

THE AUSTRALIAN STUDY OF HEALTH AND RELATIONSHIPS: RESULTS FOR CENTRAL SYDNEY, INNER-EASTERN SYDNEY, AND NEW SOUTH WALES

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Since the late 1980s there has been renewed international interest in sexual health, corresponding with the advent and spread of human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS). Many countries have conducted national surveys of sexual health risk factors and behaviours, to collect reliable information about sexual behaviour to predict and control the spread of HIV–AIDS. The largest nation-wide surveys of representative samples were conducted in Britain (1990 and again in 2000), in France (1991–92), and in the United States (1992).^{1–4}

These surveys have generated considerable new knowledge. They also highlighted a high degree of commonality in different countries regarding some behaviours and attitudes (for example, frequency of sex and attitudes towards sex before marriage) but also some important differences (for example, use of sex workers, acceptability of homosexual activity, and attitudes towards abortion).⁵ While causality cannot be directly inferred,

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some insights into the variation in spread of HIV in Britain and the USA were linked to better access to, and use of, sexual health clinics in Britain.²

In Australia, a number of surveys and cohort studies have been conducted with homosexually-active men.^{6,7} While comprehensive in their scope and focus, these studies relied on self-selected participants with unknown generalisability to the broader community. Recognising the limitations of such data, funding was sought and obtained from the National Health and Medical Research Council to conduct a national telephone sample survey of sexual health behaviours and attitudes among the general population. Two pilot studies were conducted in 1999 and 2000, and following these the main data collection was conducted in 2001–2002.

In April 2003, the results of the Australian Study of Health and Relationships, the largest and most comprehensive survey of sexuality ever undertaken in this country, were published in the *Australian and New Zealand Journal of Public Health*.^{8–28} These results described the frequencies of the main indicators covered by the survey, analysed by major demographic characteristics. In only a few cases were the data presented by state or territory.

Local variation in sexual behaviours is well established, with certain sexual practices (such as unprotected

penetrative sex) being associated with a corresponding increase in sexually transmissible infections (STIs). The HIV–AIDS surveillance reports published in the *NSW Public Health Bulletin* routinely identify the South Eastern Sydney and Central Sydney Area Health Services as having the highest and second highest rates of HIV infection in New South Wales.

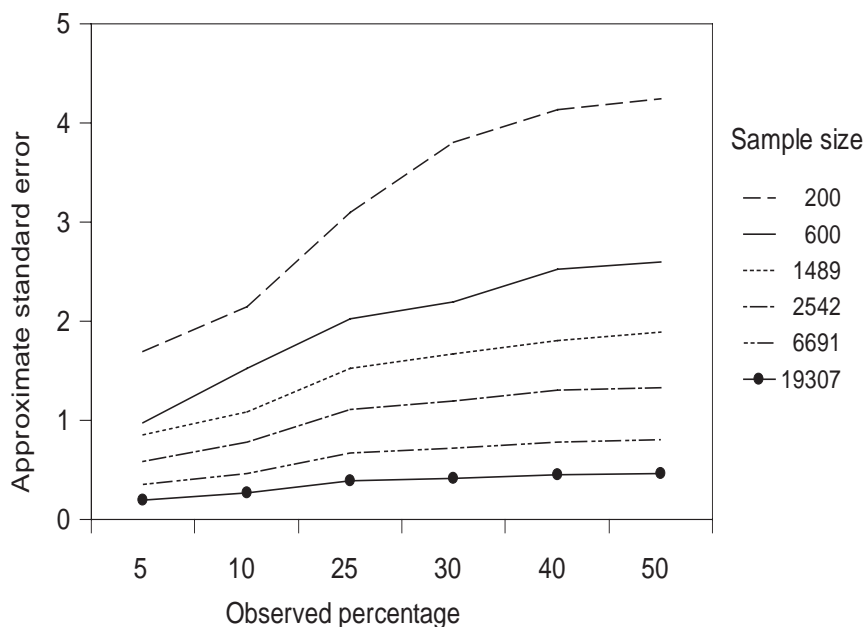
This article describes local and state results of the study, to enable comparison with the national results.

METHOD

As the methods for the national study have been extensively described elsewhere,⁹ they are briefly described here. A modified random-digit-dialling methodology was used to recruit a sample for a computer assisted telephone interview (CATI), a procedure similar to that used by the NSW Health Survey.²⁹ Where randomly-generated phone numbers matched a number listed in the electronic White Pages (43.5 per cent of numbers matched), an advance letter was sent to that household advising of the study and the impending phone contact. Up to 11 calls were made to each household, including up to six calls to make contact with the household, and a further five to complete the interview. Female interviewers conducted all interviews, although a male interviewer was available on request (no-one requested this).

FIGURE 1

APPROXIMATE STANDARD ERRORS FOR OBSERVED PERCENTAGES IN SUB-SAMPLES OF DIFFERENT SIZES FROM THE AUSTRALIAN STUDY OF HEALTH AND RELATIONSHIPS



Source: Australian Study of Health and Relationships, 2003.

The pilot studies indicated that most of our resources were spent interviewing people who had had only one sexual partner in the previous year—often their husband or wife—and no homosexual experience. By restricting the amount of information gathered from these people who are at lower risk of HIV and STIs, we were able to gather more information from respondents whose behaviour may be more risky. All respondents provided demographic data and a brief sexual history. From these data, it was possible to identify respondents who reported more than one partner in the year prior to being interviewed and respondents who reported homosexual experience. All of these respondents completed a long form interview, as did a randomly-selected sample of 20 per cent of people with one partner in the previous year and no homosexual experience. The remaining 80 per cent of people with one partner in the previous year and no homosexual experience completed a short form of the questionnaire.

The data weighting procedure, described in detail elsewhere,⁹ as well as specific details provided by statistical consultants,³⁰ took into consideration

differences in selection, such as multiple phone lines, number of persons in the household, type of questionnaire completed and age, sex and locality variations from the 2001 Australian population. The time saved by this procedure was used to conduct more interviews. Increasing the sample size enriched the sample by producing a greater number of interviews with people who engage in less common and/or more risky behaviours. This approach was similar to that used in the French Analyse des Comportements Sexuels en France (ACSF).³

Results are reported for men and women living within the geographical area of the Central Sydney Area Health Service, men living in the inner-eastern suburbs of Sydney (defined by the five postcodes 2010, 2011, 2016, 2021 and 2026), and for men and women in the rest of NSW. All data were weighted for probability of selection of the respondent, and to the age and sex of the NSW population in 2001.⁹ Data were collected between May 2001 and June 2002. Limited space precludes detailed analyses of each variable and only the major variables are reported here. Figure 1 displays approximate standard errors for

TABLE 1

AGREEMENT WITH SEXUAL ATTITUDE STATEMENTS FOR MEN, NSW (N=1485), CENTRAL SYDNEY (N=262), AND INNER-EASTERN SYDNEY (N=570)

Attitude statement		Agree (%)	Neither (%)	Disagree (%)
Films these days are too sexually explicit	NSW	21.0	8.1	70.9
	Central Sydney	22.7	13.6	63.7
	IE Sydney	18.5	11.2	70.3
Sex before marriage is acceptable	NSW	82.7	3.2	14.1
	Central Sydney	79.0	4.5	16.5
	IE Sydney	92.7	3.1	4.2
If two people had oral sex, but not intercourse, you would still consider that they had had sex together	NSW	70.7	5.3	24.0
	Central Sydney	72.6	11.7	15.7
	IE Sydney	76.8	4.1	19.1
An active sex life is important for your sense of well-being	NSW	89.0	3.5	7.5
	Central Sydney	84.2	6.8	9.0
	IE Sydney	87.1	5.2	7.7
Abortion is always wrong	NSW	21.3	10.4	68.3
	Central Sydney	16.8	8.2	75.0
	IE Sydney	10.0	6.9	83.1
Having an affair when in a committed relationship is always wrong	NSW	78.2	4.8	17.0
	Central Sydney	67.6	5.5	26.9
	IE Sydney	64.6	9.3	26.1
Sex tends to get better the longer you know someone	NSW	67.6	15.4	17.0
	Central Sydney	60.3	25.0	14.7
	IE Sydney	60.2	23.9	15.9
Sex between two adult women is always wrong	NSW	24.0	9.4	66.6
	Central Sydney	22.0	8.6	69.4
	IE Sydney	9.2	4.6	86.2
Sex between two adult men is always wrong	NSW	39.2	7.7	53.0
	Central Sydney	42.1	6.1	51.8
	IE Sydney	18.6	5.0	76.4

Source: Australian Study of Health and Relationships, 2003.

percentages in subsamples of different sizes. For either men or women, when the NSW sample is used the standard error is approximately +/-1.5 per cent, when the inner-eastern Sydney sample is used the standard error is approximately +/-2.0 per cent, and when the Central Sydney sample is used the standard error is approximately +/-4.0 per cent.

RESULTS

Nationally, telephone interviews were conducted with 19,307 respondents between the ages of 16 and 59 years. The overall national response rate was 73.1 per cent and the NSW response rate was 71.9 per cent. There were a total of 5,612 interviews in NSW. The response rates for men were 71 per cent in Central Sydney ($n=607$), 70.2 per cent in inner-eastern Sydney ($n=1,066$), and 68.6 per cent in NSW as a whole ($n=3,313$). For women, the response rates were 78.5 per cent in Central Sydney ($n=647$), and 76.7 per cent in NSW as a whole ($n=2,299$).

Attitudes

Men resident in inner-eastern Sydney reported more liberal attitudes towards sexual behaviour than men in Central Sydney or NSW as a whole. For example, over three quarters of men disagreed that sex between two adult men is always wrong (Table 1). Women in Central Sydney reported more liberal attitudes than women in NSW as a

whole, and were more accepting of homosexuality and sexually-explicit films (Table 2).

Sexual experience

Nationally, half the men born between 1941 and 1950 had vaginal intercourse by the age of 18 whereas half the men born between 1981 and 1986 had had vaginal intercourse by the age of 16. For women the decline in median age of first vaginal intercourse was from 19 years for women born between 1941 and 1950 to 16 years for women born between 1981 and 1986.¹² Consistent with this finding, in NSW, a higher proportion of younger men and women had first vaginal intercourse before age 16 years than older respondents (Figure 2). While this pattern was observed for men in Central Sydney, it was not seen for women in Central Sydney or men in inner-eastern Sydney.

In NSW, heterosexual men reported more opposite sex partners over their lifetime (mean = 17.4), in the last five years (mean = 3.9) and in the last year (mean = 1.5) than did heterosexual women (mean = 6.5, 2.0, and 1.0 respectively).

