



# Public Health Bulletin

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## THE NATIONAL CENTRE FOR HEALTH PROMOTION

*The Minister of Human Services and Health, the Honourable Dr Carmen Lawrence, officially opened the National Centre for Health Promotion on May 10, 1995. The National Centre for Health Promotion aims to contribute to improved population health outcomes by working with practitioners to improve the effectiveness of health promotion practice. The centre's work focuses on workforce development, research and advocacy for health promotion at national, State, local and international levels. It has begun to establish national and international networks of people and organisations with an interest in health promotion.*

*The centre has already conducted two short training courses – an international meeting on Health Promotion Schools (in collaboration with the World Health Organisation) and a national symposium on the same topic. A second annual symposium – Achieving best practice in health promotion: fostering evidence-based approaches – will be held on December 4-5, 1995.*

*Professor Don Nutbeam, Director of the centre, invited Dr J. Michael McGinnis, the Assistant Surgeon General, Deputy Assistant Secretary for Health and Director of the Office of Disease Prevention and Health Promotion in the United States Department of Health and Human Services, to speak at the opening. Since 1977, Dr McGinnis has maintained national responsibility for health promotion policy under Presidents Carter, Reagan, Bush and Clinton.*

*The US has a long experience of working to achieve national health goals and targets. Dr McGinnis has been the architect and leader of that work since 1979. In his speech, he demonstrated the rationale used to direct resources to promoting health in the US and pointed to the significant progress that has been made in reducing the causes of preventable mortality across the population. The ability to measure their progress in the US has also made it possible to identify where greater effort is required. This summary of his presentation is produced with his permission.*

## IMPROVING HEALTH IN THE USA

**T**here are many ways in which to present the challenges for health policy, but the most direct relates to the causes of death in our society. Approximately 2.1 million people died in the USA in 1990. The 10 leading causes of death are ranked in order in Table 1. One-third of all deaths were from heart disease and one-quarter from cancer.

Another way to examine the burden of illness is to calculate the total number of years lost to society through people dying prematurely, by aggregating the years of potential life lost. Through this analysis those causes of death that strike earlier in life acquire greater significance. Table 2 ranks the leading causes of death in the order of years of potential life lost and demonstrates the impact of injury and suicide/homicide on American society.

Another prominent concern of those involved in determining health policy is cost. Table 3 ranks the leading causes of death by their direct and indirect costs to society. This reveals the enormous cost to society of injury-related deaths (twice that of deaths from heart disease).

For every one of these leading causes of death there are now identified

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**TABLE 1****LEADING CAUSES OF DEATH, USA, 1990**

Heart disease	720,058
Cancer	505,322
Cerebrovascular disease	144,088
Unintentional injuries	91,983
Chronic lung disease	86,679
Pneumonia and influenza	79,513
Diabetes	47,664
Suicide	30,906
Chronic liver disease/cirrhosis	25,815
HIV infection	25,188

**TABLE 2****YEARS OF POTENTIAL LIFE LOST, USA**

	1990 (millions)	change 1989 to 1990
Injuries	2.1	-4.1%
Suicide/homicide	1.56	+6.5%
Heart disease	1.38	-2.5%
Congenital defects	0.61	+1.0%
HIV infection	0.78	+12.7%
Prematurity	0.44	-9.2%
SIDS	0.33	-3.9%
Stroke	0.23	+1.3%
Liver disease	0.21	-3.9%
Pneumonia/influenza	0.17	-4.2%
<b>Total</b>	<b>12.28</b>	<b>-0.8%</b>

**TABLE 3****COSTS\* OF THE LEADING CAUSES OF DEATH, USA, 1990**

Injuries (intentional and unintentional)	\$150 billion
Heart disease	\$75 billion
Cancer	\$72 billion
Cerebrovascular disease	\$19 billion
Chronic lung disease	\$15 billion

