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This quarterly report features an overview of surveillance for sexually transmitted diseases in South Australia. Quarterly reports disseminate data generated by this system, as seen in the summaries for each of the notifiable infections.

Sexually Transmitted Diseases Surveillance System

Introduction

The surveillance unit of the Sexually Transmitted Diseases (STD) Control Branch collects information on the following notifiable diseases:

- Chlamydia (1988)
- Gonorrhoea
- Syphilis
- Human Immunodeficiency Virus (HIV) infection (1991)
- Acquired Immune Deficiency Syndrome (AIDS) (1998)
- Hepatitis C (HCV) infection (1995)
- Hepatitis B (HBV) infection (1996)

The primary purpose of surveillance is to direct statewide prevention and control activities. Important priorities are to determine the magnitude of the problem and current dynamics of disease transmission.

The information gained is used to:

- enable epidemiologic analysis to inform policy decisions
- determine the level of ongoing transmission
- assess the burden of disease in the community
- monitor the level of testing in the community.

To facilitate

- investigation of cases where the mechanism of exposure is unclear
- definition of the epidemiology of new infections
- contact tracing/partner notification
- identification of clusters associated with modes of transmission which may

right of appeal to the Supreme Court. Persons with a controlled notifiable disease are also obliged to take reasonable measures to prevent transmission to others.

Reporting Mechanism

The system has two components:

- | | |
|------------|--|
| Laboratory | Copies of all positive test results are sent to the STD Control Branch. Laboratory notification ensures that medical notifications are monitored. |
| Medical | Medical officers notify all newly diagnosed cases of infection to the STD Control Branch on the appropriate form. The surveillance unit sends notification forms and reply paid envelopes to the medical officer for each new case of gonorrhoea, chlamydia, syphilis, HIV, hepatitis C and hepatitis B infection. |

Data Collection

Basic demographic information, date of the test, risk factor and testing history are routinely collected. Data are checked for accuracy and entered on to the STD surveillance database. In the case of the blood borne infections, if the notifying doctor has indicated on the form that the patient has had previous negative test then this information is validated by contacting the laboratory. If risk factor information is unknown or not stated, the patient is contacted to ascertain their risk factor.

Analysis

Data are analysed using STATA (version 5) and Epi Info (version 6.04b). Analysis is performed quarterly and yearly according to sex, age, marital status, exposure category and racial origin. For the blood borne infections, data are also analysed by case category.

Interpretation

South Australian Surveillance Definitions

Genital Chlamydial Infection

- Isolation of *Chlamydia trachomatis* from a clinical (genital) specimen.
- **or**
- Demonstration of *Chlamydia trachomatis* in a clinical (genital) specimen by nucleic acid detection methods.
- **or**
- Demonstration of *Chlamydia trachomatis* in a clinical (genital) specimen by antigen detection methods.
- **or**
- Demonstration of *Chlamydia trachomatis* in a urine specimen by PCR.

Gonococcal Infection

- Isolation of *Neisseria gonorrhoeae* from a clinical specimen.

Syphilis

Primary syphilis

- Demonstration of *Treponema pallidum* by darkfield microscopy in lesions from the anogenital area. There is no merit in performing this test on oral lesions because other treponemes, microscopically indistinguishable from *T. Pallidum*, occur in the mouth.
- A presumptive diagnosis can be made if a typical ulcer is associated with a consistent history of syphilis in sex partners and/or serologic pattern before or after treatment in the patient.

Secondary syphilis

- Typical lesions of secondary syphilis (rash, condylomata, alopecia) and a consistent serologic pattern before and/or after treatment. A rising RPR titre before treatment (fourfold within 6 months) and a corresponding fall after treatment. In secondary syphilis the RPR titre will usually be 1:8 or greater.

Indeterminate Test Results

For surveillance purposes an indeterminate test result is regarded as negative. However, some cases may represent seroconversion and retesting is often indicated.