Relationships

By far the majority of respondents in NSW (81.8 per cent of men and 89.3 per cent of women) were in a regular heterosexual relationship. 'Regular' was defined by the

TABLE 2

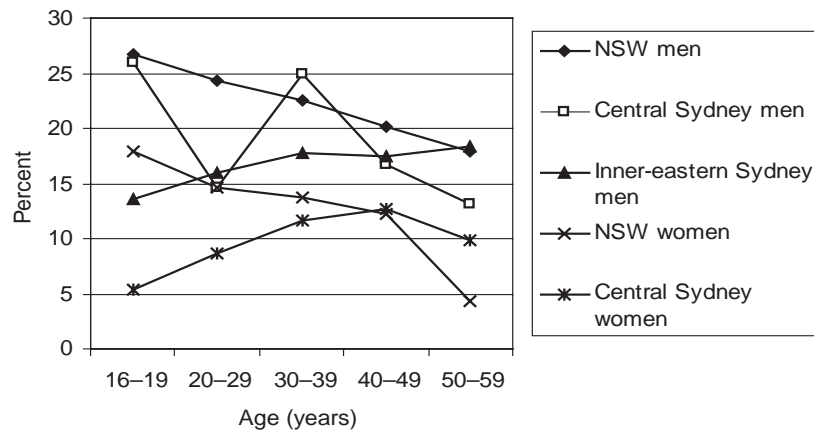
AGREEMENT WITH SEXUAL ATTITUDE STATEMENTS FOR WOMEN, NSW (N=812) AND CENTRAL SYDNEY (N=279)

Attitude statement		Agree (%)	Neither (%)	Disagree (%)
Films these days are too sexually explicit	NSW	42.9	19.9	37.2
	Central Sydney	31.7	19.2	49.1
Sex before marriage is acceptable	NSW	84.6	3.4	12.0
	Central Sydney	86.0	1.7	12.3
If two people had oral sex, but not intercourse, you would still consider that they had had sex together	NSW	70.1	6.0	23.9
	Central Sydney	74.1	6.1	19.8
An active sex life is important for your sense of well-being	NSW	79.9	7.7	12.4
	Central Sydney	80.8	3.9	15.3
Abortion is always wrong	NSW	17.7	10.4	71.9
	Central Sydney	16.5	5.7	77.8
Having an affair when in a committed relationship is always wrong	NSW	77.4	5.3	17.3
	Central Sydney	67.9	12.1	20.0
Sex tends to get better the longer you know someone	NSW	66.4	16.3	17.3
	Central Sydney	64.6	20.1	15.3
Sex between two adult women is always wrong	NSW	25.4	15.8	58.8
	Central Sydney	18.0	9.0	73.0
Sex between two adult men is always wrong	NSW	27.1	15.4	57.5
	Central Sydney	18.7	8.3	73.0

Source: Australian Study of Health and Relationships, 2003.

FIGURE 2

PROPORTION OF RESPONDENTS WHO HAD HAD FIRST VAGINAL INTERCOURSE BEFORE AGE 16, BY AGE, NSW (N=5,382), CENTRAL SYDNEY (N=1,188), AND INNER-EASTERN SYDNEY (N=979)



Source: Australian Study of Health and Relationships, 2003.

respondent in answer to the question ‘Do you currently have a regular female [for men] sexual partner or partners? Someone you have an ongoing sexual relationship with? (Ongoing means he expects the relationship to continue and to have sex with the partner again)’. Respondents who identified themselves as homosexual were less likely to be in a regular relationship, although bisexual men in Central Sydney reported a very low frequency of regular partners (Table 3).

Of those people in regular heterosexual relationships, most respondents reported that their relationships were ‘extremely pleasurable’ or ‘very pleasurable’, including 87.5 per cent of men and 82.7 per cent of women in NSW, 84.9 per cent of men and 88.3 per cent of women in Central Sydney, and 89.3 of men in inner-eastern Sydney. They were responding to the question ‘How physically pleasurable do you find sex with this partner to be?’. Similar levels of emotional satisfaction were reported among all groups (responding to the question ‘How emotionally satisfying do you find your relationship with this partner to be?’).

For respondents in a regular heterosexual relationship for 12 months or more, the frequency of having had two or more sexual partners during the last 12 months was recorded. Men in inner-eastern Sydney were most likely to have had concurrent relationships (Table 4).

For heterosexual respondents in a regular relationship for 12 months or more, the average weekly frequency of sex was calculated, based on the number of occasions of sex over the last four weeks. In NSW, the average weekly frequency of sex for men was 1.91 times, and for women it was 1.86. In Central Sydney for men the average weekly frequency of sex was 2.12 and for women it was 1.83,

TABLE 3

RELATIONSHIP BETWEEN CURRENT SEXUAL IDENTITY AND CURRENT PARTNERSHIP STATUS, NSW (N=1,872), CENTRAL SYDNEY (N=412), AND INNER-EASTERN SYDNEY (N=497)

Sexual identity		Has a regular relationship (%)	
		Men	Women
Heterosexual	NSW	81.8	89.4
	Central Sydney	74.9	86.1
	IE Sydney	79.1	–
Homosexual	NSW	58.2	56.3
	Central Sydney	58.7	74.1
	IE Sydney	60.0	–
Bisexual	NSW	69.6	73.8
	Central Sydney	9.7	41.3
	IE Sydney	69.7	–

Source: Australian Study of Health and Relationships, 2003.

TABLE 4

PROPORTION HAVING TWO OR MORE SEXUAL PARTNERS IN THE LAST 12 MONTHS WHILE IN A REGULAR HETEROSEXUAL RELATIONSHIP, NSW, CENTRAL SYDNEY AND INNER-EASTERN SYDNEY

Had two or more partners while in a regular relationship (%)	Men		Women	
	Men	Women	Men	Women
NSW	5.6	2.9		
Central Sydney	6.7	3.1		
IE Sydney	7.6	–		

Source: Australian Study of Health and Relationships, 2003.

although this difference is not statistically significant. For men in inner-eastern Sydney the average weekly frequency of sex was 2.32 (95 per cent CI 2.05 to 2.59).

Condom use

Condom breakage had been experienced by 39.9 per cent of men in NSW, 51.8 per cent of men in Central Sydney, and 47.6 per cent of men in inner-eastern Sydney. In the last year, 22.7 per cent of men in NSW, 28.2 per cent of men in Central Sydney, and 23.1 per cent of men in inner-eastern Sydney reported that they had had a condom break. Condom breakage appears to be associated with how

experienced the user is with using condoms, rather than the quality of condoms and lubricant.²³

Contraception and pregnancy

In NSW, 68.4 per cent of women reported that they had ever been pregnant, compared with 47.9 per cent of women in Central Sydney and 76.1 per cent nationally.²¹ In NSW, 30.9 per cent of women reported that they had had a termination of pregnancy (an abortion) compared with 48 per cent of women in Central Sydney and 22.6 per cent nationally.²¹

TABLE 5

MEAN SCORE OF CORRECT RESPONSE OUT OF 10, TO 10 KNOWLEDGE QUESTIONS ABOUT SEXUALLY TRANSMITTED INFECTIONS, BY AGE AND SEX, NSW, CENTRAL SYDNEY AND INNER-EASTERN SYDNEY

AGE (years)	NSW		Central Sydney		Inner-eastern Sydney
	Men (n=1172)	Women (n=604)	Men (n=194)	Women (n=187)	Men (n=471)
16–19	4.6	5.0	2.1	1.9	4.3
20–29	6.3	6.4	5.8	5.8	6.4
30–39	6.0	6.3	5.4	6.9	6.6
40–49	5.7	6.4	5.1	7.2	6.6
50–59	5.0	5.6	5.4	6.0	5.7

Source: Australian Study of Health and Relationships, 2003.

TABLE 6

PROPORTION OF RESPONDENTS DIAGNOSED WITH A SEXUALLY TRANSMISSIBLE INFECTION OR BLOOD BORNE VIRUS EVER, NSW, CENTRAL SYDNEY AND INNER-EASTERN SYDNEY

	NSW		Central Sydney		Inner-eastern Sydney
	Men % (n=3307)	Women % (n=2296)	Men % (n=606)	Women % (n=645)	Men % (n=1064)
Pubic lice or crabs	9.5	3.9	10.2	4.9	21.1
Genital warts	3.7	4.6	4.5	3.7	6.5
Wart virus on pap smear ^a	–	4.7	–	3.9	–
Chlamydia	1.9	2.5	1.8	3.8	5.3
Genital herpes	1.5	1.4	1.8	2.3	3.2
Syphilis	0.9	1.0	0.8	0.2	1.6
Gonorrhoea	2.3	0.9	3.6	1.2	6.6
Pelvic inflammatory disease ^a	–	1.8	–	1.2	–
Non-specific urethritis ^b	5.2	–	6.0	–	14.4
Bacterial vaginosis ^a	–	2.0	–	3.9	–
Trichomoniasis ^a	–	0.9	–	1.5	–
Candida or thrush ^c	4.4	38.0	5.3	31.0	6.0
Hepatitis A	1.9	1.5	3.1	2.1	3.9
Hepatitis B	0.8	0.7	2.2	0.7	2.5
HIV	0.2	0.1	0.3	0.2	2.9
Diagnosed with a blood borne virus					
Hepatitis C	0.5	0.6	0.8	0.5	1.0

(a) Female respondents only

(b) Male respondents only

(c) Not included when calculating lifetime and 12 months incidence of STIs

Source: Australian Study of Health and Relationships, 2003.

Oral contraception (25.5 per cent in NSW and 30.6 per cent in Central Sydney) was the most popular form of contraceptive. Tubal ligation–hysterectomy (16.0 per cent in NSW and 10.2 per cent in Central Sydney), condoms (14.6 per cent in NSW and 24.6 per cent in Central Sydney), and partner vasectomy (14.6 per cent in NSW and 4.5 per cent in Central Sydney) were also widely used.

Sexually transmissible infections

Knowledge about the transmission and health consequences of sexually transmissible infections (STIs) was generally poor, with women knowing more than men (Table 5). Respondents knew relatively little about genital herpes, gonorrhoea, genital warts, and chlamydia, some of which are common among sexually active people in Australia. Respondents aged 16–19 years in Central Sydney had particularly low levels of knowledge of STIs.

In NSW, 17.9 per cent of men and 14.7 per cent of women reported that they have ever been diagnosed with one of a list of STIs, and 2.5 per cent of men and 2.6 per cent of women had been diagnosed in the last year. This calculation does not include candida or thrush, and is gender specific (see Table 6). In Central Sydney,

19.3 per cent of men and 16.5 per cent of women reported that they had ever been diagnosed with an STI, and 3.4 per cent of men and 3.8 per cent of women had been diagnosed with an STI in the last year. In inner-eastern Sydney, 28.9 per cent of men reported that they had ever been diagnosed with an STI, and 7.7 per cent had been diagnosed with an STI in the last year. Percentages of respondents reporting that they had ever been diagnosed with an STI or blood borne virus (BBV) or diagnosed with an STI or BBV in the last year are presented in Table 6, with men in inner-eastern Sydney reporting markedly higher levels.

