	-		3	30	5	5
Total	90		7		30		107	
2003								
Resistant	4	3	-		8	32	12	7
Total	134		20		25		179	
2004								
Resistant	1	1	1	8	7	44	9	7
Total	98		12		16		126	
2005								
Resistant	8	7	1	10	10	56	19	13
Total	119		10		18		147	
2006								
Resistant	2	1	3	16	7	47	12	6
Total	180		19		15		215	
2007								
Resistant	6	4	2	15	10	53	18	9
Total	168		13		19		200	
2008								
Resistant	8	3	2	11	16	48	27	10
Total	231		18		27		278**	

*na=not available

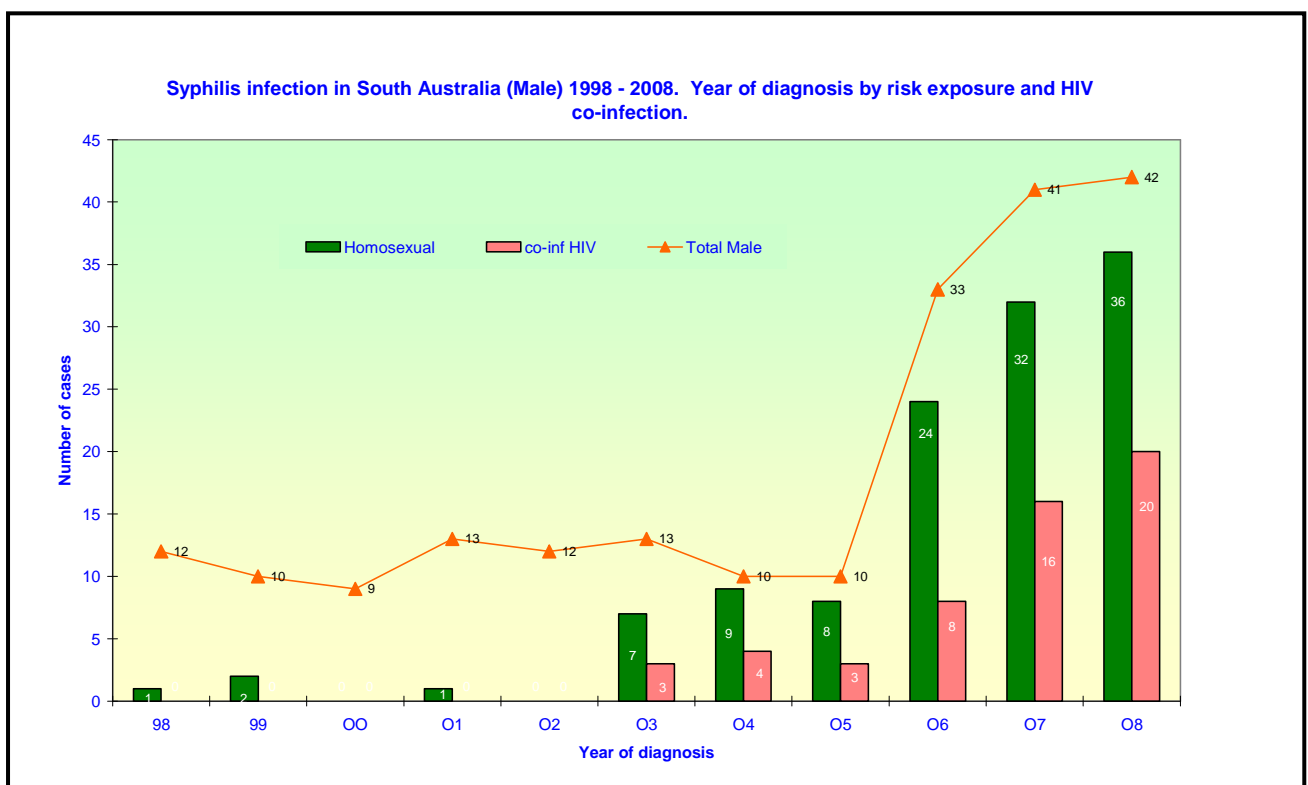
**2 unknown location acquired included in total

Table 3.13 Notification of syphilis in South Australia, 1992 - 2008. Year by infection.

Year	No.	%*
1992	97	100
1993	63	65
1994	51	53
1995	39	41
1996	37	39
1997	31	32
1998	22	24
1999	16	16
2000	13	13
2001	23	25
2002	29	34
2003	21	22
2004	14	14
2005	13	13
2006	41	44
2007	49	52
2008	47	48

*percentages compare annual totals with those from 1992

Figure 3.4 Syphilis infection in South Australia (Male) 1998 - 2008. Year of diagnosis by risk exposure and HIV co-infection.



**Table 3.14 Syphilis infection in South Australia, 2008.
Race by sex.**

Race	Male	Female	Total
Caucasian	37	3	40
Aboriginal	4	1	5
Asian	1	1	2
Total	42	5	47

**Table 3.15 Syphilis infection in South Australia, 2008.
Age group by sex.**

Age group (yrs)	Male	Female	Total
20-24	3	-	3
25-29	5	-	5
30-34	10	1	11
35-39	7	2	9
40-44	5	-	5
45-49	3	1	4
50-54	2	1	3
55-59	3	-	3
≥60	4	-	4
Total	42	5	47

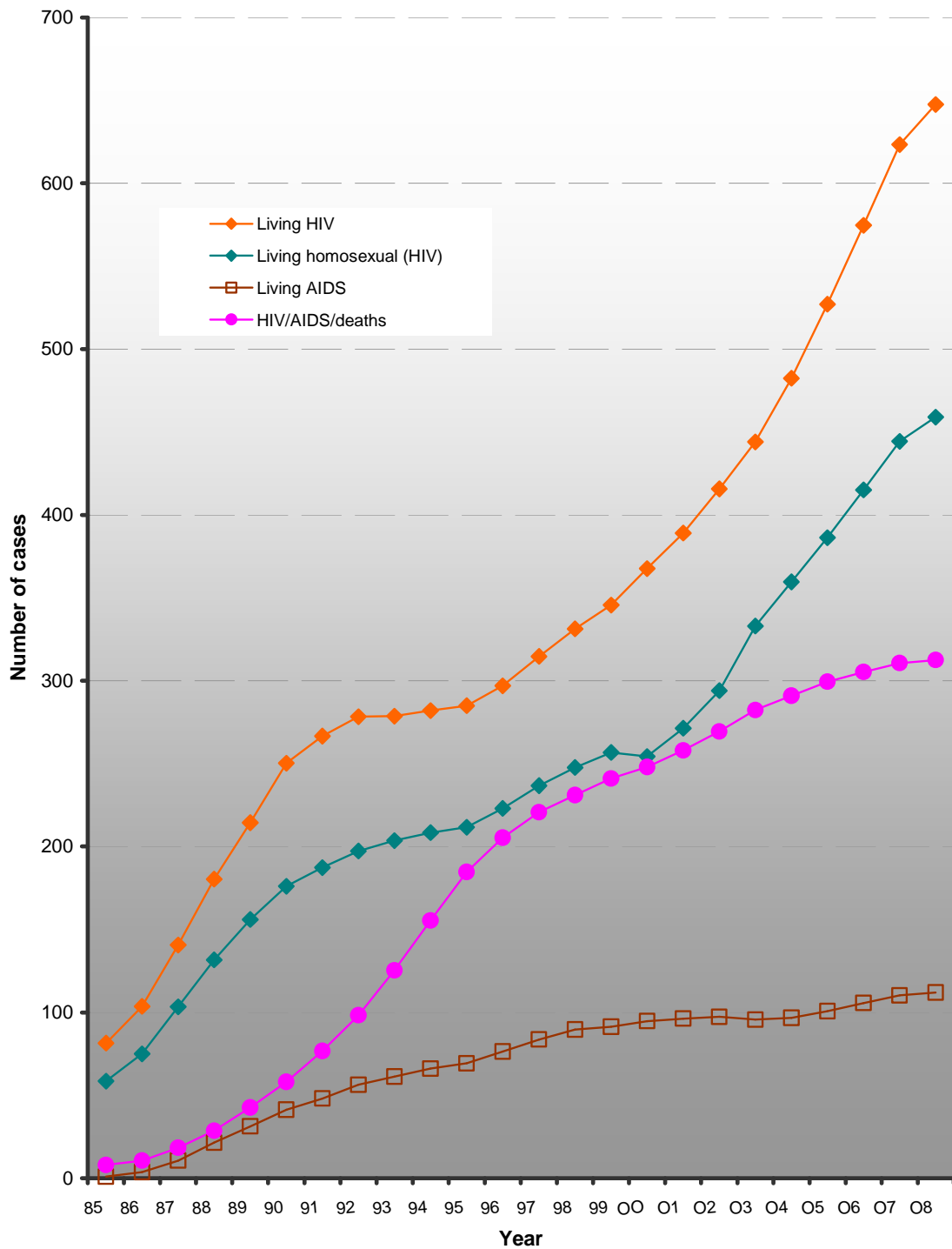
**Table 3.16 Sources of syphilis notifications in
South Australia, 2008. Notification source by sex.**

Notification source	Male	Female	Total
Clinic 275	17	1	18
Metropolitan GP	17	2	19
Metropolitan organisation	6	1	7
Nganampa Health Service	2	1	3
Total	42	5	47

**Table 3.17 Syphilis infection in South Australia, 2008.
Syphilis stage by sex.**

Race	Male	Female	Total
Primary	7	-	7
Secondary	16	1	17
Early Latent - < 2 years duration	19	4	23
Total	42	5	47

Figure 4.1 Cumulative HIV/AIDS deaths and individuals living with HIV and AIDS at 31 December each year. Three year moving average.





Section 4 HIV Infection in South Australia, 1985 - 2008

There have been 1155 individuals diagnosed with HIV infection, 1035 (90%) males and 120 (10%) females (Figure 4.2, Table 4.1). Of the 1035 males diagnosed, 762 (74%) reported male-to-male sexual contact, 78 (7%) reported injecting drug use and 49 (5%) reported both risk factors (Tables 4.1, 4.3). Injecting drug use was reported by 32 (27%) of the women diagnosed with HIV infection and 78 (65%) reported heterosexual transmission. Metropolitan general practitioners reported 407 (35%) cases of HIV infection while clinic 275 notified 344 (30%) cases (Table 4.2)

Age at diagnosis of HIV infection

The most common age at diagnosis of HIV infection in male homosexuals was in the 25 – 34 year age group (37%) (Table 4.5). The next most common age was in the 35 - 39 year age group (18%). For men who reported injecting drug use as their risk factor, 29 (37%) were aged between 30 - 34 years at diagnosis and 20 (26%) were aged between 25 - 29 years. The mean age for males at diagnosis is 37 years (age range 1 – 76 years). Of the women diagnosed, 32 (26%) were aged between 25 – 29 years and 30 (25%) were aged between 30 - 34 years at diagnosis of HIV infection (Table 4.6). The mean age for females at diagnosis is 31 years (age range <1 – 74 years).

Current status of individuals diagnosed in South Australia with HIV infection, 1985 - 2008

Of the 1155 individuals diagnosed with HIV infection in South Australia, 390 (34%) have been notified as AIDS cases (Table 4.8). Currently 115 (10%) people are living with AIDS and 314 (27%) individuals with HIV/AIDS have died (Table 4.7).

Six AIDS cases were notified in 2008 and three deaths were reported. (Summary statistics).

The use of combination anti-retroviral therapy and prophylaxis for AIDS defining conditions allows individuals to live longer with HIV infection (Table 4.8). The number of people living with HIV is increasing and the number of people living with AIDS has levelled out (Figure 4.1).