Hepatitis C Infection

- Demonstration of anti-HCV antibodies.
- **or**
- Demonstration of HCV RNA by PCR.

All positive tests for HCV infection are notified to the STD Control Branch where cases are classified as:

Incident case (infection of less than 12 months duration)

- Negative serology in the preceding 12 months
- **or**
- clinical illness consistent with acute hepatitis C within the last twelve months, where other causes of acute hepatitis can be excluded.

Infection likely to be greater than 12 months

- Risk behaviour confined to more than 12 months ago
- **or**
- history of diagnosed clinical illness more than 12 months ago
- **or**
- documented positive test result more than 12 months ago.

Infection of uncertain duration

- No evidence of a previous test, and clinical illness not diagnosed.

Hepatitis B Infection

- Demonstration of hepatitis B surface antigen in serum.

All positive tests for HBV infection are notified to the STD Control Branch where

Infection less than 12 months

- Negative serology in the preceding 12 months.

Infection likely to be greater than 12 months

- Positive serology more than 12 months ago
- or**
- history of diagnosed clinical illness more than 12 months ago.

Uncertain Duration

- No evidence of a previous test, and clinical illness not diagnosed.

HIV Infection

- Demonstration of HIV antibodies by EIA
- and**
- Western Blot positive **or** detection of HIV.

All positive tests for HIV infection are notified to the STD Control Branch where cases are classified as:

Incident Case

- Negative serology in the preceding 12 months
- or**
- diagnosed seroconversion illness in the preceding 12 months.

Infection likely to be greater than 12 months

- Risk behaviour confined to more than 12 months ago
- or**
- diagnosed seroconversion illness more than 12 months ago.

Uncertain duration

- Tested for the first time this year and no seroconversion illness
- or**
- AIDS defining illness present

HIV INFECTION IN SOUTH AUSTRALIA

HIV Infection 1985 - 30/06/98

There have been 691 individuals diagnosed with HIV infection, 636 (92%) males and 55 (8%) females. Of the males diagnosed, 489 (77%) reported male to male sexual contact, 54 (8%) reported injecting drug use and 27 (4%) reported both risk factors. Heterosexual transmission was reported by 25 (45%) women and injecting drug use was reported by 22 (40%) of the women diagnosed with HIV infection (Table 1.1).

HIV Infection 01/04/98 - 30/06/98

Of the eight men reported with HIV infection during the second quarter, 6 reported male to male sexual contact as their risk factor (Table 1.2). Between 01/01/98 and 30/06/98 four men (reporting male to male sexual contact) had acquired their infection in the preceding 12 months (Table 1.3).

Laboratory Screening For HIV Infection 01/04/98 –30/06/98

During the second quarter of 1998 there have been 20,388 screening tests performed, 9,658 (47%) on males, 10,610 (53%) on females and 120 tests on individuals whose sex was unknown (Table 1.4).

**Table 1.1 HIV infection detected in South Australia, 1985 –30/06/98.
Exposure category by sex.**

Exposure Category	Male		Female		Total	
	No.	%	No.	%	No.	%
Homosexual contact	489	77	na		489	71
Homosexual contact/IDU	26	4	na		26	4
Heterosexual contact	27	4	25	45	52	7

HEPATITIS C SURVEILLANCE IN SOUTH AUSTRALIA

Hepatitis C Notification 01/04/98 - 30/06/98

In the second quarter of 1998, laboratory notifications of positive hepatitis C antibody tests were received for 282 individuals, 182 (65%) males and 100 (35%) females. Of these, 258 (92%) were notified by medical practitioners.

Among the medical notifications, 190 (74%) individuals were tested for hepatitis C for the first time in 1998. Of these, 124 (65%) reported past or present injecting drug use as a likely transmission route for hepatitis C virus (Table 2.1). Of 26 individuals with a previous negative test, 15 were tested more than 12 months earlier, whilst 11 were tested in the last year. The majority of males, 85 (70%), were aged between 20 and 39 years; 36 (54%) women were aged between 20 and 39 years (Table 2.2).