\* Estimates of annual direct and indirect costs

**TABLE 4****RISK FACTORS FOR THE LEADING CAUSES OF DEATH, USA**

Heart disease	Tobacco, obesity, elevated BP, cholesterol, sedentary lifestyle
Cancer	Tobacco, improper diet, alcohol, envir. exposures
Cerebrovascular disease	Tobacco, elevated BP, cholesterol, sedentary lifestyle
Accidental injuries	Safety belt non-use, alcohol, home hazards
Chronic lung disease	Tobacco, envir. exposures

**Improving health in the USA**► *Continued from page 61*

risk factors. In the past 30 years risk factors have been identified for cancer, stroke, injuries and lung disease (Table 4). The last generation of biomedical research has determined that the real leading causes of death for the USA and for Australia are not heart disease, cancer and stroke, but rather tobacco, diet, inactivity and alcohol. Figure 1 ranks these causes of death. In this figure, microbiological agents leading to infection-related deaths refers to infections other than those caused by the human immunodeficiency virus (HIV). Infections related to sexual behaviour or drug use were counted elsewhere in this table. Sexual behaviour accounted for 30,000 deaths and these were largely due to HIV. Toxic agents refers to substances to which people are exposed through

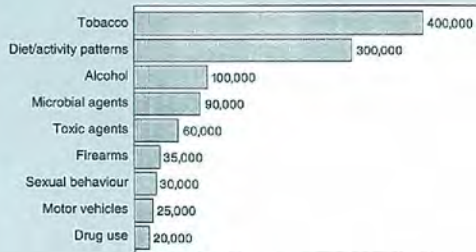
the environment and workplaces. Firearms caused 35,000 deaths in the USA in 1990. There is no other peacetime country for which firearms ranks as the sixth leading cause of death. Motor vehicle deaths presented in this figure are those not related to alcohol.

These are the real leading causes of death for Americans and health policy that is not orientated to address these challenges is ignoring the evidence that biomedical science has compiled.

However, these problems are not best addressed through the medical treatment system. Rather, to change these causes of death and illness whole communities must be mobilised. To develop plans and strategies a population perspective is required to structure the health policy agenda. Unfortunately population-based public health in the USA is not a big investment item. About 1 per cent of the total

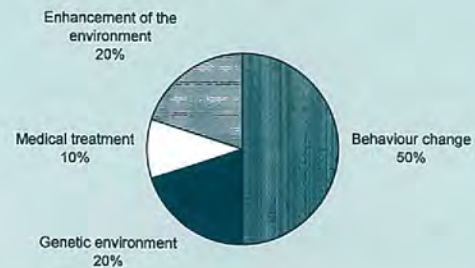
**FIGURE 1**

**RISK FACTORS FOR THE LEADING CAUSES OF DEATH, USA, 1990**



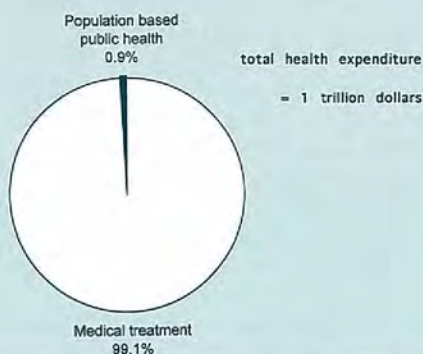
**FIGURE 3**

**OPPORTUNITIES FOR IMPROVING THE HEALTH OF THE USA**



**FIGURE 2**

**TOTAL HEALTH EXPENDITURE IN THE USA**



national health expenditure is spent on population-based public health activities.

How does national health expenditure relate to the major causes of death? Medical treatment, to which 99 per cent of the health budget is directed, can affect only about 10 per cent of premature mortality. Further, it can do so only if it is perfectly applied, i.e. if every advantage was taken of every single treatment opportunity that is presented to the medical care system. Every year the USA spends on an average \$4,000 on medical treatment for every person. However, the real opportunities for improving the health profile of the nation lie elsewhere (Figure 3).