During 2008, 86487 HIV antibody tests were performed, 35556 (41%) on males, 50665 (58%) on females and 266 tests on individuals whose sex was not stated. The male to female ratio of testing in 2008 was 0.70:1 (Table 4.9).

HIV infection in South Australia, 2008

In 2008, HIV infection was diagnosed in 47 individuals, 42 males and 5 females (Table 4.10). Sixteen individuals were likely to have acquired their infection overseas and a further two were likely to have acquired the infection interstate (Table 4.4, summary characteristics).

Of the 42 males diagnosed, 29 reported male-to-male sexual contact; one reported male-to-male sexual contact and injecting drug use as their risk factor. Six males originated from or reported heterosexual sexual contact with a partner from a country where HIV is transmitted predominantly by heterosexual contact.

Of the five females diagnosed, three originated from or reported sexual contact with partners from countries where there is a high prevalence of HIV infection (Table 4.10).

HIV infection notified in the past 12 months

Among the 30 men who reported homosexual or homosexual/IDU contact, five had acquired their infection in the preceding 12 months. Nine had not previously been tested, 13 males had had a negative test more than 12 months previously and three males had a previous positive test overseas (Table 4.12).

Contact tracing

Of the 42 males notified, the surveillance section interviewed 33 males and as a result, 31 partners were located and tested (24 males, 7 females) (Table 4.14). One new case of HIV infection was identified as a result of the contact tracing process. Anonymous male-to-male sexual contact was reported by 16 men, and six men reported sexual contact overseas.

Of the 33 males interviewed 25 reported male to male sexual contact, three males identified as heterosexual and reported injecting drug use as their risk exposure. Two males reported heterosexual contact (denied male-to-male sexual contact and injecting drug use) and female partner/s tested negative for HIV infection. Three males originated from or reported sexual contact with partners from countries where there is a high prevalence of HIV infection.

The notifying doctors opted to undertake contact tracing in 12 instances and in one instance the individual was too young to be interviewed. Seven individuals (5 male, 2 female) were aware of their HIV status on entry to Australia.

Absolute CD4 counts at diagnosis of HIV infection

There were 17 individuals with absolute CD4 counts in the normal range ($>500/\mu\text{L}$), while seven individuals had a negative or indeterminate HIV antibody test within the last 12 months. Absolute CD4 counts below $500/\mu\text{L}$ indicate some degree of immune compromise. Twenty-nine individuals notified were in this category (Table 4.15).

Summary characteristics of individuals diagnosed with HIV infection in 2008.

Characteristics	Newly acquired ¹		Unspecified ²		Total
	Male	Female	Male	Female	
Number Diagnosed	6	1	36	4	47
Likely location where infection acquired					
South Australia	6	1	22	-	29
Interstate	-	-	2	-	2
Overseas	-	-	12	4	16
Notification source					
Clinic 275	1	1	11	2	15
Public Hospital	2	-	9	1	12
Metropolitan GP	2	-	15	1	18
other	1	-	1	-	2
Sexual identity					
Homosexual	5	na	21	na	26
Bisexual	-	na	4	na	4
Heterosexual	-	1	5	-	6
Heterosexual (oseas)	-	-	6	4	10
Not applicable	1	-	-	-	1
Age					
<15	1	-	-	-	1
15-19	-	-	-	-	-
20-24	-	-	1	-	1
25-29	3	1	4	1	9
30-34	-	-	3	1	4
35-39	1	-	9	-	10
40-44	-	-	8	-	8
45-49	-	-	2	1	3
50+	1	-	9	1	11
Mean age at diagnosis (years)	36		42		40
Age range (years)	2-71		25-80		2-80
Race					
Caucasian	4	-	28	3	35
Aboriginal	-	1	3	-	4
Asian	-	-	2	-	2
African	1	-	2	1	4
Other	1	-	1	-	2
Testing History					
Less than 12 months	6	-	-	-	6
Sero-conversion illness	-	1	-	-	1
Greater than 12 months	-	-	14	-	14
Never tested	-	-	15	2	17
Known positive for overseas	-	-	7	2	9
CD4 count at diagnosis					
Less than 50	-	-	2	-	2
51 - 350	-	-	16	-	16
351 - 500	2	-	6	3	11
Greater than 500	3	1	12	1	17
Not done	1	-	-	-	1
Exposure category					
Homosexual	5	-	24	-	29
Homosexual/IDU	-	-	1	-	1
Heterosexual	-	1	2	-	3
Heterosexual overseas partners	-	-	6	3	9
Heterosexual/IDU	-	-	3	-	3
Overseas transmission unknown	-	-	-	1	1
Mother to Child transmission	1	-	-	-	1

¹Newly acquired: Negative serology in the preceding 12 months or diagnosed seroconversion illness in the preceding 12 months.

²Unspecified infection: Risk behaviour confined to more than 12 months ago or diagnosed seroconversion illness more than 12 months ago or tested for the first time this year and no seroconversion illness or AIDS defining illness present

**Table 4.1 HIV infection detected in South Australia, 1985 - 2008.
Exposure category by sex.**

Exposure category	Male		Female		Total	
	No.	%	No.	%	No.	%
Homosexual	762	74	na		762	66
Homosexual/IDU	49	5	na		49	4
Heterosexual	36	3	36	30	72	6
Heterosexual (overseas)	62	6	42	35	104	9
IDU	78	7	32	27	110	9
Blood products	8	1	2	2	10	1
Other	7	1	6	4	13	1
Unknown	33	3	2	2	35	4
Total	1035		120		1155	

**Figure 4.2 HIV infection detected in South Australia, 1985 – 2008.
Sex by year of diagnosis (three year moving average).**

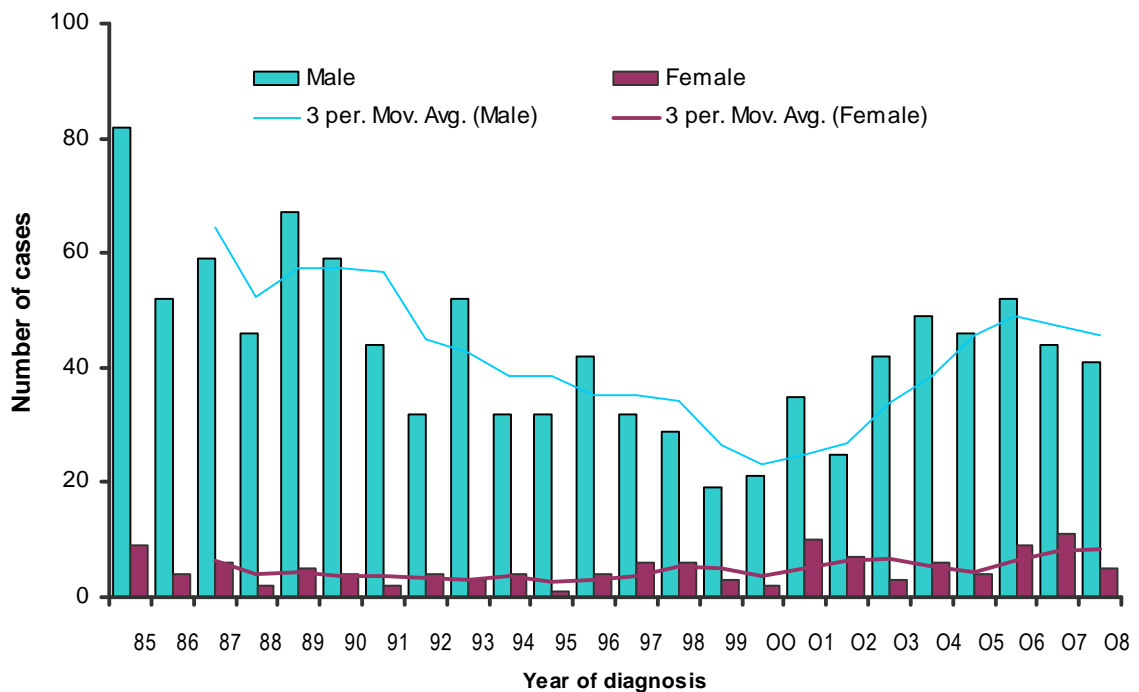


Table 4.2 Notification sources of HIV infection in South Australia, 1985 – 2008. Medical notification source by sex.

Notification source	Male		Female		Total	
	No.	%	No.	%	No.	%
Clinic 275	319	31	25	20	344	30
Metro GPs	375	36	32	27	407	35
Rural GPs	33	3	3	3	36	3
Public hospitals	236	23	47	39	283	24
Prison Health Service	17	2	1	1	18	2
Drug and Alcohol Service Council	13	1	4	3	17	1
Health Services Australia	9	1	3	3	12	1
Other [#]	33	3	5	4	38	4
Total	1035		120		1155	

[#]includes community health centres, dental service, private hospital and Aboriginal health service

Table 4.3 HIV infection detected in South Australia, 1985 - 2008. Exposure category by sex and year of diagnosis.

Exposure category	Male						Total	
	85-94	95-04	2005	2006	2007	2008	No.	%
Homosexual	374	217	26	27	25	25	694	67
Bisexual	22	27	5	5	5	4	68	7
Homosexual/IDU	25	14	2	5	2	1	49	5
Heterosexual	14	10	4	5	1	2	36	3
Heterosexual (overseas)	7	31	7	4	7	6	62	6
IDU	52	15	2	3	3	2	77	7
Blood products	7	1	0	0	0	0	8	1
Other*	3	1	0	1	1	1	7	1
Unknown	21	10	0	2	0	1	34	3
Total	525	326	46	52	44	42	1035	
Exposure category	Female						Total	
	85-94	95-04	2005	2006	2007	2008	No.	%
IDU	22	6	1	2	1	-	32	26
Blood products	2	-	-	-	-	-	2	2
Heterosexual	14	15	-	3	3	1	36	30
Heterosexual (overseas)	3	25	2	4	5	3	42	35
Other*	2	1	-	-	2	1	6	5
Unknown		1	1	-	-	-	2	2
Total	43	48	4	9	11	5	120	

*includes occupational exposure, Mother to Child Transmission (MTCT).

Table 4.4 HIV infection in South Australia, 2001 - 2008.
Likely location of acquisition of infection by year of diagnosis.

Location	2001	2002	2003	2004	2005	2006	2007	2008
SA	25	15	33	36	29	40	30	29
Interstate	5	6	2	4	7	5	2	2
Overseas	15	10	9	13	13	11	23	16
Unknown	-	1	1	2	1	5	-	-
Total	45	32	45	55	50	61	55	47

Table 4.5 HIV infection in males in South Australia, 1985 - 2008.
Age at diagnosis by exposure category.

Age group (years)	Male							
	Homosexual		IDU		Other		Total	
	No.	%	No.	%	No.	%	No.	%
0 - 14	-	-	-	-	4	3	4	<1
15 - 19	13	2	1	1	5	3	19	2
20 - 24	96	12	8	10	7	5	111	11
25 - 29	141	17	20	26	11	7	172	17
30 - 34	154	19	29	37	24	17	207	20
35 - 39	147	18	12	16	26	18	185	18
40 - 44	85	10	6	8	25	17	116	11
45 - 49	69	9	1	1	18	12	88	8
≥ 50	104	12	1	1	26	18	131	12
Not stated	2	1	-	-	-	-	2	<1
Total	811		78		146		1035	

Table 4.6 HIV infection in females in South Australia, 1985 - 2008.
Age at diagnosis by exposure category.