Sexual difficulties

Survey participants reported a range of sexual difficulties, which they had experienced for at least one month in the previous year. Women were more likely to report difficulties than men. Consistent with the national findings,¹⁶ the most common difficulties in NSW were lack of interest in sex (30.0 per cent of men and 55.9 per cent of women), coming to orgasm too quickly (24.1 per cent of men and 14.5 per cent of women), not having an orgasm (8.0 per cent of men and 31.1 per cent of women), and not enjoying sex (7.4 per cent of men and 27.6 per cent of women). Fewer women in Central Sydney

TABLE 7

EXPERIENCE OF SEXUAL DIFFICULTIES FOR AT LEAST ONE MONTH IN THE PAST YEAR, NSW, CENTRAL SYDNEY AND INNER-EASTERN SYDNEY

	NSW		Central Sydney		Inner-eastern Sydney
	Men % (n=1172)	Women % (n=604)	Men % (n=194)	Women % (n=187)	Men % (n=471)
Lacked interest in having sex	30.0	55.9	30.3	53.9	32.4
Unable to come to orgasm	8.0	31.1	8.8	26.8	6.4
Came to orgasm too quickly	24.1	14.5	16.8	9.6	17.3
Physical pain during intercourse	3.5	20.8	3.5	15.0	3.3
Did not find sex pleasurable	7.4	27.6	9.0	19.1	9.0
Felt anxious about ability to perform sexually	20.0	20.3	17.7	20.8	20.6
Trouble keeping erection	13.5	–	13.0	–	13.0
Trouble with vaginal dryness	–	22.7	–	17.4	–
Worried during sex about whether body looked attractive	17.1	36.7	30.8	35.7	23.2

Source: Australian Study of Health and Relationships, 2003.

TABLE 8

FREQUENCY OF MASTURBATION IN THE PAST YEAR AND THE PAST FOUR WEEKS, NSW, CENTRAL SYDNEY AND INNER-EASTERN SYDNEY

	NSW		Central Sydney		Inner-eastern Sydney
	Men % (n=1149)	Women % (n=816)	Men % (n=244)	Women % (n=271)	Men % (n=531)
Last year	72.9	42.6	79.3	51.2	89.1
Last four weeks	60.3	25.9	70.2	38.7	77.9

Source: Australian Study of Health and Relationships, 2003.

reported pain during sex and that sex was not pleasurable (Table 7).

Masturbation and other non-coital practices

The frequency of masturbation reported by men in NSW was higher than in Australia,¹⁸ and was higher again in inner-eastern Sydney (Table 8). Women in Central Sydney reported higher levels of masturbation than women in NSW as a whole. Autoerotic, esoteric, and other sexual activities in the past year were generally more common among men in inner-eastern Sydney than in NSW (Table 9).

Commercial Sex

Nationally, one in six Australian men (15.6 per cent) have paid for sex at some time in their life (97 per cent with women), and 1.9 per cent of men have paid for sex in the past year, while only 0.1 per cent of women have ever paid for sex.¹⁹ This frequency was considerably higher among men in NSW (22.5 per cent), among men in Central

Sydney (26.9 per cent), and among men in inner-eastern Sydney (24.1 per cent), as was the proportion who had paid for sex in the past year (see Table 10).

Sexual coercion

In NSW, 26.3 per cent of women and 7.5 per cent of men had been forced or frightened into unwanted sexual activity, which was higher than the comparable national figures (21.1 per cent of women and 4.8 per cent of men).²⁰ In Central Sydney, 21.0 per cent of women and 7.9 per cent of men reported that they had been forced or frightened into unwanted sexual activity; in inner-eastern Sydney 11.1 per cent of men reported that they had been forced or frightened into unwanted sexual activity.

Injecting drug use risks

Less than four per cent of the sample had ever injected drugs with men being more likely to do so than women (Table 11). None of the respondents in Central Sydney or inner-eastern Sydney who had injected drugs reported that

TABLE 9

ENGAGEMENT IN AUTOEROTIC, ESOTERIC AND OTHER SEXUAL ACTIVITIES IN THE PAST YEAR, NSW, CENTRAL SYDNEY AND INNER-EASTERN SYDNEY

	NSW		Central Sydney		Inner-eastern Sydney
	Men % (n=1503)	Women % (n=854)	Men % (n=267)	Women % (n=287)	Men % (n=568)
All respondents					
Had phone sex or rang phone sex line	3.7	3.1	2.4	1.8	7.6
Visited Internet sex site	22.8	3.4	35.1	4.4	24.2
Watched X-rated video or film	43.4	19.7	52.1	17.7	54.8
Used sex toy (e.g. vibrator, dildo)	14.8	15.6	13.1	16.9	22.2
Respondents with a sexual partner in the last year					
Role play or dressing up	5.7	4.0	7.0	7.2	2.1
BDSM or DS ^a	2.3	1.8	4.5	3.5	8.0
Had group sex	5.9	1.3	6.5	1.6	12.8
Anal stimulation (with fingers)	17.6	17.8	30.1	23.8	44.2
Fisting (hand or fist in vagina or rectum)	2.1	0.7	2.3	0.8	4.5
Rimming (oral-anal stimulation)	8.4	4.8	15.5	7.4	25.8

^a Bondage and discipline, sadomasochism or dominance and submission

Source: Australian Study of Health and Relationships, 2003.

TABLE 10

FREQUENCY OF HAVING EVER PAID FOR SEX AND PAID FOR SEX IN THE PAST YEAR, NSW, CENTRAL SYDNEY AND INNER-EASTERN SYDNEY

	NSW		Central Sydney		Inner-eastern Sydney
	Men % (n=1408)	Women % (n=809)	Men % (n=246)	Women % (n=258)	Men % (n=539)
Ever paid for sex	22.5	0.3	26.9	0.3	24.1
Paid for sex in the past year	5.3	–	6.8	–	5.4

Source: Australian Study of Health and Relationships, 2003.

TABLE 11

EXPERIENCE OF INJECTING DRUG USE, EVER AND IN THE PAST YEAR, NSW, CENTRAL SYDNEY AND INNER-EASTERN SYDNEY

	NSW		Central Sydney		Inner-eastern Sydney
	Men % (n=3310)	Women % (n=2299)	Men % (n=607)	Women % (n=648)	Men % (n=1064)
All respondents					
Ever injected drugs	2.4	1.1	3.0	2.0	3.9
Injected drugs in the last 12 months	1.3	0.4	1.5	0.8	1.2
Respondents who ever had injected					
Ever shared needles	21.6	43.8	45.7	51.9	25.9
Shared needles in the last 12 months	7.9	—	—	—	—
Ever shared injecting equipment	44.7	41.6	52.5	45.8	44.3
Shared injecting equipment in last 12 months	8.4	19.8	13.9	16.1	6.6

Source: Australian Study of Health and Relationships, 2003.

they had shared needles in the past 12 months, but a substantial minority had shared other paraphernalia associated with drug use.

DISCUSSION

The median age of first sexual intercourse in NSW has declined over the last 50 years, although this pattern was not evident in all geographical areas examined—perhaps attributable to high levels of female respondents from culturally and linguistically diverse backgrounds in Central Sydney,³¹ and to levels of men who have sex with men in inner-eastern Sydney. Given that other forms of sexual activity commonly occur before the first experience of vaginal intercourse, the declining age at first intercourse highlights the need to review the teaching of sexuality education in primary school and early secondary school. The generally poor levels of knowledge about STIs, particularly among younger respondents, also could be addressed as part of this review.

There appears to be lower levels of forms of contraception used in NSW and Central Sydney, compared with national figures,²² but there are also lower levels of conception in Central Sydney and higher levels of terminations than in the rest of NSW. This may indicate that ongoing encouragement of reliable methods of contraception is required.

The frequency of a range of sexual activities in inner-eastern Sydney, and to a lesser extent Central Sydney, was generally higher than in NSW as a whole. Metropolitan areas are known to attract people who seek out others with their own preferences, to avoid censure in small communities that may be less tolerant of diversity;¹ an example is the migration of homosexual people from regional areas into cities. These results clearly indicate less conservative attitudes and behaviours in inner-eastern

Sydney, including autoerotic and esoteric practices. The prevalence of reported STIs was also higher in inner-eastern Sydney, which is consistent with the regular reporting of notifiable diseases in the *NSW Public Health Bulletin*.

There was a higher frequency of use of sex workers in the last year in Central Sydney (three times greater), as well as in inner-eastern Sydney and NSW as a whole, compared with national figures. This may be a function of planning legislation in NSW, which has decriminalised sex work.

A small proportion of respondents had injected drugs in the last year, but it is worth noting that none of the inner-eastern Sydney or Central Sydney respondents reported sharing a needle in the last year. This may be a function of the availability of needle and syringe programs in inner city areas.

Overall, we found that women's experience of sex was less positive than men's. However, most women and men in NSW reported that sex in their relationships was extremely or very pleasurable and also reported similar levels of emotional satisfaction. How the problems identified relate to personal pleasure and satisfaction is an area for further research.

The high levels of sexual coercion in NSW (one in four women and one in 13 men in NSW) are of significant concern as the experience of sexual coercion for both men and women is associated with higher levels of psychosocial distress, smoking, anxiety about sex and having had an STI. National data indicate that few people who have been coerced talked about their experience to others, and even fewer talked to a counsellor,²⁰ highlighting the need for more widely promoted and accessible support services.

CONCLUSION

These results of the Australian Study of Health and Relationships for NSW, Central Sydney and inner eastern Sydney presented here describe the frequencies of the main indicators covered by the survey. They have highlighted significant local variations that can assist the planning, implementation and evaluation of sexual health programs and services.

ACKNOWLEDGEMENTS

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SEX IN AUSTRALIA: THE AUSTRALIAN STUDY OF HEALTH AND RELATIONSHIPS

The sexual health data for New South Wales, Central Sydney, and inner-eastern Sydney, reported in this issue of the *NSW Public Health Bulletin*, are part of a larger survey of sexual health behaviours and attitudes of Australians. This national survey involved telephone interviews with 19,307 people aged 16–59 years from all Australian states and territories. With a 73.1 per cent response rate, and statistical weighting of the data to reflect the location, age, and sex distribution of the 2001 Census, the sample is broadly representative of the Australian population.

THE MAIN REPORT

The primary report of the Australian Study of Health and Relationships is published as 21 articles in the *Australian and New Zealand Journal of Public Health*, Volume 27, Number 2, April 2003.

Each article focuses on a particular aspect of the survey or content area. The first two articles present the details of the methodology used in the survey and the rationale for this approach. The final paper considers the meaning of the overall findings and the implications for future research. Each of the remaining 18 articles presents the findings of a section of the questionnaire, with the data broken down by selected variables. Generally, these

variables are age, gender, language spoken at home, sexual identity, education, region of residence, household income, and occupation, although other variables are used as appropriate. A series of further analyses are planned to explore the data in more depth and to conduct multivariate analyses.