Incident Cases

Eleven incident cases were identified during the quarter, all had negative serology in the preceding 12 months. The incident cases comprised seven males and four females. The probable mode of transmission for hepatitis C virus was injecting drug use in all cases (Table 2.3). The most common age-group at diagnosis was 20 to 29 years; one female was aged less than 20 years (Table 2.4).

Collated laboratory data for hepatitis C antibody tests performed during the quarter are shown in Table 2.5.

**Table 2.1 Hepatitis C infection, 01/04/98 - 30/06/98 and year to date.
Exposure category by sex.**

Exposure Category	2nd Quarter 01/04/98 - 30/06/98	Year to date 01/01/98 - 30/06/98
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**Table 2.2 Hepatitis C infection, 01/04/98 - 30/06/98 and year to date.
Age group by sex.**

Age Group	2nd Quarter 01/04/98- 30/06/98		Year to date 01/01/98 - 30/06/98		
	Male	Female	Male	Female	Total
10 - 19	-	5	6	17	23
20 - 29	36	16	79	49	128
30 - 39	49	20	108	56	164
40 - 49	23	18	54	28	82
50+	14	9	25	23	48
Unknown	-	-	1	-	1
Total	122	68	273	173	446

**Table 2.3 Incident cases of hepatitis C infection, 01/04/98 - 30/06/98
and year to date. Exposure category by sex.**

Exposure Category	2nd Quarter 01/04/98 - 30/06/98		Year to date 01/01/98 - 30/06/98		
	Male	Female	Male	Female	Total
IDU	7	4	12	8	20
Possible Occupational Exposure	-	-	1	-	1
Household	-	-	-	1	1
Unknown	-	-	-	2	2
Total	7	4	13	11	24

**Table 2.4 Incident cases of hepatitis C infection, 01/04/98 - 30/06/98
and year to date. Age group by sex.**

Age Group	2nd Quarter	Year to date
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Table 2.5 Summary of laboratory tests for hepatitis C antibodies performed between 01/04/98 - 30/06/98 and year to date. Laboratory by sex.

Laboratory	2nd Quarter 01/04/98 - 30/06/98			Year to date 01/01/98 - 30/06/98			
	Male	Female	Unknown	Male	Female	Unknown	Total
Public	4584	4798	54	9516	9416	113	19045
Private	3295	4505	-	6540	8700	-	15240
Total	7879	9303	54	16056	18116	113	34285

HEPATITIS B SURVEILLANCE IN SOUTH AUSTRALIA

Hepatitis B Medical Notification 01/04/98 - 30/06/98

During the second quarter of 1998, 73 hepatitis B medical notifications were received. Of these, 2 were acute clinical cases of hepatitis B infection (Tables 3.1, 3.2). A further 19 were reports of chronic carriers of greater than twelve months duration, who had been previously diagnosed but not notified. Reports of antigen positivity of uncertain duration accounted for 52 cases (Table 3.3).

Of the 52 reports of antigen positivity of uncertain duration, 44 tested surface antigen positive for the first time this quarter, 2 had a previous negative test (greater than 12 months duration), and the testing history was unknown for the remaining 6 cases. Among the 44 individuals who tested surface antigen positive for the first time, but were not acute cases, the racial origin of 30 (68%) was reported as Asian (Table 3.4).

The number of hepatitis B surface antigen tests performed by laboratories for this quarter is shown in Table 3.5.

Table 3.1 Acute hepatitis B infection, 01/04/98 - 30/06/98 and year to date. Exposure category by sex.