Age group (years)	Female			
	IDU	Other	Total	
	No.	No.	No.	%
0 - 14		4	4	3
15 - 19	3	4	7	6
20 - 24	3	11	14	12
25 - 29	11	21	32	26
30 - 34	9	21	30	25
35 - 39	3	9	12	10
40 - 44	1	4	5	4
45 - 49	2	6	8	7
≥50	-	8	8	7
Total	32	88	120	

Table 4.7 Current HIV status at 31 December 2008, South Australian cases. HIV status by year of diagnosis.

HIV status	85-89	90-94	95-99	00-04	2005	2006	2007	2008	Total	
									No.	%
HIV	57	60	96	157	36	47	51	44	548	48
AIDS living	22	24	26	17	8	11	4	3	115	10
AIDS deaths	157	77	19	7	-	1	-	-	261	23
HIV deaths	23	12	7	9	-	2	-	-	53	5
Lost to follow-up	73	63	26	10	6	-	-	-	178	14
Total	332	236	174	200	50	61	55	47	1155	

Figure 4.3 Current status of individuals diagnosed with HIV infection in South Australia, 1985 – 2008. HIV status by year of diagnosis.

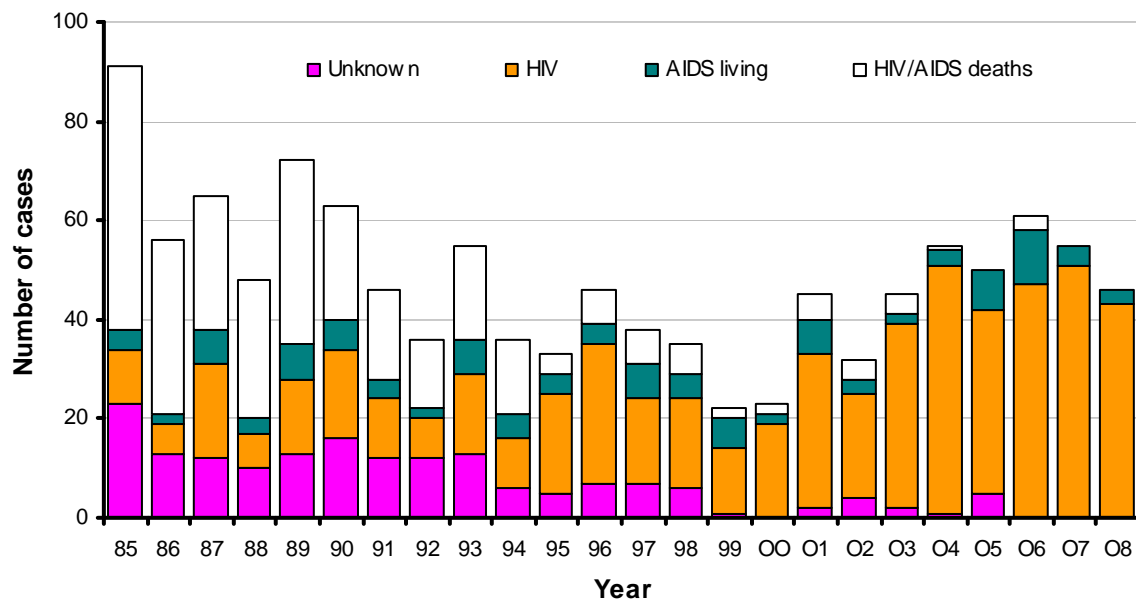


Table 4.8 Cumulative HIV and AIDS cases in South Australia, at December 31 each year. HIV status by year.

HIV status	85-97	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total HIV*	685	720	742	765	810	842	887	942	992	1053	1108	1155
Total AIDS	295	312	320	324	335	348	352	363	370	383	386	390
Deaths												
AIDS	195	209	215	219	226	237	243	253	255	261	261	261
HIV	23	24	27	29	32	35	39	40	43	46	50	53
Living AIDS	87	90	92	92	96	97	95	96	101	108	111	115
Living HIV#	312	326	338	355	388	402	435	477	516	568	619	663
Unknown	109	111	111	111	112	112	113	114	114	114	114	114
Transferred												
AIDS	13	13	13	13	13	14	14	14	14	14	14	14
HIV	33	37	38	38	39	42	44	45	50	50	50	50

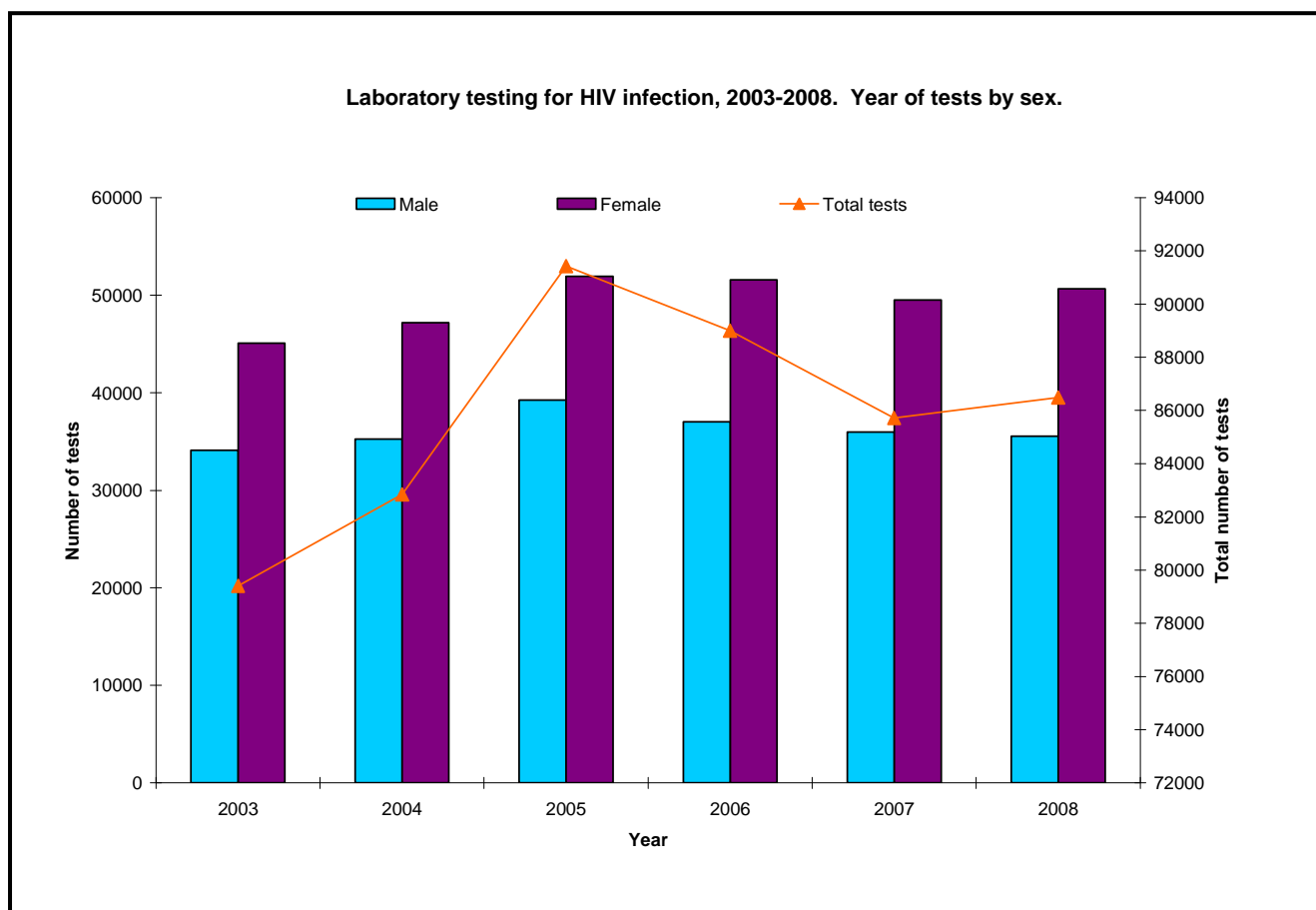
* Total HIV includes total AIDS

Living HIV includes living AIDS

Table 4.9 Laboratory testing for HIV infection, 2003 - 2008.
Laboratory and sex by year.

		2003	2004	2005	2006	2007	2008
Laboratories	Public	48567	52653	56268	58288	60053	58373
	Private	30842	30196	35163	30713	25668	28114
Sex	Male	34102	35249	39254	37012	35969	35556
	Female	45092	47190	51943	51565	49498	50665
	Unknown	215	410	234	424	254	266
	M:F ratio	0.76:1	0.75:1	0.76:1	0.72:1	0.73:1	0.70:1
Total tests		79409	82849	91431	89001	85721	86487

Figure 4.4 Laboratory testing for HIV infection, 2003 - 2008.
Year of tests by sex.



**Table 4.10 HIV infection detected in South Australia, 2008.
Exposure category by sex.**

Exposure category	Male	Female	Total
Homosexual	29	na	29
Homosexual/IDU	1	na	1
Heterosexual	2	1	3
Heterosexual (o/seas)	6	3	9
Heterosexual/IDU	3	-	3
Other *	1	1	2
Total	42	5	47

*Mother to child transmission (overseas transmission), Medical procedures (overseas)

**Table 4.11 Notification sources of HIV infection in South Australia, 2008.
Medical notification source by sex.**

Notification source	Male	Female	Total
Clinic 275	12	3	15
Metro GPs	17	1	18
Public hospitals	11	1	12
Health Service Australia	1	-	1
Other	1	-	1
Total	42	5	47

**Table 4.12 HIV infection detected in South Australia, 2008.
Exposure category by testing history.**

Exposure category	Previous 12 mths		Over 12 mths		Never tested		Positive HIV test overseas	
	Male	Female	Male	Female	Male	Female	Male	Female
Homosexual	5	na	12	na	9	na	3	na
Homosexual/IDU	-	na	1	na	-	na	-	na
Heterosexual	-	1	1	-	1	-	-	-
Heterosexual (o/seas)	-	-	-	-	2	2	4	1
Heterosexual/IDU	-	-	-	-	3	-	-	-
Other	1	-	-	-	-	-	-	1
Total	6	1	14		15	2	7	2

na not applicable

**Table 4.13 HIV infection detected in South Australia, 2008.
Age at diagnosis by testing history.**

Age group	Previous 12 mths		Over 12 mths		Never tested		Positive HIV test overseas	
	Male	Female	Male	Female	Male	Female	Male	Female
0 - 14	1	-	-	-	-	-	-	-
15 - 19	-	-	-	-	-	-	-	-
20 - 24	-	-	1	-	-	-	-	-
25 - 29	-	-	1	-	2	-	1	1
30 - 34	3	1	2	-	1	1	-	-
35 - 39	-	-	3	-	3	-	3	-
40 - 44	1	-	3	-	2	-	3	-
45 - 49	-	-	1	-	1	1	-	-
Over 50	1	-	3	-	6	-	-	1
Total	6	1	14		15	2	7	2

Table 4.14 Contact tracing analysis for HIV infection, 2008.

Male			
Index cases	33		Total
Contacts	Male	Female	No. %
Elicited	41	7	48 145
Tested	24	7	31
Testing index			65
Contacts			
Known	4		
New cases	1		

Table 4.15 HIV infection detected in South Australia, 2008. CD4 count at diagnosis by age distribution and duration of infection.