Given that there is a limited capacity to alter the genetic contribution to illness and death, that leaves 70 per cent of premature mortality for which the 1 per cent of the health budget spent on population-based public health offers support. This means public health must be extremely efficient to target its scarce resources.

This led to the development of the Healthy People 2000 initiative by the United States Government.

**TABLE 5**

**YEAR 1990 – TARGETS FOR LIFE STAGES, USA**

Life stage	1990 Target*
1. Healthy infants (below age 1)	35% fewer deaths
2. Healthy children (age 1-14)	20% fewer deaths
3. Healthy adolescents/ Young adults (age 15-24)	20% fewer deaths
4. Healthy adults (age 25-64)	20% fewer deaths
5. Healthy older adults (age 65+)	20% fewer sick days

\* relative to 1977

Healthy People 2000 is the national health promotion and disease prevention strategy for the USA. It is based on the following premise:

*We know how to improve the health profile of Americans and we know how to do that by preventing rather than treating problems.*

Healthy People 2000 originates from the 1979 Surgeon General's Report which set out five broad life-stage goals to be accomplished over the decade of the 80s. These are listed in Table 5.

Figure 4 presents the progress made in each of these areas against the 1990 goal. There were improvements in each area, although the least improvement occurred for adolescents.

The major contributions to change in each area did not come through improved medical treatment but through health promotion, such as changes in tobacco use, changes in dietary patterns away from saturated fats, improvements in high blood pressure control, and expansion of safety measures such as safety belts.

The review of activities in 1990 helped to determine how to proceed with Healthy People 2000 and also

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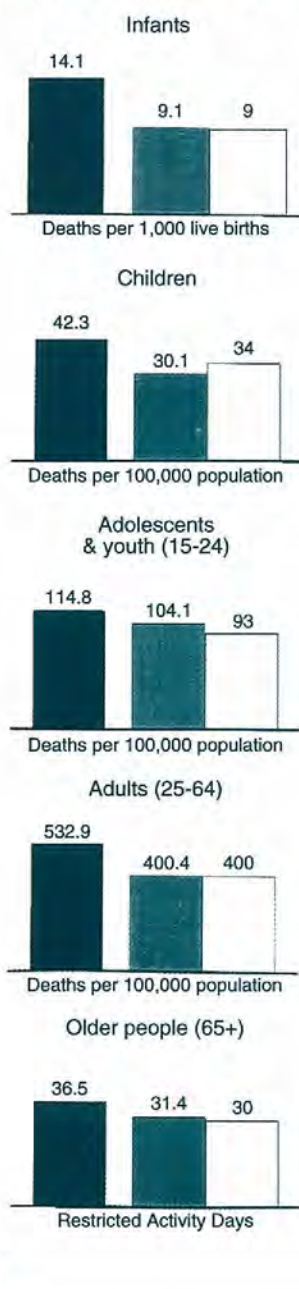
## Improving health in the USA

► Continued from page 63

revealed two prominent failings of the work to that time. Notably, it had failed to address the problems of the most vulnerable in society – the minority and low-income populations. It had also failed to establish a broad intersectoral response across the community to address the major causes of death.

FIGURE 4

### NATIONAL GOALS FOR HEALTH PROMOTION



Source<sup>1</sup>

These became the major platforms of Healthy People 2000 – to develop change through partnerships and to address as the first priority the issues of those most in need. A consortium of organisations came together, including professional, government, special interest and trade, to develop HP 2000 (this process will be described in detail in a future article). In 1990 Healthy People 2000 was issued with three goals and 3,000 specific objectives. The goals were to:

- increase the span of healthy life for Americans, broadening the notion beyond mortality to quality of life;
- reduce health disparities, closing the gap in health between the rich and poor, black and white, urban and rural; and
- achieve access to preventive primary care services for all Americans.

Specific objectives were developed in 22 priority areas.