Exposure Category	2nd Quarter 01/04/98 - 30/06/98		Year to date 01/01/98 - 30/06/98		
	Male	Female	Male	Female	Total
IDU	-	-	1	1	2
Heterosexual Contact	-	-	1	-	1
Overseas Travel	-	1	1	1	2
Unknown	1	-	1	1	2
Total	1	1	4	3	7

**Table 3.3 Hepatitis B infection, 01/04/98 - 30/06/98 and year to date.
Case category by sex.**

Case Category	2nd Quarter 01/04/98 - 30/06/98		Year to date 01/01/98 - 30/06/98		
	Male	Female	Male	Female	Total
Acute Infection	1	1	4	3	7
Antigen positive - < 12 months duration	-	-	-	2	2
Antigen positive - uncertain duration	28	24	61	45	106
Chronic carriers - > 12 months duration	9	10	19	15	34
Total	38	35	84	65	149

Table 3.4 Individuals who tested hepatitis B surface antigen positive for the first time, 01/04/98 - 30/06/98 and year to date. Race by sex.

Racial Origin	2nd Quarter 01/04/98 - 30/06/98		Year to date 01/01/98 - 30/06/98		
	Male	Female	Male	Female	Total
Aboriginal	-	2	2	2	4
Asian	17	13	32	25	57
Caucasian	7	3	17	9	26
Other/Unknown	1	1	1	1	2
Total	25	19	52	37	89

Table 3.5 Summary of hepatitis B surface antigen tests performed between 01/04/98 - 30/06/98 and year to date. Laboratory by sex.

GENITAL CHLAMYDIAL INFECTION IN SOUTH AUSTRALIA

Genital Chlamydial Infection 01/01/98 - 30/06/98

There were 547 laboratory notifications of genital chlamydial infection received between 1 January and 30 June 1998 (Table 4.1). Of these, 544 were notified by medical practitioners. Two hundred and thirty four (43%) cases occurred in males and 310 (57%) in females.

Genital Chlamydial Infection 01/04/98 - 30/06/98

During this quarter 255 cases of chlamydial infection were notified to the STD Control Branch. This represents fewer cases of infection than reported in previous quarters of 1997. However the total for this quarter remains incomplete as all the results of the annual screening program in the Anangu/Pitjantjatjara lands during April and May were not available.

Of the 255 cases of genital chlamydia, 108 (42%) occurred in males and 147 (58%) in females (Table 4.1). In males, 83 (77%) cases occurred in those aged less than thirty. One hundred and thirty seven (93%) cases of infection occurred in females aged less than 30 years (Table 4.1). The majority of chlamydial infection was acquired in South Australia.

Laboratory tests for genital chlamydia performed during this quarter are detailed in Table 4.2.

Table 4.1 Genital chlamydial infection in South Australia, 01/04/98 - 30/06/98 and year to date. Age group by sex.

Age Group	2nd Quarter 01/04/98 - 30/06/98	Year to date 01/01/98 - 30/06/98
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Table 4.2 Summary of laboratory tests for genital chlamydia performed between 01/04/98 - 30/06/98 and year to date. Laboratory by sex.

Laboratory	2nd Quarter 01/04/98 - 30/06/98		Year to date 01/01/98 - 30/06/98		
	Male	Female	Male	Female	Total
Public	1446	3728	2904	7230	10134
Private	440	1736	977	4037	5014
Total	1886	5464	3881	11267	15148

GONOCOCCAL INFECTION IN SOUTH AUSTRALIA

Gonococcal Infection 01/01/98 - 30/06/98

There were 125 laboratory notifications of gonococcal infection received between 1 January and 30 June 1998, (Table 5.1). Of these, 120 were notified by medical practitioners. Eighty one (67%) cases occurred in males and 39 (33%) in females.

Gonococcal Infection 01/04/98 - 30/06/98

During the second quarter, 67 cases of gonorrhoea were reported to the STD Control Branch. However the total remains incomplete as all the results of the annual screening program in the Anangu/Pitjantjatjara lands during April and May were not available.

Forty six (69%) cases of gonococcal infection occurred in males, and 21 (31%) in females. Stratification by age shows that the majority of infections (12/21) in females occurred in those aged less than 20 years. Seventy eight percent of infections in males occurred in those under 35 years and 8 (17%) cases were in males aged 40 years or greater (Table 5.1).