CONTENT AREAS

The questionnaire used in the Australian Study of Health and Relationships covered broad aspects of sexual health. Articles published in the April 2003 issue of *Australian and New Zealand Journal of Public Health* focused on:

- attitudes towards sex;
- characteristics of regular sexual relationships;
- first experiences of vaginal intercourse and oral sex;
- sexual identity, sexual attraction, and sexual experience;
- heterosexual experience and recent heterosexual encounters;
- homosexual experience and recent homosexual encounters;
- sexual difficulties;
- preferred frequency of sex, and sexual and emotional satisfaction;

- autoerotic, esoteric, and other sexual practices;
- commercial sex;
- sexual coercion;
- reproductive experiences;
- contraceptive experiences,
- safer sex and condom use;
- condom failure;
- history of and knowledge about sexually transmitted infections and blood-borne viruses;
- injecting and sexual risk behaviour.

The Australian Study of Health and Relationships is the largest and most comprehensive survey of sexuality ever undertaken in this country. It will provide important information to guide policy and practice for years to come.

HOW TO GET A COPY

Copies of the full report are available from the Australian Research Centre in Sex, Health and Society at the cost of A\$30. Cheques payable to 'ARCSHS' should be sent to *Sex in Australia*, Australian Research Centre in Sex, Health and Society, La Trobe University, Level 1, 215 Franklin Street, Melbourne VIC 3000. Alternately, requests can be made by email at arcshs@latrobe.com.au or by visiting the website www.latrobe.edu.au/arcshs.

CONTINUOUS NSW HEALTH SURVEY: QUARTERLY REPORT ON HEALTH STATUS, HEALTH BEHAVIOURS, AND RISK FACTORS

Lara Harvey, Andrew Hayen, and Margo Eyeson-Annan
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 NSW Department of Health

This is the first of a series of quarterly reports on the surveillance of the health status, health behaviours, and risk factors of the people of NSW, which will be produced from the Continuous NSW Health Survey. Ten indicators have been selected for inclusion in the report. These have been chosen either because they are of ongoing interest or because seasonal variation is possible (Figure 1). The Continuous NSW Health Survey is conducted by the Centre for Epidemiology and Research, through the Department of Health's Computer Assisted Telephone Interviewing (CATI) facility. The data reported in this

report are based on the respondents described in Table 1. Although prevalence estimates are only shown in the graphs, 95 per cent confidence intervals have been calculated and these are available on request from the NSW Health Survey Program.

SELF-RATED HEALTH

Self-rated health is believed to principally reflect physical problems and, to a lesser extent, health behaviours and mental health problems. Longitudinal studies have shown that self-rated health is a strong and independent predictor of subsequent illness and premature death.¹ In 2002, 82.0 per cent of NSW residents aged 16 years and over reported their health as being either 'excellent', 'very

TABLE 1

RESPONDENTS AGED 16 YEARS AND OVER BY COLLECTION QUARTER

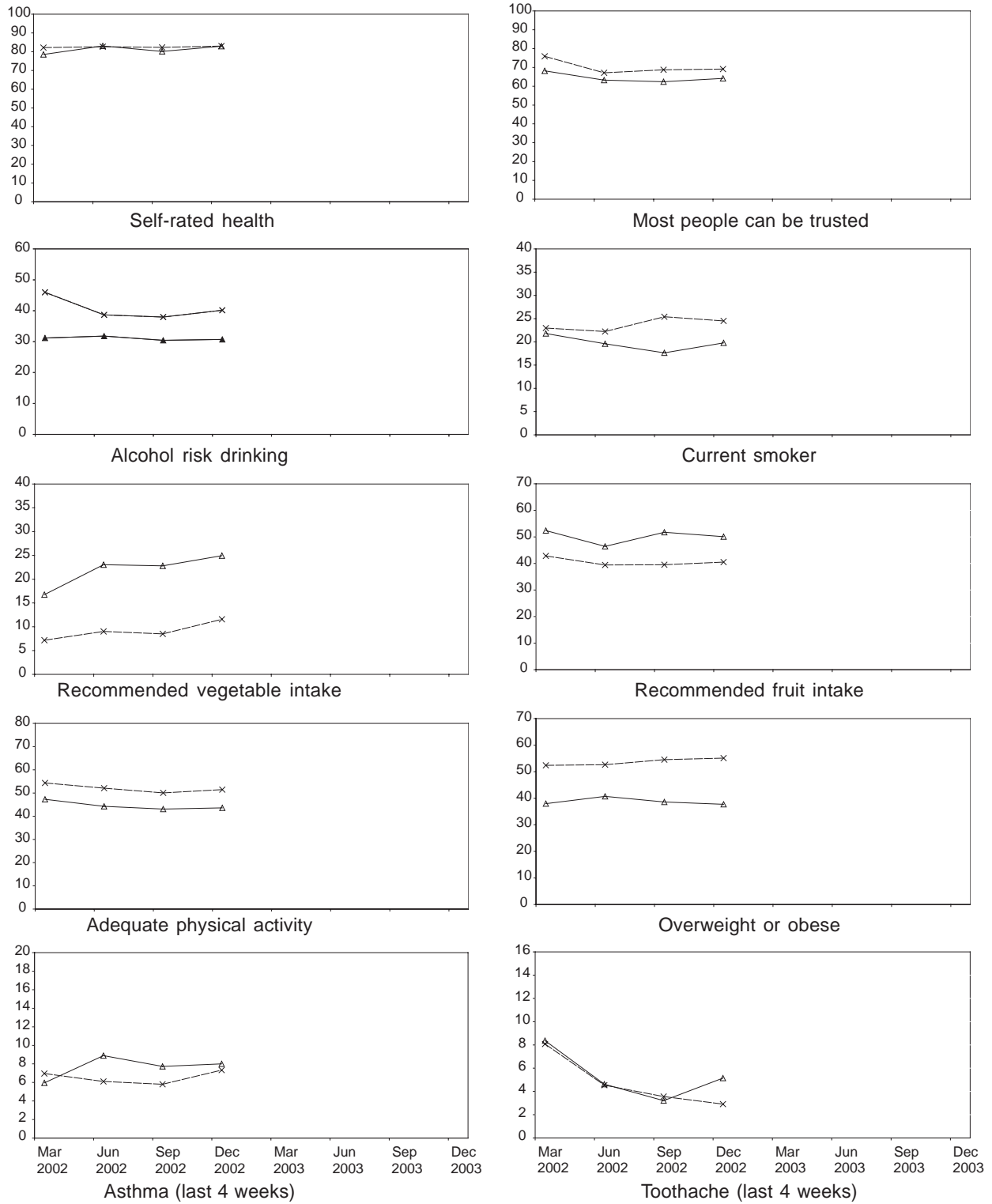
Quarter	Males	Females	Persons
February–March 2002	386	609	995
April–June 2002	1444	1993	3437
July–September 2002	1768	2345	4113
October–December 2002	1645	2266	3911

Source: NSW Health Survey Program, Centre for Epidemiology and Research, NSW Department of Health.

FIGURE 1

QUARTERLY REPORT OF SELECTED INDICATORS, CONTINUOUS NSW HEALTH SURVEY, MARCH 2002 TO DECEMBER 2002

—x— Males —△— Females



Source: NSW Health Survey Program, Centre for Epidemiology and Research, NSW Department of Health.

good', or 'good'. There was no significant difference in self rated health between male rates (82.8 per cent) and female rates (81.2 per cent) between quarters.

MOST PEOPLE CAN BE TRUSTED

Trust involves a willingness to take risks in a social context. This willingness is based on a confidence that others will respond as expected and will act in mutually supportive ways—or at least will not attend harm. In 2002, 65.8 per cent of NSW residents either 'agreed' or 'strongly agreed' that most people can be trusted. Significantly fewer females (62.5 per cent) than males (69.1 per cent) agreed that most people can be trusted.

ALCOHOL RISK DRINKING

Risk drinking behaviour includes one or more of the following, consuming alcohol every day, consuming on average more than four (if male) or two (if female) standard drinks, or consuming more than six (if male) or four (if female) standard drinks on any one occasion or day.² In 2002, 34.4 per cent of residents reported undertaking risk drinking behaviours. Males (39.2 per cent) reported significantly higher rates of risk drinking than females (29.7 per cent).

CURRENT SMOKER

Current smoking includes 'current' and 'occasional' smoking rates. In 2002, 21.4 per cent of respondents reported current smoking. Males (23.9 per cent) reported higher smoking rates than females (18.9 per cent).

RECOMMENDED VEGETABLE INTAKE

The recommended daily vegetable intake is four serves for females over 12 years of age, and males 12–18 years of age, and over 60 years. Five serves are recommended for males aged 19–60 years.³ In 2002, only 16.2 per cent of people consume the recommended quantities of vegetables. A significantly greater proportion of females (22.9 per cent) than males (9.2 per cent) eat the recommended amount of vegetables.

RECOMMENDED FRUIT INTAKE

The recommended daily fruit intake is three serves for people 12–18 years of age and two serves for people 19 years of age and over.³ In 2002, 45.3 per cent of NSW residents consumed the recommended amount of fruit. A significantly greater proportion of females (50.1 per cent) than males (40.3 per cent) eat the recommended quantities of fruit.

ADEQUATE PHYSICAL ACTIVITY

To maintain health it is currently recommended that moderate intensity exercise is carried out on all or most days of the week for at least 30 minutes per day. 'Adequate' physical activity is defined as a total of 150 minutes per week over five separate occasions.⁴ In 2002, 46.6 per cent of people undertook adequate physical activity. Significantly more males (50.4 per cent) than females (42.9 per cent) reported undertaking adequate physical activity.

OVERWEIGHT OR OBESE

Self-reported height and weight were used to estimate body mass index (BMI), which was used to classify respondents into body weight categories. A BMI of 25 to less than 30 is classified as overweight, and a BMI of equal to or greater than 30 as obese. In 2002, 46.3 per cent of people were classified as overweight or obese. Significantly more males (53.9 per cent) than females (38.5 per cent) were overweight or obese.

ASTHMA

In 2002, 7.1 per cent of people reported having asthma symptoms or seeking management for asthma in the last four weeks. There was no significant difference in asthma rates between males (6.5 per cent) and females (7.6 per cent) between quarters.

TOOTHACHE

In 2002, 5.1 per cent of people had a toothache 'often' or 'very often' in the last four weeks. There was no significant difference in toothache rates between males (4.8 per cent) and females (5.3 per cent) between quarters.