### How is Healthy People 2000 doing in 1995?

For diseases that are the leading killers of Americans – heart disease, cancer, stroke and injuries – there is good progress towards the targets set. A 26 per cent decline in coronary heart disease deaths was targeted by 2000 – by 1995 there had been a 16 per cent decline. A 3 per cent decline in cancer deaths was targeted – there has been a 1 per cent decline. There has been an important achievement with respect to lung cancer death rates in men, which have begun to decline for the first time in decades. A 30 per cent decline in stroke deaths was targeted and by 1995 there had been a 14 per cent decline. A 16 per cent decline in injury death rates was the target and this has already been exceeded in the first five years with a 17 per cent decline. For alcohol-related motor vehicle fatalities (one of the most important components of the injury death rate), there has been a 30 per cent decline in the first six years of monitoring.

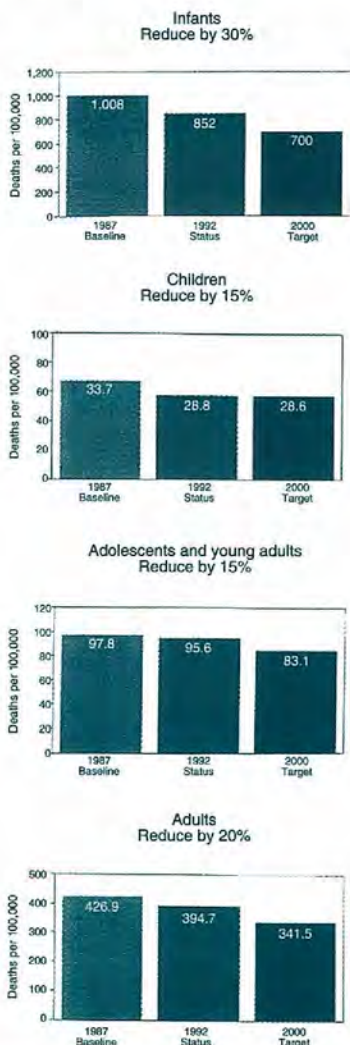
The bad news is that several targets are moving in the wrong direction. The proportion of the population which is overweight is increasing, from 26 per cent of the population to 34 per cent. Teenage pregnancies have increased from 71/1,000 to nearly one in ten. Homicide has also increased – instead of the 20 per cent decrease targeted, there has been a 20 per cent increase in homicide deaths this decade.

The progress for each of the life stages is summarised in Figure 5. For infants, death rates have fallen from 1,008/100,000 – the 1987 baseline – to 852/100,000 in 1992. Therefore the overall 30 per cent reduction in infant mortality to 700/100,000 is on target. The target of a 15 per cent decline in childhood death rates has almost been achieved. Unfortunately, for adolescents and young adults the death rates are static, largely because the injury reduction gains have been offset by the rise in homicides. The target to reduce mortality in adults by 20 per cent by 2000 is

**FIGURE 5**

**HEALTHY PEOPLE 2000 LIFE STAGE TARGETS**

(Deaths per 100,000 population)