CD4 count/ μ L	< 30 years Duration of infection		\geq 30 years Duration of infection	
	\leq 12 mths	Uncertain	\leq 12 mths	Uncertain
\leq 50	-	-	-	2
51 - 350	-	-	-	15
351 - 500	-	4	2	6
> 500	-	2	4	11
Not stated	1	-	-	-
Total	1	6	6	34

Summary characteristics of individuals diagnosed with Hepatitis C infection in 2008.

Characteristics	Newly acquired ¹		Unspecified ²		Total
	Male	Female	Male	Female	
Number Diagnosed	27	16	322	209	574
Notification source					
Clinic 275	-	2	3	4	9
Hospital	7	3	66	47	123
Metropolitan GP	7	6	125	92	230
Country GP	2	3	54	41	100
Prison Health Service	5	-	39	5	49
DASC	4	2	10	9	25
Aboriginal health service	-	-	8	3	11
Other	2	-	17	8	27
Age					
<10	-	-	3	1	4
10-19	1	-	6	9	16
20-29	13	7	51	40	111
30-39	6	6	96	56	164
40-49	5	3	98	61	167
50-59	1	-	50	23	74
≥60	1	-	18	19	38
Mean age at diagnosis (years)	32	34	41	41	41
Age range (years)	19-65	24-49	4-86	8-90	4-90
Race					
Caucasian	24	15	229	137	405
Aboriginal	2	-	22	22	46
Asian	1	-	24	18	43
African	-	-	7	5	12
Other	-	-	13	10	23
Not stated	-	1	27	17	45
Case Category					
Infection between 0 and 12 months	27	16	-	-	43
Infection between 12 and 24 months	-	-	16	12	28
Infection of uncertain duration			306	197	503
Exposure category					
IDU	22	14	182	92	310
IDU/Tattoos	3	-	31	9	43
Tattoos	-	-	16	7	23
High Prevalence Country of birth	-	-	37	35	72
Blood Transfusion/Products	-	-	6	7	13
Other	1	2	3	11	17
Not stated at interview	1	-	5	3	9
Not stated not interviewed	-	-	42	45	87
Country of Birth					
Australia	24	16	204	127	371
Europe	-	-	9	4	13
Asia	1	-	23	23	47
Africa	-	-	9	7	16
Middle East	-	-	12	7	19
Other	-	-	9	1	10
Unknown/Not Stated	2	-	56	40	98
Hepatitis B Status					
Antigen Negative	18	10	218	148	394
Antigen Positive	-	-	8	3	11
Vaccinated/Antibody Positive	8	3	54	32	97
Other	-	1	3	-	4
Not Done	1	2	39	26	68
ALT Performed					
Yes	23	12	282	159	476
No	4	4	33	44	85
Not stated	-	-	7	6	13

¹ Newly acquired infection (incident case) in South Australia are infections acquired in the previous 12 months, see text.

² Infections acquired greater than 12 months ago.



Section 5 Hepatitis C Infection in South Australia, 1995 - 2008

There have been 13363 cases of hepatitis C infection notified in South Australia between 1995 and 2008, 8594 (64%) in males and 4769 in females (36%) (Figure 5.1, Table 5.1).

The majority, 12141 (91%) of cases notified, were of long-standing duration; 843 cases (6%) were identified as infections acquired in the preceding 12 months; a further 379 cases (3%) were likely to have acquired their infection between 1 – 2 years earlier (Table 5.2).

Past or current injecting drug use was reported by 7664 (87%) individuals as their only risk exposure and injecting drug use and tattoos were reported by 1741 (13%) individuals (Table 5.3).

Medical notification 2008

In 2008 Hepatitis C infection was diagnosed in 574 individuals, 349 males and 225 females. Of the 574 individuals, 33 (18 males; 15 females) reported a negative test within the preceding 12 months, 28 (16 males; 12 females) cases reported a negative test between 12 and 24 months and 220 (136 males; 84 females) had never been tested. Testing history was not stated in 226 cases (Table 5.4).

Among the 574 new diagnoses of hepatitis C infection, 310 (54%) reported past or current injecting drug use as their risk exposure and 43 (7%) individuals reported injecting drug use and tattoos. Former residents of overseas countries with a high prevalence of HCV accounted for 72 (13%) individuals notified and in 96 (17%) cases, exposure to HCV was not stated (Table 5.5, Summary characteristics).

Age at diagnosis was evenly distributed between 30 – 49 year age groups (Table 5.6, Summary characteristics). The mean age for males was 40 years (range 4 - 86 years). Females had a mean age of 41 years (range 8 - 90 years).

Incident cases

Incident cases are identified by hepatitis C antibody seroconversion within 12 months, or a positive test accompanied by acute clinical hepatitis not ascribed to other causes.

During 2008, 43 incident cases were identified in South Australia. Thirty-three cases had negative serology in the preceding 12 months (Table 5.4). In two cases the individual had commenced risk behaviour within the preceding 12 months and the remaining eight cases were identified by an ALT level above 1000 μ /L.

The incident group comprised 27 males and 16 females (Table 5.9, Figure 5.2). Most individuals were aged 20 to 39 years at diagnosis (71%). The mean age of incident cases was 30 years (range 17-56 years) (Table 5.9).

Recent injecting drug use was identified as a likely route of infection for 39 (91%) individuals. In the remaining four cases the most likely route of transmission was male-to-male sexual contact in two cases, a possible assault in one case and risk was unable to be ascertained in the remaining case. Racial origin was identified as Caucasian in most (77%) cases (Tables 5.10, 5.11).

Collated laboratory data for hepatitis C antibody tests during the years 2004 to 2008 are shown in Table 5.12.

Table 5.1 Medical notification: new diagnoses* of hepatitis C infection in South Australia, 1995 – 2008. Year of diagnosis, by sex.

Year of diagnosis	Male		Female		Total No.
	No.	%	No.	%	
1995	1045	67	523	33	1568
1996	935	67	455	33	1390
1997	759	68	361	32	1120
1998	673	62	418	38	1090
1999	758	64	430	36	1188
2000	663	60	435	40	1098
2001	642	64	356	36	998
2002	527	66	277	34	804
2003	509	63	300	37	809
2004	475	62	288	38	763
2005	449	65	246	35	695
2006	427	64	241	36	669
2007	384	64	213	36	597
2008	349	61	225	39	574
Total	8594	64	4769	36	13363

*includes incident cases

Figure 5.1 Hepatitis C notifications in South Australia, 1995 – 2008 (new diagnoses).

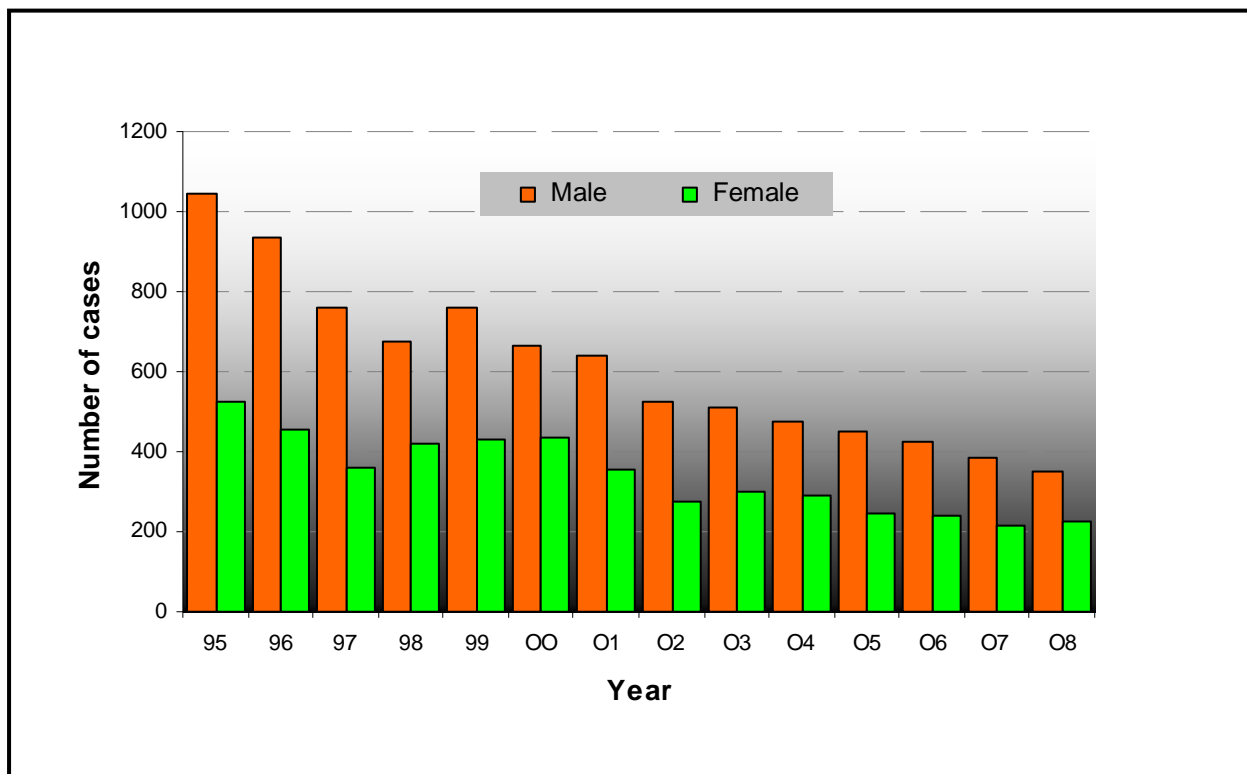


Table 5.2 Medical notification of hepatitis C infection in South Australia, 1995 – 2008. Case Category, by sex.

Case Category	Male		Female		Total	
	No.	%	No.	%	No.	%
Newly acquired ¹	513	6	330	7	843	6
Acquired between 12 & 24 mths ²	221	3	158	3	379	3
Uncertain duration ³	7860	91	4281	90	12141	91
Total	8594		4769		13363	

¹ Newly acquired infection (incident case) in South Australia are infections acquired in the previous 12 months, see text.

² Infections acquired between 12 & 24 months are identified by negative serology or clinical illness or risk behaviour between 12 and 24 months diagnosis.

³ Uncertain duration are identified by no evidence of previous test or clinical illness

Table 5.3 Hepatitis C infection detected in South Australia, 1995 - 2008 (new diagnoses). Exposure category, by sex.

Exposure category	Male		Female		Total	
	No.	%	No.	%	No.	%
IDU	5029	59	2635	55	7664	87
IDU/tattoos ¹	1300	15	441	9	1741	13
Tattoos	497	6	152	3	649	5
High Prevalence country of Birth	441	5	375	8	816	6
Blood/tissue products	389	5	402	8	791	6
Occupational Exposure	22	<1	42	1	64	<1
Body Piercing/Acupuncture ²	52	1	77	2	129	1
Peri-natal	17	<1	24	1	41	<1
Sexual partner positive	48	1	83	2	131	1
Medical procedure	14	<1	12	<1	26	<1
Household	18	<1	17	<1	35	<1
Other ³	50	1	22	<1	72	1
Unknown/ Not identified at Interview	83	1	75	2	158	1
Unknown/Not Interviewed	634	7	412	9	1046	8
Total	8594		4769		13363	

¹ Includes IDU in combination with categories other than tattoos

² Includes Acupuncture only.