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NSW HEALTH ABORIGINAL HEALTH IMPACT STATEMENT: REFERENCES AND RESOURCES ABOUT ABORIGINAL PEOPLE AND ABORIGINAL HEALTH

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The NSW Health Aboriginal Health Impact Statement has been developed to ensure that the health needs and interests of Aboriginal people are integrated into the policy, program, and strategy development processes. The statement can be obtained from www.health.nsw.gov.au/pubs/a/pdf/ab_impact_state_book.pdf. A useful list of references and resources about Aboriginal people and Aboriginal health is included with the statement and is reproduced here. The list includes intranet and internet sites, books, and other publications, but is not exhaustive. Listing of specific references and resources does not imply endorsement, support, or commercial gain by NSW Health.

ABORIGINAL PEOPLE, HISTORY, CULTURE

Internet sites

- www.atsic.gov.au/News_Room/As_a_Matter_of_Fact/Default.asp;
- www.atsia.gov.au/atsia/facts/index.htm;
- www.natsiew.nexus.edu.au;
- www.dreamtime.net.au;
- www.nationalparks.nsw.gov.au/npws.nsf/Content/Aboriginal+people+and+cultural+life
- www.ciolek.com/WWWVLPages/AborigPages/General.html.

Books and other publications

There are numerous books and videos available at public libraries, including:

- Goodall H. *Invasion to Embassy: Land in Aboriginal politics in New South Wales, 1770–1972*. St Leonards, NSW: Allen and Unwin (in association with Black Books), 1996.
- Parbury N. *Survival: A history of Aboriginal life in New South Wales*. Sydney: NSW Department of Aboriginal Affairs, 1986.

NSW ABORIGINAL HEALTH PARTNERSHIP AND FRAMEWORK AGREEMENT

- Policy and Planning Unit, Aboriginal Health Branch, NSW Department of Health, telephone (02) 9391 9000;
- Aboriginal Health and Medical Research Council of NSW, email ahmrc@ahmrc.org.au or telephone (02) 9698 1099.

ABORIGINAL HEALTH POLICIES, PROGRAMS, AND STRATEGIES IN NSW

- Ensuring Progress in Aboriginal Health in NSW: A Reader Friendly Information Kit

Published in 2002, this kit provides a concise summary of Aboriginal health issues, policies, programs, structures, and contact details. Available electronically from:

http://internal.health.nsw.gov.au/pubs/aboriginal_health/ensureprogress_kit.pdf;

or from:

www.health.nsw.gov.au/pubs/aboriginal_health/ensureprogress_kit.pdf;

or in printed form from:

Better Health Centre, NSW Department of Health, telephone (02) 9816 0452, fax (02) 9816 0492 or email DE1@doh.health.nsw.gov.au.

Other publications

- Aboriginal Health Branch. *The Last Report: Report of the NSW Task Force on Aboriginal Health*. Sydney: NSW Department of Health, 1990.
- Swan P. *200 Years of Unfinished Business*. Redfern: Aboriginal Medical Service, 1988 (reprinted in 1997).

ABORIGINAL HEALTH POLICY (NATIONAL)

For Aboriginal health policy matters with national implications:

- Office for Aboriginal and Torres Strait Islander Health, Commonwealth Department of Health and Ageing at www.health.gov.au:80/oatsih/what/index.htm;
- National Aboriginal Community Controlled Health Organisation at www.naccho.org.au;
- Guidelines for the development, implementation, and evaluation of National Public Health Strategies in relation to Aboriginal and Torres Strait Islander peoples at www.nphp.gov.au/natstrat/atsi/guidelines/index.htm.

ABORIGINAL HEALTH STATISTICS AND EPIDEMIOLOGY

- Australian Indigenous HealthInfoNet at www.healthinfonet.ecu.edu.au;
- Publications from the National Centre for Aboriginal and Torres Strait Islander Statistics at www.abs.gov.au;

- Publications from the Australian Bureau of Statistics at www.abs.gov.au;
- Publications from the Australian Institute of Health and Welfare at www.aihw.gov.au;
- Aboriginal Health Information Strategy Unit, NSW Department of Health, at www.health.nsw.gov.au/im/ahisu;
- Publications from the Centre for Epidemiology and Research, NSW Department of Health (including *The Report of the Chief Health Officer* and *NSW Mothers and Babies*) at www.health.nsw.gov.au;
- National performance indicators for Aboriginal and Torres Strait Islander health at www.health.gov.au/oatsih/pubs/pdf/mpi.pdf;
- National service activity reporting for Aboriginal Community Controlled Health Services at www.health.gov.au:80/oatsih/pubs/pdf/sar.pdf.

ABORIGINAL HEALTH FUNDING

- Australian Institute of Health and Welfare. *Expenditures on Health Services for Aboriginal and Torres Strait Islander People 1998–99*. Canberra: AIHW and Commonwealth Department of Health and Aged Care, 2001;

- Deeble J, Mathers C, Smith L et al. *Expenditures on Health Services for Aboriginal and Torres Strait Islander People*. Canberra: AIHW, 1998;
- Program Support and Evaluation Unit, Aboriginal Health Branch, NSW Department of Health, telephone (02) 9391 9000.

ABORIGINAL COMMUNITY CONTROLLED HEALTH SERVICES IN NSW

- Aboriginal Health and Medical Research Council of NSW, email ahmrc@ahmrc.org.au or telephone (02) 9698 1099;
- National Aboriginal Community Controlled Health Organisation (current list of NSW members at www.naccho.org.au/Members.html). ☒

ADDRESSING DISADVANTAGE AND HEALTH: THE MOUNT DRUITT PILOT STUDY

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The question of how to ameliorate health inequities is one of the main challenges facing the public health workforce. How might differences in health be addressed, which have their roots in poverty and social exclusion? What training do public health workers need to design effective programs and interventions for disadvantaged populations? Commissioned by a cross-institutional group; produced with funding from the Commonwealth Department of Health and Aged Care; and administered by the Centre for Health Equity Training and Research Evaluation, South Western Area Health Service, and the Population Health Partnerships Unit, University of Western Sydney, the Mount Druitt Pilot Study makes a small step towards answering these questions. This article introduces the study.

This qualitative study interviewed 22 people working on existing or proposed interventions in the Mount Druitt and surrounding area, which is one of the most highly disadvantaged areas in New South Wales. Seven workers were from health-related services, while fifteen workers were from a range of government, non-government, and community organisations. Workers from outside the health sector were included in the study, because many of the factors influencing health—for example, housing, crime, literacy, and social integration—are the direct concern of other agencies.

Participants were asked to identify:

- characteristics of projects that they considered could effectively address social disadvantage;
- barriers to successfully addressing social disadvantage;
- possible future directions for addressing the impact of social disadvantage on health.

Common themes were identified and grouped according to the above headings.

Interventions were considered a success if they had met their objectives; no interventions had been evaluated in the long term. Factors that the participants considered had contributed to success included: 'adequate funding', 'organisation support', and 'sufficient time-lines'. Less quantifiable factors were also identified, such as

'personality of key workers', 'good partnerships', and 'trust'. Although these factors are phenomena of which most community level workers are aware, it is a challenge to 'operationalise' them so that they might become part of a training program for health workers.

Trust, for example, appeared to be a function of cultural sensitivity, of the length of time a worker spends in the community, and workers not adopting patronising behaviours. These factors can be easily undermined by other forces often beyond the individual workers' control; for instance, in Mount Druitt the terms and conditions of work have led to a constant stream of health and welfare workers passing through the community. This loss of continuity erodes trust.

Although numerous examples of successful interventions were cited, a number of interviewees raised the issue of creating lasting improvements in social wellbeing and population health. Mount Druitt has been the target of a plethora of interventions over recent decades but the problems of poverty, poor health, addiction, and violence are enduring. Small-scale interventions were not seen as being able to address the deeper causes of disadvantage. For this reason, there is a strong impetus to begin integrating interventions and to look at more radical solutions. For example, public housing, which represents 30 per cent of housing in Mount Druitt, has high concentrations of the most socially and economically disadvantaged populations; consequently, the NSW Department of Housing is considering interventions aimed at changing the social and economic mix of residents living in public housing.

Poverty, and the accompanying health disadvantages, is becoming increasingly concentrated in particular areas—a consequence of an entrenched income divide, declining housing affordability, and the legacy of large-scale public housing estates. The future public health workforce will require the skills and knowledge to work effectively with these communities. ☒

The Mount Druitt Pilot Study is to be published as a monograph later this year. Further details can be obtained from the author by email at a.gethin@uws.edu.au.

MENINGOCOCCAL DISEASE

WHAT IS MENINGOCOCCAL DISEASE?

Meningococcal disease is a serious illness, usually causing meningitis (inflammation of the lining of the brain) and septicaemia (blood poisoning). The disease is rare and affects between 200–250 people in NSW each year, which is less than 1 in 10,000 people. The bacteria that causes meningococcal disease is called meningococcus. There are several different types of meningococcus. In NSW, group B is responsible for about half of the cases of meningococcal disease, and group C is responsible for about one-third of cases. Meningococcus can be present in the nose and throat of people who remain completely well and never develop meningococcal disease. About 5–25 per cent of the population carry the bacteria without becoming ill.

WHAT ARE THE SYMPTOMS?

Symptoms may include the sudden onset of fever, headache, tiredness, neck stiffness, joint pain, a rash of red-purple spots or bruises, dislike of bright lights, vomiting, and nausea. Not all of the symptoms of meningococcal disease may be present at once. Babies and very young children may have less specific symptoms. These may include irritability, difficulty waking, high-pitched crying, and refusal to feed. A rash does not always appear, and the absence of a rash does not exclude meningococcal disease in someone with other symptoms. It is important to seek medical attention early, because most people recover with early antibiotic treatment. The disease is life-threatening in some people.

HOW IS IT SPREAD?

Meningococcus are not easily spread from person-to-person. Close and prolonged person-to-person contact is usually required for the bacteria to be passed between people. Meningococcus are spread by the secretions from the nose and throat of a person carrying the bacteria. The bacteria do not survive for long outside the human body. Airborne transmission does not occur.

WHO IS AT RISK?

Meningococcal disease occurs in a wide variety of people but is more common in some groups, such as: the very close contacts of people diagnosed with meningococcal disease; babies, children, adolescents, and young adults (although disease can occur at any age). People with increased risk include: people exposed to cigarette smoke; travellers to countries with high rates of meningococcal

disease; and people who have no spleen or who have certain other medical conditions. Meningococcal disease occurs more commonly in winter and early spring.

WHAT ABOUT CONTACTS?

People who have had minimal exposure to someone with meningococcal disease have very little risk of developing meningococcal disease. Contacts are people who have been identified as having *very* close and prolonged contact with a person who has the disease, such as household members, or those who have been exposed to the person's respiratory secretions. Contacts are offered a special antibiotic to kill the bacteria in the nose or throat, and therefore reduce the risk of disease transmission. This antibiotic does not treat the disease but simply stops the likelihood of the bacteria being carried in the nose and throat. Different antibiotics are needed if symptoms of illness develop.

