INFECTION CONTROL IN GENERAL PRACTICE, 1994 AND 1995

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This article reports the results of a telephone survey of the infection control practices of a random sample of metropolitan and rural general practitioners in NSW. Infection control guidelines appropriate to general practice have now been firmly established in Australia,[1–6] and in New South Wales are enforced by legislation. The survey was first undertaken in 1994, and was repeated in 1995 to assess the extent to which practitioners had changed their reported behaviour in response to the wide dissemination of infection control guidelines and increasing community awareness during the year of the study.

METHODS

Lists of all general practitioners in practice within the geographic boundaries of the Central Sydney Division of General Practice and the Central West Division of General Practice were obtained from the Divisions. Central Sydney is in the inner city; Central Western is a rural Division which includes large regional centres and small country towns. Both members and non-members of the Division were included in the list.

A random sample of general practitioners was drawn from each list. Only one person was selected from each practice (subsequent selections from the same practice were deleted from the sample). Randomly selected general practitioners were contacted by telephone in May 1994 and interviewed with a standardised interview technique by a trained interviewer using a questionnaire. General practitioners who responded were telephoned again in August 1995 and interviewed using the same technique.

The questionnaire consisted of 16 closed-ended questions and took about five minutes to complete. Demographic data collected included age, sex, number of partners in the practice and years since qualifying. Five questions were used to evaluate four key areas of infection control: use of gloves for venipuncture and suturing, methods of sterilisation or disinfection, methods of disposal of contaminated waste and use of protocols to deal with exposure to infection.

The estimated number per week of requests from patients for HIV serology was used as an estimate of the risk of the practice population (although it was recognised that this might not have reflected the true risk).

Current infection-control guidelines[1–6] and legislative infection-control regulations were used to define five principles of "acceptable" practice: use of gloves when in contact with blood or mucous membranes; disinfection of instruments in contact with mucous membranes; sterilisation of instruments in contact with sterile tissues; disposal of contaminated waste by incineration; and use of protocols for infection control after exposure.

Data were analysed using SPIDA. Descriptive statistics were calculated and comparisons over time were made using McNemar's test. Groups were compared with chi-squared statistics.

RESULTS

Table 6 shows reported infection control practices in 1994 and in 1995. Table 7 shows reported infection control practices in 1995 for demographic subgroups.

In 1995, over 70 per cent of general practitioners reported using sterile surgical instruments: 39 per cent reported owning their own autoclave and the remainder of the 70 per cent reported either having access to some means of sterilisation (other practices, hospitals) or using single-use disposable instruments. A significant reported change took place between 1994 and 1995 in the sterilisation of surgical instruments and in ownership of an autoclave. Most respondents reported either disinfecting vaginal specula (using, as a minimum, pasteurisation by

TABLE 6

CHANGES FROM 1994 TO 1995 IN REPORTED INFECTION-CONTROL MEASURES IN GENERAL PRACTICE

	% acceptable [a]	
	1994	1995
Infection-control measure	*n*=92	*n*=92
Wear gloves for:		
venepuncture	29	38
minor surgery	87	88
Protocol for needle-stick injury	46	48
Sterilisation and disinfection methods:		
thermometers	78	78
vaginal specula	91	95
surgical instruments	57	71†
Own autoclave	32	39†
Disposal of contaminated waste	71	83†

(a) Response rate 71% (106/149) in 1994, 87% (92/106) in 1995.
†$P < 0.01$

thermal disinfection at 75°C for 10 minutes) or using disposable specula.

Most general practitioners reported wearing gloves for minor surgery but far fewer reported use of gloves for venipuncture; nearly half said they had a protocol to be followed in the event of a needle-stick injury. There was no significant change in these reported practices from 1994 to 1995. Most reported some recognised means for the safe disposal of contaminated waste; the proportion had increased significantly from 1994.

Younger doctors and female doctors were more likely to report wearing gloves for venipuncture (Table 2), and urban practitioners were more likely to own an autoclave. There were no differences in reported behaviour attributable to the level of risk of the patient population (as measured by the number of requests for HIV serology per month).