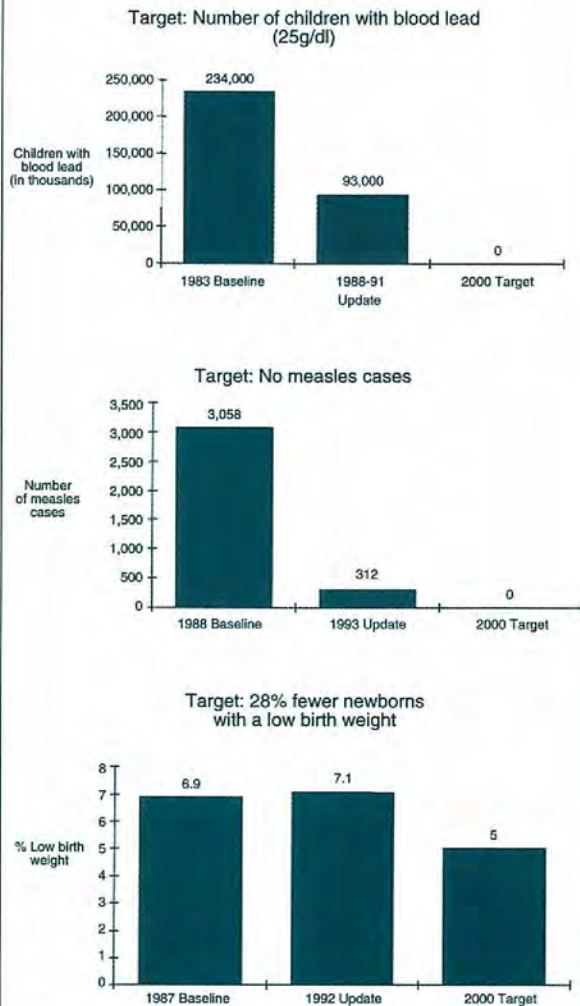
Source<sup>2</sup>

likely to be achieved. Some of the objectives and the progress to date for the life stages – children, adolescents and adults – are presented in the following figures.

Figure 6 shows good progress has been made reducing the number of children with elevated blood lead levels. Higher immunisation rates are being achieved. The baseline was about 60 per cent of children adequately immunised and the target was 90 per cent by 2000. The level is around 70 per cent and the target is expected to be reached. A related target is notified cases of measles. The baseline was 3,000 cases of measles and the target is zero. Last year there were around 300 measles cases reported. Around 7 per cent of Americans are born with a low birth weight.

**FIGURE 6**

**HEALTHY PEOPLE 2000 SENTINEL OBJECTIVES: CHILDREN**



Source<sup>1</sup>

The target is to reduce this to 5 per cent for 2000, but this is not going to be met.

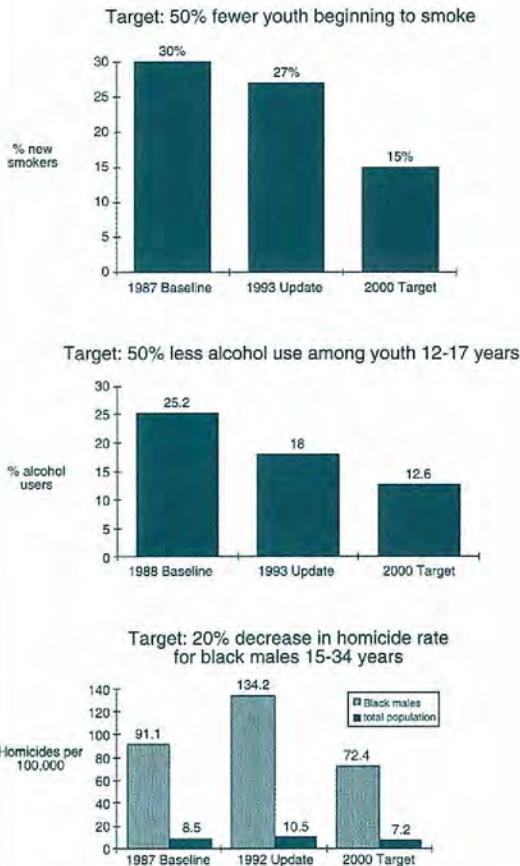
For adolescents (Figure 7), progress has been made towards achieving the targets for reducing smoking and the use of alcohol. However of great concern is the rise in homicide. In the figure describing homicide death rates, there are two bars for each time period. One is for the total population aged 15-34 years and one is for black youth alone. Almost the whole burden of homicide is centred in the black youth population. This is an example of a health issue that affects the most vulnerable in society.