³ Includes blood exposure non-occupational, household exposure, medical procedure (overseas)

**Table 5.4 Medical notification of hepatitis C infection in South Australia, 2008.
Testing history by sex.**

Testing History	Male		Female		Total	
	No.	%	No.	%	No.	%
Negative less than 12 months	18	5	15	7	33	6
Negative between 12 & 24 months	16	5	12	5	28	5
Negative greater than 24 months	38	11	29	13	67	12
Never tested	136	39	84	37	220	38
Not stated	141	40	85	38	226	39
Total	349		225		574	

**Table 5.5 Hepatitis C infection detected in South Australia, 2008 (new diagnoses).
Exposure category, by sex.**

Exposure category	Male		Female		Total	
	No.	%	No.	%	No.	%
IDU ¹	204	59	106	47	310	54
IDU & tattoos	34	10	9	4	43	7
Tattoos	16	5	7	3	23	4
High Prevalence Country of Birth	37	11	35	16	72	13
Blood transfusion/products	6	2	7	3	13	2
Other ²	4	1	13	6	17	3
Unknown / not identified	48	14	48	21	96	17
Total	349		225		574	

¹ Includes IDU in combination with exposures other than tattoos (5)

² Includes household, peri natal, body piercing & acupuncture, medical procedure, occupational exposure.

**Table 5.6 Hepatitis C infection detected in South Australia, 2008 (new diagnoses).
Age group at diagnosis by sex.**

Age group (years)	Male		Female		Total	
	No.	%	No.	%	No.	%
<10	3	1	1	1	4	1
10 - 19	7	2	9	4	16	3
20 - 29	64	18	47	21	111	20
30 - 39	102	29	62	28	164	29
40 - 49	103	30	64	28	167	29
50 - 59	51	15	23	10	74	11
≥ 60	19	5	19	8	38	7
Total	349		225		574	99

Table 5.7 Hepatitis C infection detected in South Australia, 2008 (new diagnoses). Racial origin by sex.

Racial origin	Male		Female		Total	
	No.	%	No.	%	No.	%
Caucasian	253	72	152	68	405	71
Aboriginal	24	7	22	10	46	8
Asian	25	7	18	8	43	7
African	7	2	5	2	12	2
Other	13	4	10	4	23	4
Unknown	27	8	18	8	45	8
Total	349		225		574	

Table 5.8 Incident* cases of hepatitis C infection detected in South Australia, 1995 - 2008. Year of diagnosis, by sex.

Year of diagnosis	Male		Female		Total
	No.	%	No.	%	No.
1995	22	61	14	39	36
1996	24	67	12	33	36
1997	34	67	17	33	51
1998	46	66	24	34	70
1999	60	68	28	32	88
2000	49	53	43	47	92
2001	53	58	38	42	91
2002	25	56	20	44	45
2003	38	50	38	50	76
2004	44	69	20	31	64
2005	29	57	22	43	51
2006	38	72	15	28	53
2007	24	51	23	49	47
2008	27	63	16	37	43
Total	513	61	330	37	843

*Incident cases in South Australia are infections acquired in the previous 12 months, see text.

Figure 5.2 Incident cases of hepatitis C infection, 1995 – 2008

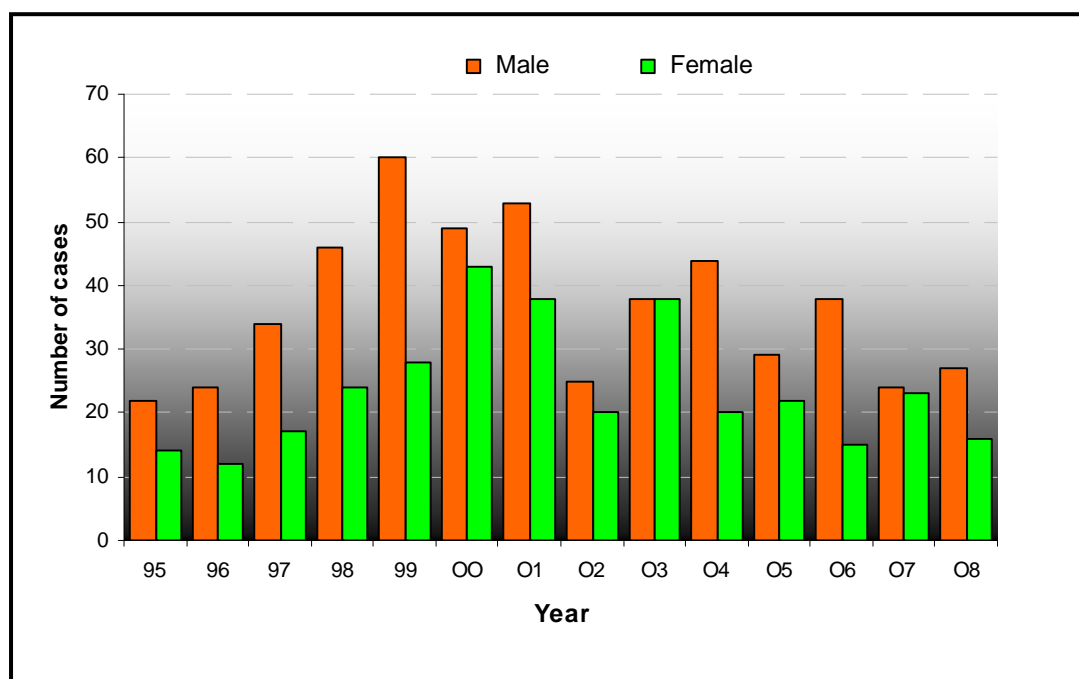


Table 5.9 Incident* cases of hepatitis C infection, 2008. Age group at diagnosis, by sex.

Age group (years)	Sex		Total
	Male	Female	
15-19	1	-	1
20-24	8	3	11
25-29	5	4	9
30-34	3	1	4
35-39	3	5	8
>40	7	3	10
Total	27	16	43

*Incident cases in South Australia are infections acquired in the previous 12 months, see text.

Table 5.10 Incident cases of hepatitis C infection, 2008. Exposure category by sex.

Exposure category	Male	Female	Total
IDU ¹	22	14	36
IDU/tattoos	3	-	3
Positive sexual partner	-	1	1
Other	1	1	2
Not identified	1	-	1
Total	27	16	43

¹ Includes IDU in combination with exposures other than tattoos (1)

**Table 5.11 Incident cases of hepatitis C infection, 2008.
Exposure category by racial origin.**

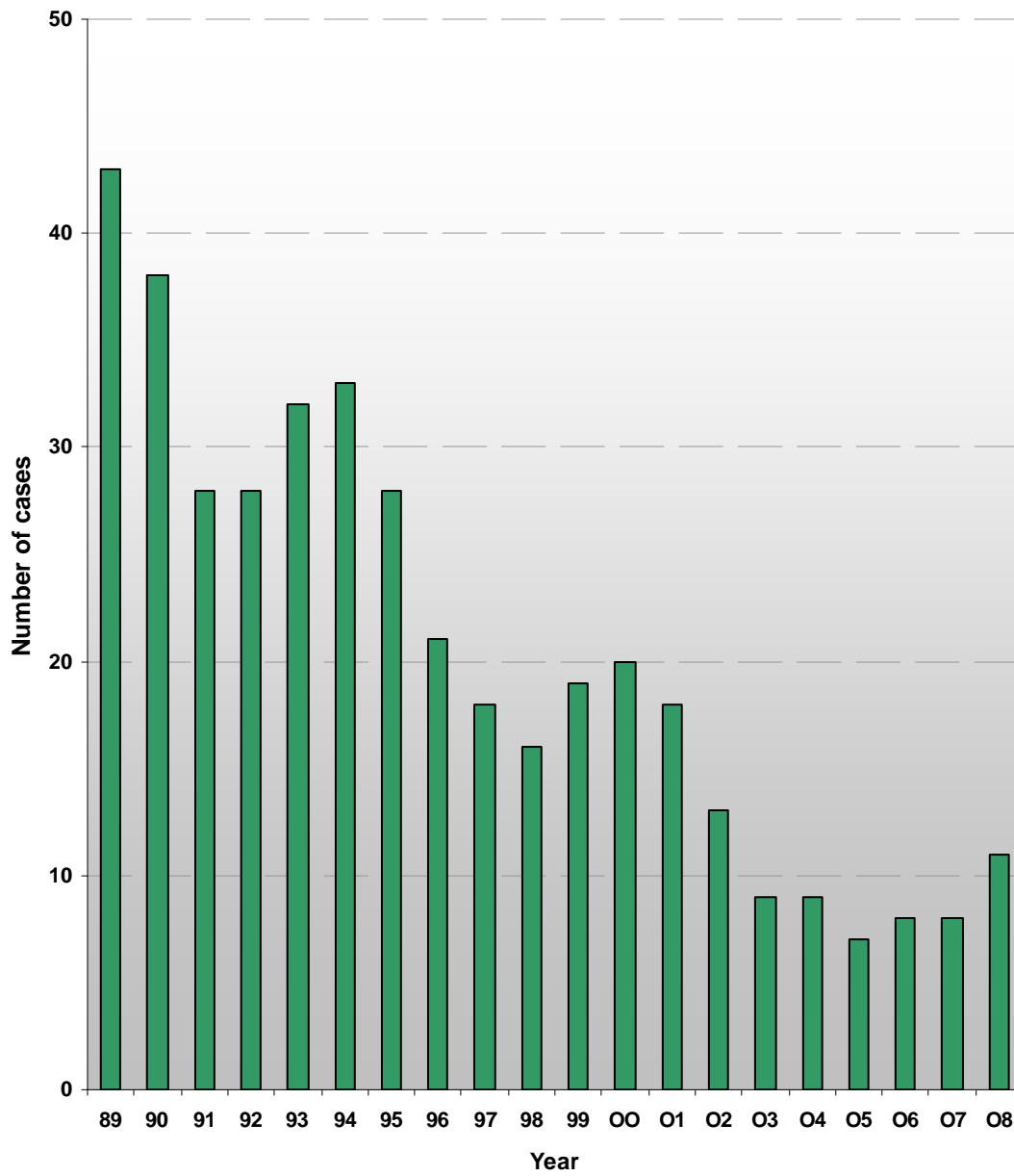
Exposure category	Racial origin				Total
	Aboriginal	Asian	Caucasian	Unknown	
IDU ¹	2	1	35	1	39
Non - IDU	-	-	4	-	4
Total	2	1	39	1	43

¹ Includes IDU in combination with other exposures (Table 5.7).

**Table 5.12 Laboratory testing for hepatitis C infection, 2004 - 2008.
Laboratory and sex by year.**

		Year				
		2004	2005	2006	2007	2008
Laboratories	Public	51474	55107	58288	56420	55403
	Private	29596	28182	30713	29110	28916
Sex	Male	33904	34709	37012	34451	33802
	Female	47027	48473	51565	50965	50384
	Unknown	139	107	424	114	133
	M:F ratio	0.72:1	0.72:1	0.72:1	0.68:1	0.67:1
Total tests		81070	83289	89001	85530	84319

Figure 6.1 Number of acute cases of Hepatitis B infection 1989– 2008 (3 year moving average).





Section 6 Hepatitis B Infection in South Australia, 2008

Medical practitioners are required to notify all cases of hepatitis B infection (both acute clinical cases and chronic carriers) to the STD Services.

The number of cases of acute hepatitis B infection reported in South Australia since 1989 shows a gradual decline (Fig 6.1, Table 6.1).

Medical notification 2008

In 2008 there were 434 (221 males, 213 females) medical notifications of individuals who tested surface antigen positive. Of these, 271 (62%) had not been previously notified in South Australia while 152 (35%) cases had been previously diagnosed but not recorded on the current notification system. Acute clinical cases accounted for only nine (2%) and a further two cases reported antigen positivity less than one year duration (defined by a previous negative test) (Table 6.2).