TABLE 7

REPORTED INFECTION-CONTROL MEASURES IN GENERAL PRACTICE, 1995, BY DEMOGRAPHIC CHARACTERISTICS (*n* = 92)

Practitioner characteristic	*n*	Infection-control measure: Wear gloves for venipuncture %	Own autoclave %	Protocol for needle-stick injury %
Age				
<35	6	67*	33	67
35–54	53	26	51	51
≥55	33	50	29	43
Sex				
Male	74	34*	41	49
Female	18	53	53	47
Years since qualifying				
<5	1	100	100	100
6–10	8	67	33	50
≥10	83	35	42	47
No. requests for HIV serology per month				
0–2	45	36	31	44
3–5	25	40	44	44
6–10	7	43	71	57
≥10	15	40	66	60
Location				
Urban	53	47	49†	47
Rural	39	26	36	49

*$P < 0.05$, †$P < 0.01$

DISCUSSION

This study describes *reported* behaviour, and results should be interpreted in this light; it is possible that actual behaviour might have been different. However, the fact that general practitioners frequently reported a relatively low level of compliance with many guidelines suggests that the reported behaviours were accurate.

The study shows a generally high level of reported compliance with infection control policy—although there was room for improvement. Although most practitioners reported sterilising surgical instruments, wearing gloves for minor surgery and safely disposing of contaminated waste, the numbers might have been higher. Fewer reported using gloves for venipuncture or reported having a protocol to be used following a needle-stick injury.

Reported infection-control practice was not influenced by the risk level of the patient population (as measured by patient requests for HIV serology), suggesting that, in keeping with current guidelines, measures were applied universally and independently of the perceived risk of the practice population.

General practice differs from hospital practice in many important areas relevant to infection control. Procedural work is much less common and less complex. In this study, many practitioners undertook very little, or no, procedural work. Major practical, logistic and economic barriers acted to inhibit effective infection control, and this led to novel means of complying with infection control policy. While it may be difficult for a practice to justify the purchase of an autoclave, sterilisation of instruments was often arranged through the local hospital, and contaminated waste was often disposed of in the same way. This was particularly true in rural areas.

While 39 per cent of general practitioners owned an autoclave, this did not guarantee acceptable procedures in associated areas of infection control, such as presterilisation cleaning and appropriate reprocessing, monitoring, maintenance and testing of the device.

Things are clearly improving. Reported sterilisation procedures, autoclave ownership and waste disposal all improved to a significant degree during the year of study. This trend is likely to continue in response to increasing professional interest and public awareness. Areas that might form the target of any continuing education endeavours include autoclave ownership (or improved access to some means of sterilisation), use of gloves for minor surgery and venipuncture, and the introduction of postexposure protocols. These things should be encouraged in every general practice.

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COMMENT: AIDS/INFECTIOUS DISEASES BRANCH, NSW HEALTH DEPARTMENT

Under the provisions of the *Public Health Act, 1991,* and Regulation, doctors, hospital chief executives (or general managers), pathology laboratories, directors of child care centres and school principals are required to notify certain diseases.

The following diseases are to be **notified by doctors:** acquired immunodefiency syndrome (AIDS), acute viral hepatitis, adverse event following immunisation, food-borne illness in two or more related cases*, gastroenteritis among people of any age, in an institution (for example, among persons in educational or residential institutions)*, leprosy, measles*, pertussis (whooping cough)*, syphilis, tuberculosis.

The following are to be **notified by hospital chief executive officers (or general managers):** acquired immunodeficiency syndrome (AIDS), acute viral hepatitis, adverse event following immunisation, botulism*, cancer†, cholera*, diphtheria*, food-borne illness in two or more related cases*, gastroenteritis among people of any age, in an institution (for example, among persons in educational or residential institutions)*, haemolytic uraemic syndrome*, *Haemophilus influenzae* type b invasive infections*, legionnaires' disease*, leprosy, measles*, meningococcal disease*, paratyphoid*, pertussis (whooping cough)*, plague*, poliomyelitis*, rabies*, syphilis, tetanus, tuberculosis, typhoid*, typhus (epidemic)*, viral haemorrhagic fevers*, yellow fever*.