REDUCING THE RISKS

Although there is little evidence that sharing cups or drink bottles can transmit meningococcus, it seems sensible to avoid this if possible. Homes and cars should be smoke-free.

THE MENINGOCOCCAL VACCINE

New vaccines are now available that protect against meningococcal C disease. These vaccines only protect people against group C meningococcus, and therefore people must always be alert for the symptoms of meningococcal disease. There is no vaccine available against group B meningococcal disease. A meningococcal vaccine that provides only short-term protection against groups A, C, Y, and W135 is recommended for travellers to countries where epidemics of these groups of meningococcus are frequent (for example, sub-Saharan Africa). Vaccination is also recommended for people without a spleen, and for others with certain chronic medical problems. Vaccines are sometimes used during outbreaks of meningococcal disease in confined environments (such as boarding schools, residential colleges, or military barracks). The National Meningococcal C Vaccination Program, which aims to protect all Australians aged 1–19 years, will be conducted from 2003–2006.

For further information please contact your local public health unit, community health centre, or doctor.

July 2003 ☒

COMMUNICABLE DISEASES REPORT, NSW, FOR MAY 2003

TRENDS

Summaries of case notifications through to May 2003 are shown in Figure 2 and Table 4.

BLOOD-BORNE AND SEXUALLY TRANSMISSIBLE INFECTIONS

Quarterly Report: HIV notifications to end of March 2003

Figure 1 and Table 1 summarise recent trends in human immunodeficiency virus (HIV) disease in NSW.

Background

HIV causes acquired immunodeficiency syndrome (AIDS). The virus is spread from person to person, mainly through exposure to the sexual fluid or blood from an infected person. In Australia, people at highest risk of infection include men who have sex with men, injecting drug users, and sex workers. Soon after infection, many people will experience a self-limiting influenza-like illness. The infection then remains silent for many years. In most cases, without treatment the virus will eventually destroy the infected person's immune system, allowing the development of other infections (for example, pneumonia or tuberculosis), and cancer (for example, Kaposi's sarcoma). Wasting disease and dementia can also occur. When these secondary illnesses occur, the person is said to have AIDS.

AIDS was first recognised in NSW in the early 1980s, and has mainly affected men who have sex with men. In NSW, surveillance systems were set up and coordinated nationally to monitor the epidemic. National data on HIV disease is gathered from a range of data sources, including notifications from laboratories and doctors of people with HIV or AIDS, special surveys of sexual health clinics, clients of needle and syringe programs, and special studies of risk factors among populations at high risk.

Surveillance

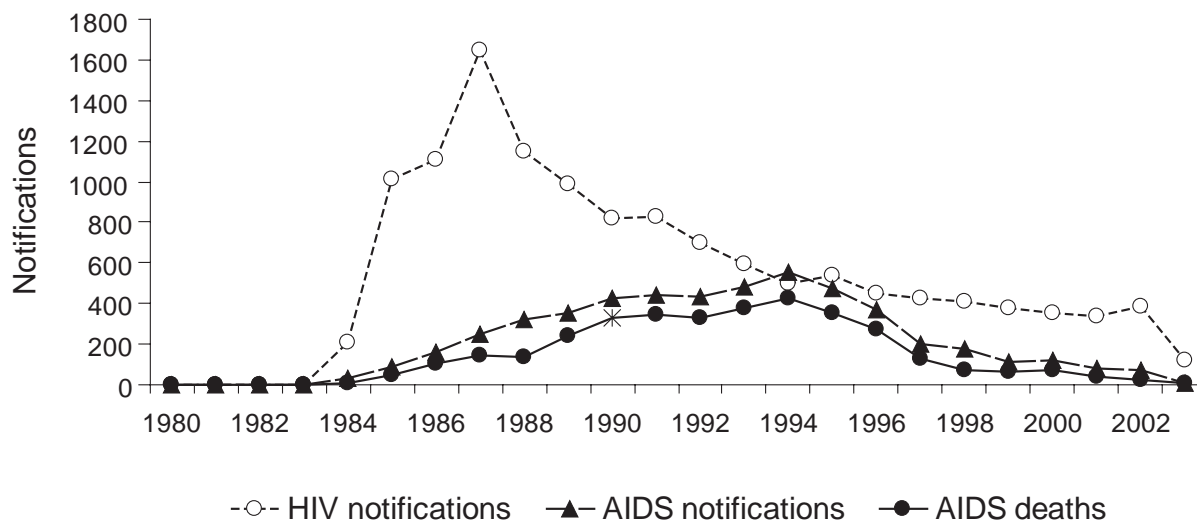
NSW Health coordinates surveillance of HIV and AIDS by collating notifications of people newly-diagnosed with HIV infection from diagnostic laboratories, and by seeking notifications of people diagnosed with AIDS from doctors. Under the *Public Health Act (NSW)*, laboratories and doctors are required to notify HIV and AIDS cases using a code for the patient's name and their date of birth.

There are limits to HIV surveillance in that:

- it can only identify people who present to their doctors for testing. Because people can be infected and have no symptoms, they may not present for testing until years after their initial infection;
- there is little identification data on the cases, as a name code is used rather than a full name and address, which makes both the follow up of cases and removal of duplicate notifications of cases difficult.

FIGURE 1

NOTIFICATION OF HIV INFECTION, AIDS, AND AIDS DEATHS BY YEAR, NSW, 1981 TO MARCH 2003



Note: HIV diagnoses are by date of first positive result.

TABLE 1

CHARACTERISTICS OF NSW RESIDENTS REPORTED WITH HIV INFECTION, AIDS, OR WHO HAVE DIED FROM AIDS, 1981 TO MARCH 2003

Characteristic	All cases 1981–March 2003			Cases for 2002			January–March 2003												
	HIV N	%	AIDS deaths N	HIV N	%	AIDS deaths N	HIV N	%	AIDS deaths N										
Gender																			
Female	690	5.3	210	4.1	121	3.5	30	7.7	2	2.7	1	4.0	9	7.7	0	0.0	1	20.0	
Male	11993	92.5	4930	95.7	3377	96.3	346	88.9	70	95.9	24	96.0	105	89.7	9	100.0	4	80.0	
Transgender	25	0.2	13	0.3	9	0.3	3	0.8	1	1.4	0	0.0	0	0.0	0	0.0	0	0.0	
Not stated	262	2.0	0	0.0	0	0.0	10	2.6	0	0.0	0	0.0	3	2.6	0	0.0	0	0.0	
Age																			
0–2	27	0.2	7	0.1	3	0.1	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
3–12	36	0.3	11	0.2	8	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
13–19	210	1.6	13	0.3	9	0.3	1	0.3	0	0.0	0	0.0	2	1.7	0	0.0	0	0.0	
20–29	4077	31.4	758	14.7	540	15.4	88	22.6	3	4.1	2	8.0	26	22.2	0	0.0	0	0.0	
30–39	4987	38.5	2137	41.5	1438	41.0	179	46.0	23	31.5	8	32.0	47	40.2	4	44.4	1	20.0	
40–49	456	3.5	1512	29.3	1027	29.3	84	21.6	34	46.6	12	48.0	26	22.2	3	33.3	3	60.0	
50–59	791	6.1	538	10.4	352	10.0	22	5.7	11	15.1	3	12.0	9	7.7	1	11.1	1	20.0	
60 +	283	2.2	177	3.4	130	3.7	12	3.1	2	2.7	0	0.0	7	6.0	1	11.1	0	0.0	
Not stated	103	0.8	0	0.0	0	0.0	2	0.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
Exposure																			
Male homosexual-bisexual	7722	59.5	4176	81.0	2909	82.9	243	62.5	48	65.8	18	72.0	73	62.4	8	88.9	3	60.0	
Male homosexual-bisexual and IDU	315	2.4	205	4.0	140	4.0	11	2.8	9	12.3	2	8.0	2	1.7	0	0.0	0	0.0	
Injecting drug use	431	3.3	101	2.0	51	1.5	9	2.3	0	0.0	1	4.0	4	3.4	0	0.0	0	0.0	
Heterosexual	928	7.2	319	6.2	154	4.4	58	14.9	13	17.8	3	12.0	13	11.1	1	11.1	2	40.0	
Haemophilia-Coagulation disorders	114	0.9	52	1.0	46	1.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
Blood-Tissue recipient-NSI*	121	0.9	102	2.0	90	2.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
Vertical	37	0.3	14	0.3	7	0.2	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
Undetermined	3229	24.9	36	0.7	18	0.5	42	10.8	2	2.7	1	4.0	7	6.0	0	0.0	0	0.0	
Not stated	73	0.6	148	2.9	92	2.6	25	6.4	1	1.4	0	0.0	18	15.4	0	0.0	0	0.0	
Residence																			
Greater Sydney**	7245	55.9	4299	83.4	2944	83.9	330	84.8	54	74.0	19	76.0	87	74.4	7	77.8	4	80.0	
Rest of New South Wales	862	6.6	690	13.4	426	12.1	38	9.8	17	23.3	4	16.0	13	11.1	2	22.2	1	20.0	
Unknown	4863	37.5	164	3.2	137	3.9	21	5.4	2	2.7	2	8.0	17	14.5	0	0.0	0	0.0	
Total	12970	100	5153	100	3507	100	389	100	73	100	25	100	117	100	9	100	5	100	

Source: NSW HIV-AIDS database, Communicable Diseases Branch, NSW Department of Health. Note: Recent HIV data may contain duplicates.

* Needle-stick injury.

** Greater Sydney area health services include Central Sydney, North Sydney, Western Sydney, Wentworth, South West Sydney, and South East Sydney.

HIV surveillance data should therefore be interpreted with caution, since it measures the number of people who have been newly-diagnosed with HIV infection, rather than new infections of HIV. Changes in the number of new diagnoses may reflect changing patterns of HIV testing or changes in infection rates. Through the process of follow-up of notifications with the doctors of patients, new information about cases comes to light from time to time, which may provide better information about their patient's risk or previous HIV test history. Such new information will result in retrospective changes to the number and risk profiles of the people notified with HIV in NSW.

The number of new HIV diagnoses peaked in the late 1980s and declined in the early 1990s. In recent years the number of new diagnoses has plateaued. For 2001, 341 cases with newly-diagnosed HIV infection were notified in NSW, representing the lowest number to date. For 2002, 389 cases were reported, an increase of 14 per cent on 2001. As previously described, the increase could reflect a real increase in new infections in NSW, or may simply reflect a change in testing patterns of people with HIV. The increase was mainly among people 30–39 years of age and patients who report the risk factors of engaging in male-to-male sex.