Acute Clinical Cases

Exposure categories identified for the nine acute clinical cases (4 males, 5 females) were injecting drug use (3), heterosexual contact (2), peri-natal transmission (1), overseas travel (2) and social/family (1) (Table 6.3).

Three of the acute cases were in individuals in the 20-29 year age group, two in the 30-49 year age group and two cases were reported in the 40-49 year age group (Table 6.4).

Chronic Carriers

Of the 271 reports of antigen positivity of uncertain duration, 154 (57%) had no previous testing history, four had a previous negative test of greater than 12 months duration, nine reported a previous positive test result overseas or interstate and the testing history was unknown for the remaining 104 (38%) cases.

Of the 271 individuals who tested surface antigen positive for the first time, but were not acute cases, the racial origin of 163 (60%) was reported as Asian and 42 (16%) were of African origin (Table 6.5).

Laboratory Testing

Laboratory testing demonstrates widespread screening for hepatitis B surface antigen with 90133 tests performed during 2008 (Table 6.6). There were 56044 tests performed on females, 33979 tests on males and 110 on individuals whose sex was not recorded. The male-to-female testing ratio in 2008 was 0.61:1 (Table 6.6).

Table 6.1 Acute hepatitis B infection, 1996 - 2008. Year by sex.

Sex	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Male	12	11	10	8	15	8	6	7	4	6	3	6	4
Female	8	6	6	7	10	11	4	3	4	2	1	6	5
Total	20	17	16	15	25	19	10	10	8	8	4	12	9

Table 6.2 Hepatitis B infection, 2008. Case category by sex.

Case category	Male		Female		Total	
	No.	%	No.	%	No.	%
Acute infection	4	2	5	2	9	2
Antigen positive - < 12 months	1	1	1	1	2	1
Antigen positive - Uncertain duration	129	58	142	67	271	62
Chronic carriers - > 12 months duration	87	39	65	30	152	35
Total	221		213		434	

Table 6.3 Acute hepatitis B infection, 2008. Exposure category by sex.

Exposure category	Male	Female	Total
IDU	2	1	3
Heterosexual contact	-	2	2
Peri-natal	-	1	1
Overseas travel	2	-	2
Social/family	-	1	1
Total	4	5	9

Table 6.4 Acute hepatitis B infection, 2008. Age group by sex.

Age group (years)	Male	Female	Total
>10	-	1	1
10 -19	-	1	1
20 -29	2	1	3
30 -39	1	1	2
40 -49	1	1	2
Total	4	5	9

Table 6.5 Individuals who tested hepatitis B surface antigen positive for the first time in 2008. Race by sex.

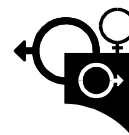
Racial origin	Male		Female		Total	
	No.	%	No.	%	No.	%
Aboriginal	7	5	5	3	12	4
Asian	69	53	94	66	163	60
Caucasian	18	14	14	10	32	12
African	24	19	18	13	42	16
Other/Unknown	11	9	11	8	22	8
Total	129		142		271	

Table 6.6 Laboratory testing for hepatitis B infection, 2004 - 2008. Laboratory and sex by year.

		2004	2005	2006	2007	2008
Laboratories	Public	49946	53777	54698	54599	54318
	Private	22290	22488	24564	30863	35815
Sex	Male	28535	30281	30894	33481	33979
	Female	43595	45980	48275	51895	56044
	Unknown	106	81	93	86	110
	M:F ratio	0.65:1	0.66:1	0.64:1	0.65:1	0.61:1
Total tests		72236	76342	79262	85462	90133

Summary characteristics, Clinic 275
Characteristics of clients attending for the first time in 2008

Characteristics	Male		Female	
	n=1991	(60%)	n=1336	(40%)
	No.	%	No.	%
Marital status				
Single	1379	69	912	68
Married/defacto	403	20	276	21
Widowed/separated/divorced	208	11	147	11
Not stated	1		1	
Age				
<20	180	9	301	22
20-24	601	30	436	33
25-29	437	22	249	19
30-34	221	11	123	9
35-39	164	8	91	7
40-44	124	6	50	4
45-49	92	5	42	3
50+	172	9	44	3
Mean age (years)	31		27	
Age range (years)	14-80		13-73	
Race				
Caucasian	1718	86	1116	84
Aboriginal	15	1	19	1
Asian	141	7	140	10
Other	117	6	61	5
No previous HIV test	1114	56	771	58
Previous history of STD	339	19	247	19
Reason for visit				
Asymptomatic	759	38	570	43
Symptomatic	927	46	551	41
Contact of notifiable STD	195	10	155	11
Doctor referral	95	5	49	4
Other referral	15	1	11	1
Partners in last 3 months				
0	191	9	76	6
1	928	46	826	62
2	432	21	243	18
3	194	10	87	7
4	93	5	33	2
5 or more	153	9	71	5
Sex in last 12 months				
None	45	2	28	2
SA only	1304	65	1008	76
Interstate	273	14	141	11
Overseas	323	16	136	10
Interstate and overseas	46	2	23	2
Injecting drug use				
Past history – ever used IDU	89	4	37	3
Current use	45	2	25	2
Male-to-male sex	297	16	na	



Section 7 Clinic 275

Overview

During 2008 there were 8466 episodes of care for 6503 clients resulting in 16693 clinic attendances. New client registrations accounted for 39% of all episodes and 51% of all patients seen (summary statistics).

New registrants at Clinic 275, 2008

Data on episodes of care and individual clients are from the computerized casenotes system based on date of first visit for an episode of care. Client attendances are obtained from the daybook for the time period covered by this report.

A client may have more than one diagnosis for an episode of care; therefore total diagnoses may exceed total episodes of care. An individual client may have several episodes of care, each requiring one or more attendances at Clinic 275.

Among all new client registrations the male to female ratio was 1.5:1 (1991/1336). The proportion of females less than 20 years of age registering at the clinic exceeded that for males of the same age group by 13%. The average age of male and female new registrants was 31 years and 27 year respectively (Summary characteristics, Clinic 275).

Characteristics of males, new registrants at Clinic 275, 2008

Among males (first ever visit) attending Clinic 275 in 2008, 1379 (69%) were single, 86% identified as Caucasian, and 65% reported sexual activity only in South Australia within the last 12 months.

Nineteen percent of males had a previous history of an STD and 56% reported no previous HIV antibody test. Of males attending Clinic 275, 46% were symptomatic, 38% were asymptomatic, and 10% attended because they were a contact of a person with a notifiable STD.

In the three months prior to attending Clinic 275, 46% of males reported having only one sexual partner, whilst 45% reported two or more partners.

Four percent of new male registrants reported a past history of injecting drug use and two percent reported current injecting drug use. Male-to-male sexual activity was reported by 16% of new male registrants (Summary characteristics, Clinic 275).

Characteristics of females, new registrants at Clinic 275, 2008

Among new female registrants who attended Clinic 275 in 2008, 68% were single, 84% identified as Caucasian, and 76% reported sexual activity only in South Australia within the last 12 months.

Nineteen percent of females had a previous history of an STD and 58% reported no previous HIV antibody test. Forty-three percent of females attending the clinic were asymptomatic, whilst 41% were symptomatic. Eleven percent attended Clinic 275 because they were a contact of a person with a notifiable STD.

In the three months prior to attending Clinic 275, 62% of females reported having only one sexual partner, whilst 32% reported two or more partners. A past history of injecting drug use was reported by 3% of new female registrants and 2% reported current injecting drug use (Summary characteristics, Clinic 275).

Client waiting times

For the first visit of an episode of care, the median waiting time was 15 minutes and 77% of clients were seen by a doctor within 30 minutes. Waiting times were not recorded for 2% of clients.

Sentinel surveillance activities

The clinic participates in sentinel surveillance activities for STD and HIV conducted by the National Centre for HIV Epidemiology and Clinical Research. Data are provided in the form of tabulations for age group, exposure category, results of HIV testing and specific STD.

Blood borne infections

Apart from offering a diagnostic and management service for STDs, the clinic also undertakes limited follow up of clients diagnosed with chronic infections. The clinic performed 121 immune function assessments for 60 patients with HIV, and three liver function assessments for three patients with hepatitis C infection during 2008.

Student teaching

Placements at clinic 275 for clinical experience were maintained for 6th year medical students from Adelaide University, 4th medical students from Flinders University and nursing students from the University of South Australia.

Home page of STD Services web site

The screenshot shows the home page of the Royal Adelaide Hospital Sexually Transmitted Diseases Services website. The page has a yellow background with a blue sidebar on the left. The sidebar contains a vertical menu of yellow buttons with red circular icons, listing: STD Information, Disease notification, Statistics, Your Sexual Health, Health Workers, Students, Links, Site Map, Publications, and Other STD Clinics. Below the menu is a small Australian flag. The main content area features the Royal Adelaide Hospital logo and the title 'Sexually Transmitted Diseases Services'. Below this is the 'Clinic 275' logo and the text 'Adelaide's STD Clinic'. A list of links includes 'About Clinic 275', 'Services offered', and 'Sexual health check-up'. A search bar is labeled 'Search stdservices.on.net' with 'Search' and 'Clear' buttons. A 'News and Features' section contains a link to 'New, revised - Diagnosis and management of STDs, sixth edition'. A horizontal navigation bar lists various site sections. The contact information for Sexually Transmitted Diseases Services is provided, including the address (First Floor, 275 North Terrace, Adelaide, South Australia 5000), telephone (+61 (8) 8222 5075), facsimile (+61 (8) 8232 3504), and email (STD.Services AT health.sa.gov.au). A note asks to replace 'AT' with '@' in email comments. The footer includes the last updated date (21 Aug 2006), URL, copyright information, and logos for Royal Adelaide Hospital, Government of South Australia, Health on the Net Code of Conduct, Healthlinks, and Healthy SA.

STD Information
Disease notification
Statistics
Your Sexual Health
Health Workers
Students
Links
Site Map
Publications
Other STD Clinics

Royal Adelaide Hospital
Sexually Transmitted Diseases Services

Clinic 275
Adelaide's STD Clinic

- About Clinic 275
- Services offered
- Sexual health check-up

Search stdservices.on.net

Search Clear

News and Features
Check here for news about the web site, STDs, activities and services at Clinic 275

- New, revised - Diagnosis and management of STDs, sixth edition

About STD Services | About Clinic 275 | STD Information | Your Sexual Health | STD Statistics | Health Workers | Students | Links | Site Map | Publications | Other STD Clinics | News | About this web site | Notification of STD | Pamphlets

Sexually Transmitted Diseases Services
First Floor, 275 North Terrace
Adelaide
South Australia 5000
Telephone: +61 (8) 8222 5075
Facsimile: +61 (8) 8232 3504
Email: STD.Services AT health.sa.gov.au
Please replace the word AT with the @ symbol to email comments.

Last updated: 21 Aug 2006
URL: <http://pubstd.health.sa.gov.au/Default.aspx>
Copyright © STD Services, Royal Adelaide Hospital.
Government of South Australia 2000
[Disclaimer](#)

Royal Adelaide Hospital
Government of South Australia
Central Northern Adelaide Health Service
Health on the Net Code of Conduct for health-related sites
HEALTHLINKS select site
Healthy SA

Section 8 STD Services Web Site: [stdservices.on.net](http://www.stdservices.on.net)

The STD Services web site (<http://www.stdservices.on.net>) was established to extend the education resources of the service, and provide timely dissemination of information about changes in STD treatments based on public health surveillance data.

Epidemiologic risk assessment and appropriateness of testing information provide guidance to medical practitioners, and is combined with concise information on diagnosis and management of individual diseases.