For adults (Figure 8), progress has been made towards achieving the targets for lowering cholesterol

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**FIGURE 7**

**HEALTHY PEOPLE 2000  
SENTINEL OBJECTIVES: ADOLESCENTS**



Source<sup>1</sup>

**Improving health in the USA**

► Continued from page 65

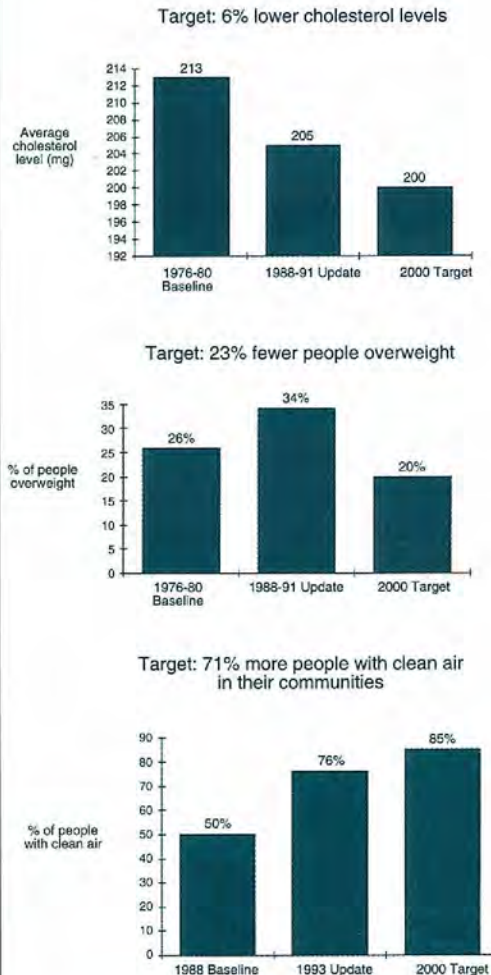
levels and ensuring more people exercise regularly. However a larger proportion of the population is overweight.

A significant and unheralded victory for public health is clean air – the proportion of people who live in communities with clean air. Air and water are becoming substantially cleaner as the result of major efforts over the past decades. This has largely been achieved through regulations and there is a threat to these achievements in the deregulatory environment in the USA. There has also been a loss of commitment to some of the procedures necessary to ensure clean air and water.

The first goal of Healthy People 2000 – achieving a decline in mortality – is being achieved. To some extent, gains in quality of life have also been made. However Healthy People 2000 is failing with respect to its second goal of closing the gaps in health

**FIGURE 8**

**HEALTHY PEOPLE 2000  
SENTINEL OBJECTIVES: ADULTS**



Source<sup>1</sup>

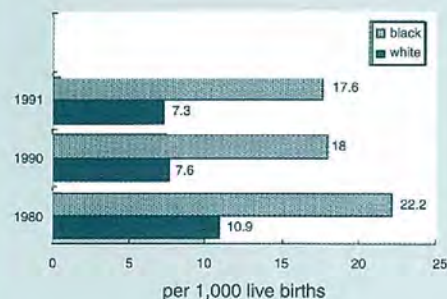
between various groups in US society. For example, Figure 9 demonstrates that for the black community the infant mortality rates continue to be approximately double those for the white community. This is despite improvements in infant mortality for all populations. Healthy People 2000 is also failing to meet its third goal of ensuring that all Americans have access to adequate primary and preventive services. Seventeen per cent of Americans have no health insurance. Once again it is the most vulnerable in society that are most at risk – in particular, 21 per cent of the black population is without health insurance, as is 32 per cent of the Hispanic population.

**CONCLUSION**

Equity is a major challenge for Healthy People 2000. In recent years there has been a dramatic increase in the rich getting richer and the lowest income groups

FIGURE 9

## INFANT MORTALITY RATES, USA



Source: CDC, NCHS, National Vital Statistics System

becoming progressively more alienated. Firearm death rates for black males are climbing and the burden of teenage pregnancy is centred with young black women. At the same time the share of wealth controlled by the top 1 per cent of Americans has more than doubled since 1975. In the USA 38 per cent of the wealth is now controlled by 1 per cent of the population (Figure 10).