In NSW, a number of other indicators suggest that a real increase in the incidence of HIV is likely. These are:

- an increase in reports of gonorrhoea in inner Sydney in recent years (consistent with clinical reports that many of these cases are among men who have sex with men);
- an increase in new syphilis infections in inner Sydney since 2000 (again, many cases are among men who have sex with men).

The number of people notified with AIDS and who have died from AIDS has declined since the mid-1990s, most

likely due to better treatment for HIV infection and the general decline in new HIV infections.

VECTOR-BORNE DISEASES

Notifications of Ross River and Barmah Forest virus infection increased substantially in the Northern Rivers Area following coastal rains, high tides, and warm weather, all of which are conducive to mosquito breeding.

RESPIRATORY AND OTHER DISEASES

Meningococcal disease cluster on an aeroplane

In May, a 68-year-old woman presented to a Central Sydney hospital unwell with headache and fever and a three-week history of respiratory illness. She was diagnosed with meningococcal disease, which was confirmed when a sample of cerebrospinal fluid (CSF) tested positive for *Neisseria meningitidis* by nucleic acid testing. The public health investigation identified no likely risk for meningococcal disease, but it was noted that the woman had recently flown to Sydney from Los Angeles.

Two days later, an 86-year-old woman presented to a South Western Sydney hospital with shortness of breath. Her condition soon deteriorated. She required ventilation, and she also developed a petechial rash. Gram-negative diplococci (consistent with *N. meningitidis*) were identified in a sample of her CSF. The patient had travelled from Central America to Sydney in the previous week by aeroplane.

Routine follow-up of meningococcal cases includes identification of close contacts, which includes people sitting in adjacent seats to a case on air flights longer than eight hours duration. In following up possible airline contacts for each case, it soon became apparent that both had travelled on the same international flight from Los Angeles to Sydney during their incubation period. The passengers were seated on the same side of the plane, but in different sections; however, the investigation could identify no direct contact between the two either during or off the flight.

A literature search found no reports of transmission of meningococcal disease during air flights. Nonetheless, Australian and United States guidelines recommend that passengers seated adjacent to a meningococcal case on long haul flights should be considered for chemoprophylaxis.^{1,2}

An expert teleconference recommended that the public health units provide advice and chemoprophylaxis to those passengers sitting adjacent to, and in rows in front and behind, each passenger, and that a media release be issued alerting other passengers and crew. The airline provided a list of passengers and the Commonwealth Department of Immigration and Multicultural and Indigenous Affairs provided contact details of these passengers from the flight landing cards.

GLOSSARY OF TERMS

New HIV diagnosis refers to a person who is diagnosed for the first time with human immunodeficiency virus (HIV) infection.

Newly acquired HIV infection refers to a person with a new HIV diagnosis who tested HIV negative or reported a seroconversion illness in the 12 months before HIV diagnosis

AIDS refers to a person with HIV infection who develops one of several infections, malignancies, or other medical conditions indicating immune depression consistent with the definition of the acquired immunodeficiency syndrome (AIDS).

AIDS death refers to a person who has died of any cause after being diagnosed with AIDS.

Further testing showed that both cases were due to *N. meningitidis* serogroup B, and genotyping results strongly suggest that the two cases were caused by the same serogroup B meningococcus. No further cases related to this airline cluster were subsequently identified.

References

1. Centers for Disease Control and Prevention. Exposure to patients with meningococcal disease on aircraft, United States, 1999–2001. *MMWR* 2001; 50: 485–489.
2. Communicable Diseases Network Australia. *Guidelines for the early clinical and public health management of Meningococcal Disease in Australia*. Canberra: Commonwealth Department of Health and Aged Care, 2001.

UPDATE ON SEVERE ACUTE RESPIRATORY SYNDROME INVESTIGATIONS

An epidemic of atypical pneumonia was first noted in southern China in November 2002. Subsequent transmission to travellers and their contacts led the World Health Organization to issue a global alert on 15 March. The disease, which included fever and respiratory symptoms, was named Severe Acute Respiratory Syndrome (SARS).

The case definition for suspected SARS included a person who visited an affected area or who had close contact with a SARS case in the previous 10 days who develop fever ($>38^{\circ}\text{C}$) and cough or difficulty breathing. Probable cases also have chest x-ray changes of pneumonia or Respiratory Distress Syndrome (RDS) in the absence of another cause. However, because no causative pathogen is identified in 40 percent of patients with community-acquired pneumonia in normal circumstances, many patients fitting this definition may well have a disease other than SARS.

A new coronavirus, known as SARS CoV, has now been identified as the pathogen that causes SARS. Specific diagnostic tests for SARS CoV have been developed and are currently being validated. Definitive diagnosis of SARS remains difficult, however, because the tests are not positive in all cases.

Active surveillance for SARS in NSW began on 17 March 2003. Hospitals and general practitioners were alerted to report possible cases to their public health unit and to use SARS infection control precautions. All patients under investigation are reviewed by a national expert committee to determine the probability of SARS in each patient.

As of 13 June, the Communicable Diseases Branch, NSW Department of Health, had been notified of 56 people who have been investigated for possible SARS. Four had onset of fever in February, 15 in March, 20 in April, 14 in May, and three in June. The age range in these 56 patients was from seven months to 81 years. Six (11 per cent) were aged 0–4 years, six (11 per cent) were aged 5–19 years, 18 (32 per cent) were aged 20–39 years, 18 (32 per cent) were aged 40–59 years, and eight (14 per cent) were older

than 60 years. Thirty-two cases (57 per cent) were males. Thirty-four (61 per cent) resided in metropolitan Sydney and 15 (27 per cent) resided in other parts of NSW. Seven (13 per cent) were international travellers.

All 56 patients reported fever. Fifty patients (89 per cent) reported cough. Twenty-five patients (45 per cent) also reported either shortness of breath or difficulty breathing. Forty-eight patients (86 per cent) had fever and respiratory symptoms but either had no chest x-ray or their x-ray showed no evidence of pneumonia. SARS is an unlikely diagnosis in this group. An alternative diagnosis has been subsequently confirmed for 13 of these cases: mycoplasma [3], parainfluenza [2], influenza A [1], Epstein-Barr virus [1], rhinovirus [1], *E. coli* [1], group A streptococcus [1], typhoid [1], and chlamydia pneumoniae [2].

Of the eight patients (14 per cent) with pneumonia confirmed by chest x-ray, one has been reported to WHO as a probable SARS case and one is currently in hospital under investigation. Of the remaining six, two had x-ray changes that were inconsistent with SARS, two had alternative diagnoses (influenza A and mycoplasma), one had a limited exposure while in transit, and one had both a limited exposure while in transit and an alternate diagnosis (parainfluenza). All these people have recovered. Thirty-six patients (64 per cent) were hospitalised. None have required intensive care and none have died.

Fifty-five of the 56 patients investigated reported being in an affected country. These countries were: 23 (41 per cent) in Hong Kong, 24 (43 per cent) in Singapore, 12 (21 per cent) in China, three (five per cent) in Taiwan, two (four per cent) in Hanoi, and two (four per cent) in Toronto. Several people had visited more than one affected area. One person's exposure was close contact with another person who was being investigated as a possible SARS case.

The Commonwealth Department of Health and Ageing has introduced SARS Health Information Cards for use at airports for surveillance of inbound flights for possible cases of SARS. These cards are handed to all passengers and air crew entering Australia, who are then required to complete a declaration about their recent travel history, any contact with SARS cases, and any symptoms they have. This enables identification of appropriate people for referral to the registered nurses who remain stationed at Sydney International Airport to review possible SARS cases. In total, the nurses have identified one person who required further medical assessment for SARS. This person had fever and cough and was discharged from hospital the following day.

The Taskforce on SARS (TSARS) continues to meet every two weeks to develop and implement local policies for the surveillance and containment of possible cases of SARS.

ENTERIC DISEASES

Viral gastroenteritis occurs frequently in NSW, particularly in winter. Implicated organisms include Norovirus (the virus formally known as Norwalk-like), Rotavirus, and Calicivirus. Viral gastroenteritis symptoms include nausea, vomiting, and diarrhoea. Most symptoms resolve within 48 hours. Infection with viral gastroenteritis can be prevented by thorough hand washing and cleaning of contaminated rooms. Early in May, 34 children attending a school camp were taken to hospital in Macquarie Area Health Service with symptoms consistent with viral gastroenteritis. All the children recovered rapidly. Three other outbreaks of viral gastroenteritis were also reported in May.

South Western Sydney Public Health Unit investigated a large outbreak of *Salmonella typhimurium* 99 associated with a child's birthday party. Over 60 people became ill after a buffet style meal in a restaurant. The final results of the investigation are pending.

An increase in *Salmonella infantis* was identified in May. A total of 20 cases were reported, mainly in metropolitan Sydney (seven cases in Central Sydney and six cases in Northern Sydney). Public health unit staff interviewed 12 cases; however, the cause of this outbreak remains unclear.

VACCINE-PREVENTABLE DISEASES

Pertussis outbreak in a Northern Sydney Boarding School

In May, the Northern Sydney Public Health Unit (NSPHU) was notified of 31 students at a boarding school with a coughing illness. Most of the 31 boarded at the school, and were in Years 7 and 8. Seven of the students (including six day students and one boarder) had pertussis confirmed by positive IgA serology or throat swab nucleic acid testing. NSPHU recommended pertussis-specific treatment (erythromycin or roxithromycin) and isolation until five days of antibiotics had been taken for any student who had a cough, and also recommended preventive therapy

for any dormitory contacts. Letters were provided to the school for all parents, which included information on the symptoms of pertussis and the role of vaccination in preventing future outbreaks of pertussis. School authorities independently elected to close the boarding house and send all 150 boarders from years 7–11 home for five days, as a further control measure. Preventive therapy was recommended to all boarders in Year 7 and 8 to take while at home. No further cases were reported after 30 May, and no spread was identified in the wider community.

Locally acquired measles in South Western Sydney

In early May, the South Western Sydney Public Health Unit (SWSPHU) was notified by a laboratory of a patient who was positive for measles IgM in a sample taken five days before. (Convalescent serology subsequently demonstrated a rise in measles IgG.) The patient was a 19-year-old female who had no evidence of prior measles vaccination. Her illness was consistent with measles. On investigation, SWSPHU found that while infectious the patient had: twice visited a doctor's surgery in South Western Sydney; had visited an accident and emergency department in South Western Sydney; had visited a doctor's surgery in Central Sydney; and had attended school. The patient had no history of recent travel or of overseas visitors.

The SWSPHU and Central Sydney Public Health Unit identified 68 people (including 11 students and staff) who had been in the same medical facilities at the same time or during the two hours after the case had visited. These people were contacted, counselled, and assessed for risk of infection. Immunoglobulin was recommended for three children under the age of 12 months, and three staff who cared for immunocompromised patients were placed on non-clinical care duties until their measles immunity was assessed by serology.