Notification forms for specific notifiable sexually transmitted diseases are available on the web site in pdf format, for easy access and use.

Continuing publication of Quarterly Surveillance and Annual Epidemiologic reports on the web provided timely data on notifiable sexually transmitted infections, trends in disease activity and described high-risk exposures for notifiable STD in South Australia.

While a summary of the STD Services Annual Epidemiologic report is printed and sent to medical practitioners, the full report is published on the web site.

Clinical Services

The primary role of Clinic 275 (the central STD clinic) is to facilitate the functions of STD Services. It provides an environment for developing clinical protocols, assessing the performance of laboratory tests, training health care workers, and collecting epidemiologic information.

Specific activities of Clinic 275 include:

- providing a clinical training resource for education/professional training
- development of diagnosis and management guidelines for all STD (available to all clinicians on request)
- providing information for analysis by the surveillance unit
- providing statewide consultation to clinicians on diagnosis and management of STD
- in addition to the above activities, high quality care is provided for an estimated 30% of episodes of notifiable STD in metropolitan Adelaide
- whereas Clinic 275 operates predominantly as a public service, private care is available by appointment on referral from general practitioners
- counselling to reduce risk taking among clientele which is a major strategy for reducing reinfection with all STD
- periodic immune assessment of clients infected with HIV
- counselling and referral service for HIV positive and AIDS clients
- periodic assessment of liver function for clients with HCV/HBV infection
- clinical trials for treatment drugs and vaccines.

STD Clinic Resource Utilization (SCRU) System

Since 1 January 1987 a standardized casenotes system (form STD.M.1) has operated. A key element of this system is aggregating attendances to episodes of illness and assigning such episodes to individual clients. This provides more meaningful statistics than systems which merely analyse data in terms of attendances, thereby producing a marked bias when a few clients account for a disproportionate number of attendances.

Surveillance Unit

The surveillance unit is responsible for the collection and analysis of epidemiologic data, education/professional training and operation of statewide notification systems.

Epidemiology

The role of this unit is to analyse data on STD (including HIV/AIDS infection, hepatitis B and hepatitis C infection) as a basis for control strategies or guidelines for medical practitioners; to conduct research for these same purposes and to implement control strategies.

Special activities include:

- operation and analysis of clinic records
- operation of the statewide chlamydia, gonorrhoea, syphilis, HIV/AIDS, hepatitis B and hepatitis C notification systems
- participation in sentinel HIV surveillance in STD clinics; this project involves collaboration between the National Centre in HIV Epidemiology and Clinical Research, public STD clinics in the five Australian states and the National Venereology Council of Australia
- liaison with community groups with a particular interest in STD control
- contact tracing on index cases referred from both Clinic 275 and from medical practitioners outside the central STD clinic
- the Surveillance Unit publishes an annual epidemiologic report and quarterly surveillance reports.

Education/Professional Training

The major emphasis is to provide training on STD to major groups of health professionals, particularly medical undergraduates and nursing graduates. Such training is conducted predominantly at Clinic 275.

Specific activities include:

- training of medical students - seminars, self-learning programs and clinical experience
- training of doctors - seminars and clinical experience
- supervision and training of medical trainees at Clinic 275 (RMOs from RAH and FMC)
- training of specialist STD counsellors/contact tracers
- in-service training of all Clinic 275 staff
- training of STD educators
- production of client information pamphlets, guidelines for doctors and STD educational material for educators

- dissemination of STD information to health professionals and libraries
- production of slides, video and written training materials for health professional training
- consultancy service for STD training activities conducted by other agencies
- supervision of school groups and others visiting Clinic 275.
- publication of information on an internet site.

Notification System for Sexually Transmitted and Blood Borne Diseases

In South Australia there is a dual notification system which involves information from both laboratories and medical practitioners.

Cases of gonorrhoea, chlamydia, syphilis donovanosis, hepatitis B, hepatitis C, HIV and AIDS are notifiable to the South Australian Health Commission under the Public and Environmental Health Act of 1987.

The responsibility for the notification system for these infections has been delegated to the Royal Adelaide Hospital STD Services.

The notification system enables disease surveillance which facilitates statewide prevention and control activities.

All enquiries should be directed to:

Surveillance Unit
 STD Services
 275 North Tce
 Adelaide SA 5000
 Telephone: 8222 2526

Notification forms and reply paid envelopes are sent out from the unit.

Medical notification

There is a legal requirement for the attending clinician to notify all cases of syphilis, gonorrhoea, chlamydia, HIV/AIDS, hepatitis B and hepatitis C infection. Computer analysis is performed on all medical notifications.

Laboratory notification

There is a legal requirement for laboratories to notify positive laboratory tests for syphilis, gonorrhoea, chlamydia, HIV, hepatitis B and hepatitis C. STD Services is notified of the patient's name, doctor's name and phone number.

The purpose of this system is to monitor medical notification and to contact the attending doctor rapidly when such notification is not forthcoming. The objectives of notification cannot be achieved by laboratory notification alone.

Notification of gonorrhoea, syphilis and/or chlamydia

Purpose of notification is twofold

- to enable epidemiologic analysis for control activities and
- to facilitate contact tracing which reduces spread of disease in the community and probability of reinfection in the treated patient? Clinicians indicate on notification forms whether they wish STD Services to undertake contact tracing or whether they would prefer to investigate the case themselves.

Notification of HIV infection

Purpose of HIV notification:

- to enable surveillance of HIV infection in SA
- to facilitate contact tracing/partner notification. Medical Officers notifying the infection can either initiate the contact tracing and send relevant information to the HIV epidemiologist or after consultation with the client, request the HIV epidemiologist to investigate the case.

Notification of hepatitis B infection

Purpose of HBV Notification:

- to define HBV infection (both acute cases and chronic carriers) in South Australia for epidemiologic analysis
- to follow up individuals with acute infection

Notification of hepatitis C infection

Purpose of HCV Notification:

- to define HCV infection in South Australia for epidemiologic analysis
- to follow up individuals with recently acquired infection and those whose risk factor was not stated.

Notification of donovanosis

Purpose of donovanosis Notification:

- to define donovanosis infection in South Australia for epidemiologic analysis
- to follow up individuals with infection.

Appendices 2, 3, 4, 5, 6 and 7 contain examples of the notification forms. Medical practitioners should ensure that the information required is available from the patient records.

Appendix 2

**CONFIDENTIAL
NOTIFICATION of GENITAL CHLAMYDIA TRACHOMATIS**

*Pursuant to the provisions of the Public and Environmental Health Act, 1987, these are notifiable diseases.
To: STD Services, Royal Adelaide Hospital, North Terrace, 5000; Phone: 8222 2526*

Use envelope provided or mark envelope: STRICTLY CONFIDENTIAL



Surname: Given Name(s):	Office Use Only									
Suburb: Postcode:	<table border="1" style="width:100%; height: 20px; border-collapse: collapse;"> <tr> <td style="width:12.5%;"></td> <td style="width:12.5%;"></td> <td style="width:12.5%;"></td> <td style="width:12.5%;"></td> <td style="width:12.5%;"></td> <td style="width:12.5%;"></td> <td style="width:12.5%;"></td> <td style="width:12.5%;"></td> </tr> </table>									
Testing information <i>(please circle appropriate options)</i> Notifiable Disease: Chlamydia	<table border="1" style="width:100%; height: 20px; border-collapse: collapse;"> <tr> <td style="width:12.5%;"></td> <td style="width:12.5%;"></td> <td style="width:12.5%;"></td> <td style="width:12.5%;"></td> <td style="width:12.5%;"></td> <td style="width:12.5%;"></td> <td style="width:12.5%;"></td> <td style="width:12.5%;"></td> </tr> </table>									
Site infected: <table style="width:100%; margin-left: 20px;"> <tr> <td style="width:33%;">1. Cervix</td> <td style="width:33%;">2. Urethra</td> <td style="width:33%;">3. Rectum</td> </tr> <tr> <td>4. Vagina</td> <td>5. Pharynx</td> <td>6. Fallopian Tube</td> </tr> <tr> <td>7. Urine</td> <td>8. Other.....</td> <td></td> </tr> </table>	1. Cervix	2. Urethra	3. Rectum	4. Vagina	5. Pharynx	6. Fallopian Tube	7. Urine	8. Other.....		<input type="checkbox"/>
1. Cervix	2. Urethra	3. Rectum								
4. Vagina	5. Pharynx	6. Fallopian Tube								
7. Urine	8. Other.....									
Date of Test: ___/___/___ Laboratory:										
Clinical information <i>(Please circle appropriate option and/or comment on symptoms)</i>	<input type="checkbox"/>									
<table style="width:100%; border-bottom: 1px solid black;"> <tr> <td style="width:33%; text-align: center;">1. Discharge/dysuria</td> <td style="width:33%; text-align: center;">2. Asymptomatic</td> <td style="width:33%; text-align: center;">Other symptoms.....</td> </tr> </table>	1. Discharge/dysuria	2. Asymptomatic	Other symptoms.....							
1. Discharge/dysuria	2. Asymptomatic	Other symptoms.....								
Epidemiological information <i>(please circle appropriate options)</i> Sex: <table style="width:100%; margin-left: 20px;"> <tr> <td style="width:33%;">1. Male</td> <td style="width:33%;">2. Female</td> <td></td> </tr> </table>	1. Male	2. Female								
1. Male	2. Female									
Date of Birth: ___/___/___										
Marital status: <table style="width:100%; margin-left: 20px;"> <tr> <td style="width:33%;">1. Never Married</td> <td style="width:33%;">2. Married/Defacto</td> <td style="width:33%;">3. Widowed/Div/Sep</td> </tr> </table>	1. Never Married	2. Married/Defacto	3. Widowed/Div/Sep	<input type="checkbox"/>						
1. Never Married	2. Married/Defacto	3. Widowed/Div/Sep								
Racial origin: <table style="width:100%; margin-left: 20px;"> <tr> <td style="width:33%;">1. Aboriginal</td> <td style="width:33%;">2. Asian</td> <td style="width:33%;">3. Caucasian</td> </tr> <tr> <td>4. Other</td> <td>5. African</td> <td></td> </tr> </table>	1. Aboriginal	2. Asian	3. Caucasian	4. Other	5. African		<input type="checkbox"/>			
1. Aboriginal	2. Asian	3. Caucasian								
4. Other	5. African									
Presently employed: <table style="width:100%; margin-left: 20px;"> <tr> <td style="width:33%;">1. No</td> <td style="width:33%;">2. Yes</td> <td style="width:33%;">3. Sex Worker</td> </tr> </table>	1. No	2. Yes	3. Sex Worker	<input type="checkbox"/>						
1. No	2. Yes	3. Sex Worker								
Likely location infection acquired: <table style="width:100%; margin-left: 20px;"> <tr> <td style="width:33%;">1. South Australia</td> <td style="width:33%;">2. Interstate</td> <td style="width:33%;">3. Overseas</td> </tr> </table>	1. South Australia	2. Interstate	3. Overseas	<input type="checkbox"/>						
1. South Australia	2. Interstate	3. Overseas								
<div style="margin-left: 200px;">if overseas, where.....</div>										
Sex of likely source of infection: <table style="width:100%; margin-left: 20px;"> <tr> <td style="width:16.6%;">1. Male</td> <td style="width:16.6%;">2. Female</td> <td style="width:16.6%;">3. Sex Worker</td> <td style="width:16.6%;">4. Male and Female</td> <td style="width:16.6%;">5. Unknown</td> </tr> </table>	1. Male	2. Female	3. Sex Worker	4. Male and Female	5. Unknown	<input type="checkbox"/>				
1. Male	2. Female	3. Sex Worker	4. Male and Female	5. Unknown						
Follow Up Of Patient Having the regular sex partner (within the last 3 months) informed and tested is an intrinsic part of medical management for Sexually Transmitted Infections (STI'S). The managing clinician (with the cooperation of the presenting patient) is usually in the best position to ensure that the regular partner is informed and tested in a timely manner. The STD surveillance unit will no longer directly contact patients with genital chlamydia infection regarding follow up of sexual partners Patients who do not have a regular partner should be encouraged to advise causal partner/s to be tested and treated. The managing clinician can offer to see these partners or if preferred casual partner/s can be advised to attend Clinic 275 for assessment. STD Services will continue to interview individuals with gonorrhoea, syphilis or HIV infection notified by medical practitioners in order to trace sexual partners.										
<table style="width:100%;"> <tr> <td colspan="2">The patient is aware that this infection has been notified to the SA Health Department.</td> </tr> <tr> <td style="text-align: center;"> Yes <input type="checkbox"/> </td> <td style="text-align: center;"> No <input type="checkbox"/> </td> </tr> </table>	The patient is aware that this infection has been notified to the SA Health Department.		Yes <input type="checkbox"/>	No <input type="checkbox"/>	P I <input type="checkbox"/>					
The patient is aware that this infection has been notified to the SA Health Department.										
Yes <input type="checkbox"/>	No <input type="checkbox"/>									
Medical Practitioner:	NS <input type="checkbox"/>									
Address:										
Telephone:	IS <input type="checkbox"/>									
Signed:										