The proportion of males with gonococcal infection reporting male to male sexual contact was 28%. The majority of infections in males and females were acquired in South Australia (86%).

Table 5.1 Gonococcal infection detected in South Australia, 01/04/98 - 30/06/98 and year to date. Age group by sex.

Age Group	2nd Quarter 01/04/98 - 30/06/98		Year to date 01/01/98 - 30/06/98		
	Male	Female	Male	Female	Total

CLINIC 275 ACTIVITY REPORT

Table 6.1 Clinic 275 - Summary Statistics

Diagnosis	Period		Year to date		
	01/04/98 - 30/06/98		01/01/98 - 30/06/98		
	Male	Female	Male	Female	Total
No illness	560	381	1171	806	1977
HIV	1	-	4	-	4
Gonorrhoea	12	3	21	4	25
Syphilis	1	1	1	1	2
Herpes	25	20	55	56	111
Chlamydia	40	28	88	65	153
NSU	22	na	67	na	67
Warts	221	74	457	162	619
Trichomoniasis	-	2	-	3	3
Candida vaginitis	na	88	na	170	170
Crabs	29	3	53	15	68
Scabies	2	-	3	-	3
Molluscum	32	4	86	16	102
Bacterial vaginosis	na	67	na	121	121
Hepatitis B antigen positive	1	1	3	2	5
Hepatitis C infection	13	8	31	17	48
Urethral irritation	70	na	135	na	135
Balanitis	32	na	73	na	73
Non STD illness	91	48	221	111	332
Post coital contraception	na	47	na	102	102
Abnormal Pap smear	na	39	na	82	82
Other/Uncertain	17	22	28	41	69
Clinic attendances	2192	1477	4631	3058	7689

Table 6.2 Males diagnosed with chlamydia, gonorrhoea or syphilis at C275, 01/04/98 - 30/06/98. Exposure category by infection.

Exposure Category	Chlamydia	Gonorrhoea	Syphilis	Total
Homosexual	1	8	1	10
Bisexual	-	1	-	1
Bisexual, IDU	-	1	-	1
Heterosexual, IDU	4	2	-	6
Heterosexual, overseas contact	2	-	-	2
Heterosexual	32	-	-	32
Other/Unknown	1	-	-	1
Total	40	12	1	53

Table 6.3 Males diagnosed with hepatitis C, hepatitis B or HIV infection at C275, 01/04/98 - 30/06/98. Exposure category by infection.

Exposure Category	Hepatitis C	Hepatitis B* Previous exposure	Hepatitis B carrier	HIV	Total
Homosexual	-	5	-	1	6
Homosexual/IDU	1	1	-	-	2
Heterosexual, IDU	8	4	-	-	12
Heterosexual, o/s#	-	-	1	-	1
Heterosexual	4	8	-	-	12
Total	13	18	1	1	33

* No case of acute hepatitis B diagnosed during the quarter.

* Previous exposure to hepatitis B refers to previous infection and now surface antibody positive.

Overseas contact in the previous three months.

Table 6.4 Females diagnosed with chlamydia, gonorrhoea or syphilis at C275.

Table 6.5 Females diagnosed with hepatitis C, hepatitis B or *HIV infection at C275, 01/04/98 - 30/06/98. Exposure category by infection.

Exposure Category	Hepatitis C	Hepatitis B* Previous exposure	Hepatitis B carrier	Total
Heterosexual, IDU	4	3	-	7
Heterosexual, o/s#	-	1	-	1
Heterosexual	-	7	1	8
Sex Worker, IDU	3	2	-	5
Other/Unknown	1	-	-	1
Total	8	13	1	22

* No case of HIV or acute hepatitis B diagnosed during reporting period.

* Previous exposure to hepatitis B refers to previous infection and now surface antibody positive.

Overseas contact in the previous three months.