The following are to be **notified by laboratories:** arboviral infection (flaviviruses)*, botulism*, brucellosis, cancer†, cholera*, cryptosporidiosis, diphtheria*, gonorrhoea, *Haemophilius influenzae* type b invasive infection*, hepatitis A*, hepatitis B, hepatitis C, hepatitis D (Delta), hepatitis E*, human immunodeficiency virus (HIV) infection, lead levels in blood >0.72 mmol/L (15mg/dL), legionella infections*, leptospirosis, listeriosis, malaria, measles*, meningococcal disease*, mumps, mycobacterial disease, pertussis (whooping cough)*, plague*, poliomyelitis*, Q fever, rabies*, rubella (German measles), *Salmonella* infections, syphilis, typhus (epidemic)*, verotoxin-producing *Escherichia coli* infections*, viral haemorrhagic fevers*, yellow fever*.

The following are to be **notified by school principals and directors of child care facilities:** diphtheria‡, measles‡, mumps‡, pertussis (whooping cough)‡, poliomyelitis‡, rubella (German measles)‡, tetanus‡.

*Notification requested by telephone as soon as a provisional diagnosis is made

†Notification to the NSW Cancer Registry

‡Notification requested by telephone, if possible

From: *Notification of diseases under the Public Health Act, 1991.* Circular no. 97/92, file no. A5730. Sydney: AIDS/Infectious Diseases Branch, NSW Health Department.

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Articles, news and comments should be 1,000 words or less in length and include a summary of the key points to be made in the first paragraph. References should be set out using the Vancouver style, described in the *New England Journal of Medicine*, 1997; 336: 309–315. Send submitted articles on paper and in electronic form, either on disc (Wordperfect or Word for Windows are preferred), or by email. The article must be accompanied by a letter signed by all authors. Full instructions for authors are available on request.

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DEVELOPMENTS

Two new developments promise improved data on the health of NSW children in the near future.

First, the NSW component of the 1996 Australian School Students' Alcohol and other Drugs (ASSAD) survey included for the first time questions on a broad range of health issues, including self-rated health, physical activity, nutrition, injury, mental health, sun protection and the use of licit and illicit drugs. Data were collected from more than 10 000 NSW school students in Years 7 to 12. The survey was conducted jointly by the NSW Health Department and the NSW Cancer Council. Several survey reports will be released shortly. Planning for the next round of data collection, due in 1998, is under way.

Second, the Epidemiology and Surveillance Branch proposes to undertake a child health survey in 1999, as part of the NSW Health Survey Program. The survey will target children aged 0–12 years, and information will be collected by telephone from parents and carers. The survey will focus on collecting data that are not available from other sources, particularly on quality of life, disability, health-related behaviours and social and economic influences on health. Future editions of the Bulletin will include updates on the progress of the child health survey.

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Correction

Cooper C, Mira M, Cox M, Maandag A. Infection control in general practice, 1994 and 1995. *NSW Public Health Bulletin* 1998; 9(4): 51–52,55.

The tables were wrongly numbered during production of the April 1998 issue of the Bulletin, and should have read Table 6 (p. 51) and Table 7 (p. 52).

INDICATORS OF THE HEALTH STATUS OF CHILDREN AND YOUTH

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This article describes how the Epidemiology Unit, in conjunction with the Department of Community Paediatrics of the South Western Sydney Area Health Service (SWSAHS), used existing sources of data to produce a profile of the health of the children of that Area. The goal was to produce a readily accessible document that provided front-line health care workers and other professionals, planners and the community with up-to-date information to inform their work to improve health outcomes for local children and adolescents. The final report, the *Health of Children in South Western Sydney,* included a summary of the major health indicators that showed how the health of the children of SWSAHS compared with that of the children of NSW.[1]

With a growing focus on health outcomes in Australia there is a need to develop indicators that can be used to measure and monitor the health of populations of children and adolescents cheaply, conveniently and at regular intervals. Although infant mortality and child mortality are well-established measures that provide sensitive indicators of a broad range of factors affecting children's health, there has been a dearth of other data collected routinely and little monitoring of health indicators in children. The notable exceptions for children are the State and Territory collections of perinatal data and the Australian Childhood Immunisation Register. The lack of well-established health data is even more evident for adolescents. Adolescents, despite having a low level of use of health services, experience important health problems, such as unintentional injuries, substance abuse and suicide.

The challenge was to develop a reporting system that used routinely collected data from a variety of traditional and non-traditional sources (including hospitals, government departments and agencies and non-government groups) to describe the health of children and adolescents in the local community. These sources could then be supplemented by periodic surveys on specific health issues