08/08

Appendix 6

Notification of Hepatitis C Infection

Pursuant to the provisions of the Public and Environmental Health Act 1987, this is a notifiable disease.
 Return to: STD Services, Royal Adelaide Hospital, North Terrace Adelaide, 5000; Phone: 8222 2526
 USE ENVELOPE PROVIDED OR MARK ENVELOPE "CONFIDENTIAL"

<p>Family name:..... Given name/s:</p> <p>Address:</p> <p>Postcode:..... Telephone:..... Hospital UR</p>	<p>Office Use</p> <div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div>
<p>Please circle appropriate options</p> <p>Patient Information</p> <p>1. Date of Birth 2. Sex 1. Male 2. Female</p> <p>3. Marital Status</p> <p>1. Never Married 2. Married /Defacto 3. Widowed /Separated /Divorced</p> <p>4. Racial origin</p> <p>1. Aboriginal 2. Asian 3. Caucasian 4. Other..... 5. African</p> <p>Country of birth 1. Australia 2. Other.....</p> <p>5. Currently employed 1. No 2. Yes</p>	<div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div> <div style="border: 1px solid black; width: 60px; height: 20px; margin: 5px auto;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div>
<p>Testing Information</p> <p>6. Current test date: ___/___/___ 7. Laboratory:</p> <p>8. Previously Tested?</p> <p>1. No 2. Negative 3. Positive 9. Unknown</p> <p>Date of previous test: ___/___/___ Location of previous test: SA Interstate Overseas</p> <p>9. Was a test for ALT performed ? 1. No 2. Yes ALT Result.....</p> <p>10. Hepatitis B status, current testing</p> <p>1. Not done 2. HBsAntigen neg 3. HBsAntigen pos</p> <p>4. Vaccinated 5. HBsAntibody pos 6. Other.....</p>	<div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div> <div style="border: 1px solid black; width: 60px; height: 20px; margin: 5px auto;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div> <div style="border: 1px solid black; width: 60px; height: 20px; margin: 5px auto;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div>
<p>Epidemiological Information</p> <p>11. Was patient jaundiced or bilirubin elevated? 1. No. 2. Yes</p> <p>12. Has the patient received blood /blood products /tissue?</p> <p>1. No 2. Yes 3. Multiple Year of first transfusion _____</p> <p>If yes, where? 1. SA 2. NSW 3. VIC 4. QLD 5. NT</p> <p>6. WA 7. TAS 8. ACT 10. Overseas</p> <p>13. History of injecting drug use? 1. No 2. Yes 9. Unknown</p> <p>If yes, age first used? _____ Type of drug?</p> <p>14. Other possible sources of infection</p>	<div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div> <div style="border: 1px solid black; width: 60px; height: 20px; margin: 5px auto;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div>
<p>I have informed the patient that further follow-up may be required by the Health Department.</p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Does the patient know the test result? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Notifying doctor:.....</p> <p>Address:</p> <p>Postcode: Telephone:</p> <p>Signature.....</p>	<div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; margin: 5px auto;"></div>

01/08

Enhanced sheet
 No Yes

STD Control Branch

Record Number

Female STD Episode

Clinic 275

Clinic Number **S**

Referral By:

Postcode

FAMILY NAME

SEEN BY

DAY

GIVEN NAME

TIME IN DAY TIME DR WAIT

Occupation

1. Date of visit	1.					
2. Occupation	1. U/E	2. Student	3. M/P			
	4. Home duties	5. Professional	6. Para Prof			
	7. Office	8. Manual	9. Other	2.		
3. Reason for visit	1. Asym vol	2. Sym vol	3. Contact			
	4. Doctor ref	5. Other ref	6. Clinic	3.		
4. Symptoms & signs	1. None	2. Discharge	3. Dysuria			
	4. Genital lump	5. Genital ulcer	6. Itch			
	7. Rash	8. Pelvic pain/mass	9. Other	4.		
5. Duration of main symptom (days)	1. Asym	2. 0 - 3	3. 4 - 7			
	4. 8 - 14	5. Over 14	6. Audit	5.		
6. Current Medication (14 days)	1. None	2. Antibiotic	3. Other			
	4. Antibiotic & other			6.		
7. Blood risk (12 months)	1. Nil	2. Tattoos	3. IDU			
	4. Bld transf (3&4)	5. (2&3)	6. (2&4)			
	7. (3&4)	8. (2,3,4)	9. Other	7.		
8. HIV test (12 mths)	1. No	2. Yes	3. Unknown	8.		
9. HIV test offered	1. Requested	2. Offered	3. No offer	9.		
10. Pregnant	1. No	2. Yes	3. Uncertain	10.		
	LMP:	K:				
11. Contraception	1. None	2. Pill	3. IUCD			
	4. Other			11.		
12. Number of partners (3 months)	1. One	2. Two	3. Three			
	4. Four	5. Five or more	6. None			
	LSI:			12.		
13. Sex partner (12 months)	1. Solely male	2. Male & female				
	3. Solely female	4. Nil		13.		
14. Sex contacts (12 months)	1. Nil	2. S.A. only	3. Interstate			
	4. Overseas	5. (3&4)		14.		
15. Steady partner	1. No	2. Yes	Duration	15.		
16. Gravida	1. One	2. Two	3. Three			
17. Para	4. Four	5. Five	6. Six			
	7. Seven or more	8. None		16.		

History

Hep C test last 12mths 1 No 2 Yes 3 Unknown

IF STEADY PARTNER

Attended YES Clinic NO

Clinic Number Other (Clinic Nos.)

Contacts L.P.U. Hrs ago Exposure sites: Genitals Rect. Throat

Genital Examination	1. Yes	2. No	
18. Urethral smear	1. Not done	2. <5/hpf	3. GC
	4. 5 - 9 p/hpf	5. 10+ p/hpf	6. Other
			18.
19. Urethral culture	1. Not done	2. Negative	3. GC
	4. Other		
			19.
20. Urethral chlamydia	1. Not done	2. Negative	3. Positive
21. Vaginal smear	1. Not done	2. Negative	3. GC
	4. Candida	5. Trich	6. G Vag
	7. Candida & Trich	8. Other	
			21.
22. Vaginal culture	as for smear		
			22.
23. Cervical smear	1. Not done	2. Vag contam	3. GC
	4. +poly	6. +++polys	8. +++polys
			23.
24. Cervical culture	1. Not done	2. Negative	3. Positive
	4. Other		
			24.
25. Cervical chlamydia	1. Not done	2. Negative	3. Positive
			25.
26. Pap smear	1. Not done	2. Negative	3. LGEA -NS
	4. LGEA -HPV	5. LGEA -CIN1	6. HGEA -CIN 2+
			26.
27. Throat culture	1. Not done	2. Negative	3. GC
	4. Other		
			27.
28. Rectal culture	1. Not done	2. Negative	3. GC
			28.
29. Herpes culture	1. Not done	2. Negative	3. Type 1
	4. Type 2		
			29.
30. Syphilis EIA	1. Not done	2. Non reactive	3. Prev reactive
	4. Equivocal	5. Reactive	
			30.
31. Syphilis RPR	1. Not done	2. Non reactive	3. Weak reactive
	4. 1:1 or more		
			31.
32. Syphilis FTA	1. Not done	2. Non reactive	3. Prev reactive
	4. Reactive minimal	5. Positive Igm	6. Positive IgG
			32.
33. Hepatitis B	1. Not done	2. Negative	3. Ab+ alone
	4. sAg+ eAg+	5. sAg+ eAg-	6. Other
	7. Vaccinated		
			33.
34. Hepatitis C	1. Not done	2. Negative	3. Prev reactive
	4. Reactive	5. Indeterminate	
			34.
35. HIV serology	1. Not done	2. Negative	3. Prev reactive
	4. Reactive	5. Indeterminate	
			35.
36. Diagnosis	1. No illness	2. HIV positive	3. GC
	4. Syphilis	6. Chlamydia	7. NSU
	8. Warts	9. Trich	10. Candida
	12. Scabies	13. Molluscum	14. B vag
	16. Ur. Irritation	17. Balanitis	18. Enteroparasite
	20. Uncertain	21. Other STD	22. PCC
	24. PEPn		23. Hep C
			36.
37. Treatment	1. None	2. Penicillin	3. Tetracycline
	4. Cryotherapy	5. Nitroimidazoles	6. Antifungals
	7. Podophyllin	8. Miticides	9. Macrolides
	10. Cephalosporins	11. Other	12. Quinolones
			37.

Examination

Assessment

Treatment

Follow up 1. None 2. M.O. 3. Results 4. Optional 5. Referral 6. Other

Publications of STD Services

BULLETIN No. 1 Diagnosis and Management of STD (including HIV infection)
First printed May 1988
Revised May 1990
Revised June 1993
Revised August 1996
Revised April 2000
Revised June 2005

BULLETIN No. 2 Reducing the Impact of Sexually Transmitted Diseases including HIV Infection
First printed 1988 (Revised 1991)

BULLETIN No. 3 STD Training for Doctors and Medical Students

BULLETIN No. 4 Information Systems for STD Control Programmes

BULLETIN No. 5 Clinic 275 Operations Manual

BULLETIN No. 6 The Epidemiology of Chlamydia and Gonorrhoea

BULLETIN No. 7 Service Evaluation and Staff Management in an STD clinic.

Venereologica: facts and figures from an STD clinic

From Night Clinics to the Internet: A history of sexually transmitted diseases in South Australia, 1916 – 1996

Sexually Transmitted Diseases in South Australia, 1987 - 2001

Epidemiologic Reports

Annual epidemiologic reports have been produced from number 1 – 1987 to number 16 -2002 as a hard copy, and number 17 – 2003 is available electronically.

Epidemiologic report number 10 (1996) to number 22(2008) can be accessed via the STD website; <http://www.stdservices.on.net/publications/>

Quarterly Surveillance Reports

Quarterly surveillance report number 1 volume 1, (January – March 1996) to report number 50 (October – December 2008) can be accessed via the STD website; <http://www.stdservices.on.net/publications/>