The SWSPHU provided the school with a letter advising all staff and students of possible exposure to measles. No further cases were reported.

QUARTERLY REPORT: AUSTRALIAN CHILDHOOD IMMUNISATION REGISTER

Table 2 details the percentage of fully immunised children aged 12 months to less than 15 months in each Area Health Service, reported by all service providers.

These data refer to five different cohorts of children whose age has been calculated 90 days before data extraction.

The information contained in each of the reports has been extracted from the Australian Childhood Immunisation Register (ACIR) and may not reflect actual coverage due to under-reporting. Table 3 details the percentage of fully immunised children identified as Aboriginal or Torres Strait Islander in New South Wales for the same cohort, reported by all service providers. ☒

TABLE 2

PERCENTAGE OF FULLY IMMUNISED CHILDREN AGED 12 MONTHS TO LESS THAN 15 MONTHS BY AREA HEALTH SERVICE

Area Health Service	30 June 02	30 Sept 02	31 Dec 02	30 March 03	30 June 03
Central Coast	90	92	93	93	92
Central Sydney	89	90	90	91	90
Hunter	94	93	94	94	95
Illawarra	89	94	92	92	93
Northern Sydney	89	91	91	90	91
South Eastern Sydney	89	92	91	90	91
South Western Sydney	90	90	92	91	90
Wentworth	90	91	90	93	91
Western Sydney	90	91	92	92	90
Far West	90	90	89	93	88
Greater Murray	92	94	93	92	94
Macquarie	93	91	92	92	94
Mid North Coast	90	88	90	90	89
Mid Western	91	91	94	94	93
New England	92	91	93	92	92
Northern Rivers	84	84	85	85	84
Southern	90	91	91	89	91
NSW	90	91	91	91	91
Australia	90	91	92	91	91

TABLE 3

PERCENTAGE OF FULLY IMMUNISED CHILDREN IDENTIFIED AS ABORIGINAL AND TORRES STRAIT ISLANDER, AGED 12 MONTHS TO LESS THAN 15 MONTHS

	30 June 02	30 Sept 02	31 Dec 02	31 March 03	30 June 03
NSW	87	85	86	86	84
Australia	85	85	84	86	84

FIGURE 2

REPORTS OF SELECTED COMMUNICABLE DISEASES, NSW, JANUARY 1998 TO MAY 2003, BY MONTH OF ONSET

Preliminary data: case counts in recent months may increase because of reporting delays.
 Laboratory-confirmed cases only, except for measles, meningococcal disease and pertussis
 BFV = Barmah Forest virus infections, RRV = Ross River virus infections
 LI = Legionella longbeachae infections, Lp = L. pneumophila infections
 Gp C and Gp B = disease due to serogroup C and serogroup B infection,
 other/unk = other or unknown serogroups

NSW population	
Male	50%
<5	7%
5-24	28%
25-64	52%
65+	13%
Rural*	42%

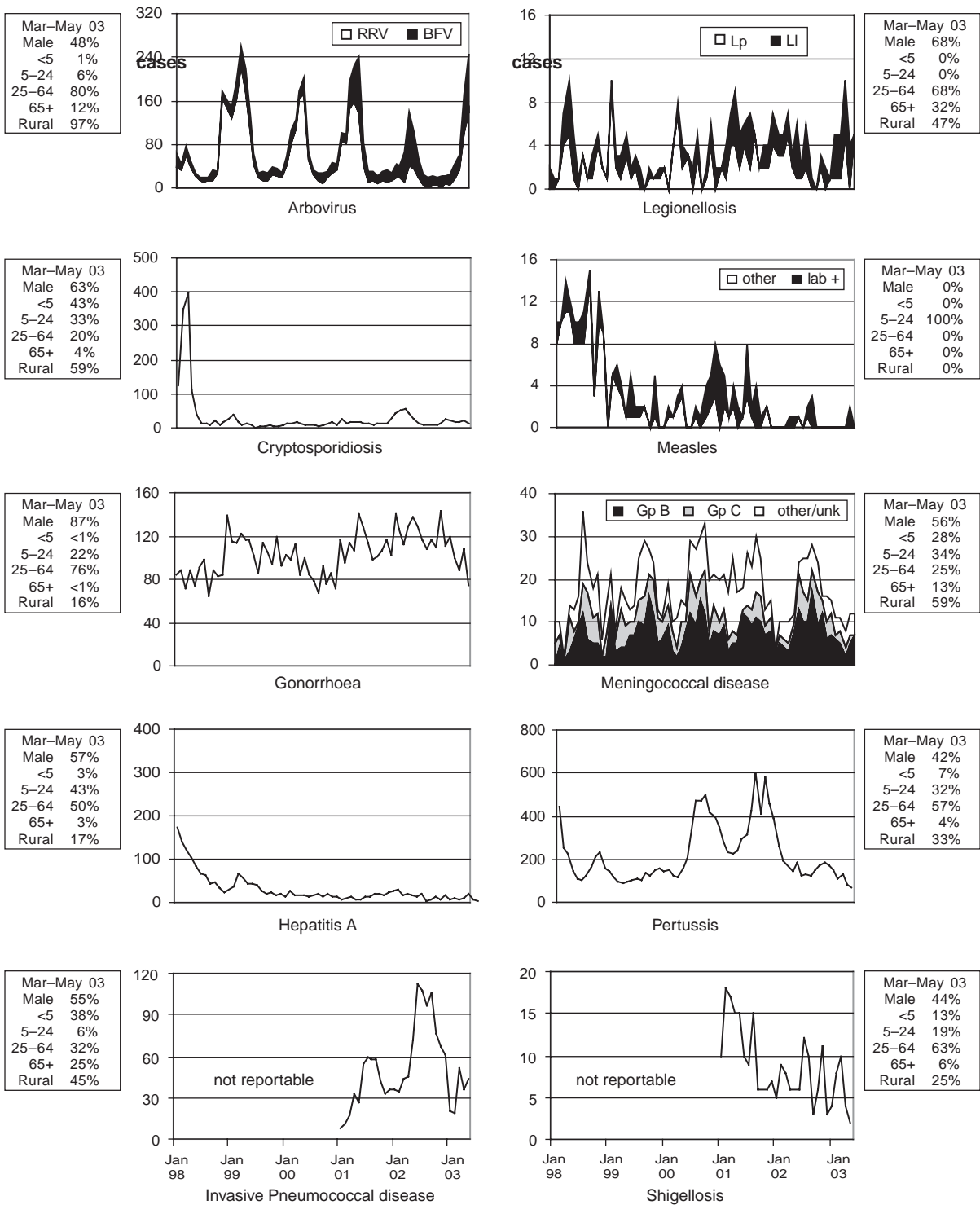


TABLE 4 **REPORTS OF NOTIFIABLE CONDITIONS RECEIVED IN MAY 2003 BY AREA HEALTH SERVICES**

Condition	Area Health Service														CHS	for May [†]	Total To date [†]	
	CSA	NSA	WSA	WEN	SWS	CCA	HUN	ILL	SES	NRA	MNC	NEA	MAC	MWA				FWA
Blood-borne and sexually transmitted																		
Chancroid*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlamydia (genital)*	76	62	44	15	56	17	47	18	107	23	10	22	7	21	16	32	14	3
Gonorrhoea*	20	10	14	4	6	2	2	1	49	1	-	3	-	-	1	-	1	-
Hepatitis B - acute viral*	-	-	1	-	-	-	-	-	1	-	1	-	-	1	-	-	-	1
Hepatitis B - other*	52	37	51	10	-	5	9	2	37	1	1	-	-	-	3	3	1	5
Hepatitis C - acute viral*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Hepatitis C - other*	62	36	47	20	-	32	33	27	58	26	7	8	6	23	4	15	14	58
Hepatitis D - unspecified*	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Syphilis	21	-	6	1	18	2	3	4	21	-	2	2	-	1	3	-	-	88
Vector-borne																		
Barmah Forest virus*	-	1	-	-	-	2	-	-	1	96	7	2	-	-	-	-	1	-
Ross River virus*	1	2	-	-	-	2	5	-	-	128	9	5	1	-	1	3	-	110
Arboviral infection (Other)*	-	1	-	-	-	1	1	1	1	-	1	-	-	-	-	-	-	157
Malaria*	-	2	5	-	-	-	1	-	2	-	-	-	-	-	-	-	-	7
Zoonoses																		
Anthrax*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Brucellosis*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leptospirosis*	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	2
Lyssavirus*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27
Psittacosis*	1	-	-	4	-	-	1	-	-	-	-	1	-	-	-	-	-	-
Q fever*	1	-	-	-	-	-	5	1	-	5	-	2	3	3	3	-	1	173
Respiratory and other																		
Blood lead level*	-	-	-	-	4	-	4	-	1	-	-	-	-	-	6	-	-	15
Influenza*	-	-	-	-	-	2	5	5	8	-	-	-	-	-	-	-	1	16
Invasive pneumococcal infection*	4	6	2	2	1	5	1	3	7	-	-	-	-	-	-	5	4	40
Legionella longbeachae infection*	-	-	1	-	-	-	-	-	1	-	-	-	-	1	-	1	-	4
Legionella pneumophila infection*	1	-	-	1	-	-	-	-	-	-	-	-	-	1	-	1	-	4
Legionnaires' disease (Other)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leprosy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Meningococcal infection (invasive)*	1	-	-	-	2	-	3	2	4	-	-	-	1	-	-	-	-	14
Tuberculosis	6	3	4	-	-	-	-	-	9	-	-	-	-	-	-	1	-	24
Vaccine-preventable																		
Adverse event after immunisation	3	-	8	-	-	-	1	-	2	1	-	-	-	3	-	-	3	21
H. Influenzae b infection (invasive)*	-	-	-	1	-	-	-	-	-	-	-	-	-	2	-	-	-	3
Measles	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	2
Mumps*	1	1	1	-	1	1	-	-	-	-	-	-	-	-	-	-	-	5
Pertussis	9	14	19	6	17	4	8	2	14	2	-	3	-	2	-	3	4	107
Rubella*	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Tetanus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Enteric																		
Botulism	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cholera*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cryptosporidiosis*	1	2	2	-	-	-	1	1	2	3	-	4	-	-	-	2	1	19
Giardiasis*	7	4	12	3	-	-	1	3	19	1	-	-	-	7	-	4	-	61
Haemolytic uraemic syndrome	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Hepatitis A*	1	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	3
Hepatitis E*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Listeriosis*	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	2
Salmonellosis (not otherwise specified)*	5	31	14	3	23	8	9	9	27	13	1	8	2	6	1	4	6	172
Shigellosis*	2	2	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	6
Typhoid and paratyphoid*	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Verotoxin producing <i>E. coli</i> *	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15

* lab-confirmed cases only + includes cases with unknown postcode ** HIV and AIDS data are reported separately in the NSW Public Health Bulletin each quarter

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