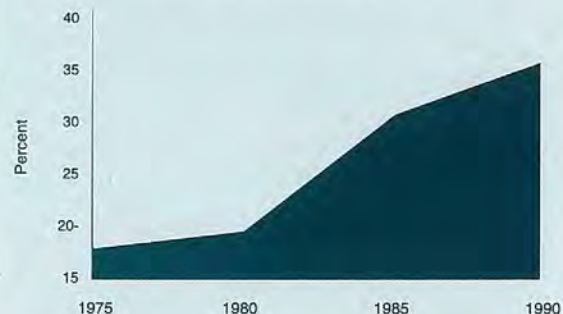
The roots of many of the health problems in the USA lie in the alienation, dependency and inequities that course through society. These must be addressed if improvements in health across the board are to be achieved.

This means health must focus on:

- **Equity.** Broader social equity is vital. Sustained progress in all dimensions can not be achieved without a solid commitment to equity and without the involvement of the public health community to work for all population groups.
- **Outcomes.** In today's world of constrained resources we simply cannot undertake activities that are not focused on the outcome.

FIGURE 10

## THE SHARE OF WEALTH\* CONTROLLED BY THE TOP 1% OF AMERICANS



\*Defined as total assets (home, bank deposits, stocks, bonds, and other real estate) minus mortgage and consumer debt.

Source: Edward N. Wolfe, Twentieth Century Fund

- **Partnerships.** The health community alone cannot achieve these changes in health status of the population. Partnerships with other groups are vital.

## ACKNOWLEDGMENTS

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The National Centre for Health Promotion is at the University of Sydney. It can be contacted by telephone on (02) 351 5129 and facsimile on (02) 552 4230.

1. McGinnis J, Lee P. Healthy People 2000 at mid-decade. *JAMA* 1995; 273:1123-1129.
2. US Department of Health & Human Services. Public Health Service. Healthy People 2000: National Health Promotion and Disease Prevention Objectives. Washington DC. US Government Printing Office, 1991.

## PUBLIC HEALTH EDITORIAL STAFF

The editor of the Public Health Bulletin is Dr Michael Frommer, Director, Research and Development, NSW Health Department. Dr Lynne Madden is production manager.

The Bulletin aims to provide its readers with population health data and information to motivate effective public health action. 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, the full text of which can be found in *British Medical Journal* 1988; 296:401-5.

Please submit items in hard copy and on diskette, preferably using WordPerfect, to the editor, NSW Public Health Bulletin, Locked Mail Bag 961, North Sydney 2059. Facsimile (02) 391 9029. Please contact your local Public Health Unit to obtain copies of the NSW Public Health Bulletin.

# SUICIDE MORTALITY IN NSW: AN INTRODUCTION TO CLINICAL AUDITS

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This is the second of a series of articles on the epidemiology of suicide in NSW by the Mental Health Epidemiology Group (MHEG)<sup>1</sup>. In the first article, clinical audit was suggested as a possible way of meeting the need to address suicide issues at a local level<sup>2</sup>. This article is an introduction to the use of clinical audit to identify possible preventive approaches to suicide. We examine the ethical issues, techniques and feasibility of this method for collecting information on suicides. A more detailed report on the practicalities of clinical audit is being prepared<sup>3</sup>.

For more than three decades psychological autopsies and modified psychological autopsies have been employed worldwide to study risk factors for suicide. The term psychological autopsy most commonly refers to interviews with family and friends of the victim to reconstruct the circumstances of the suicide<sup>4</sup>. Sometimes the term is limited to the determination of the mental state of the individual, and at other times the modified psychological autopsy or clinical audit includes **all** the investigations relevant to the suicide, including the review of medical records and the physical autopsy<sup>4</sup>.

Clinical audit in this article encompasses both the psychological autopsy and the physical autopsy, and any other relevant investigations. We prefer to use the term clinical audit to stress that interviewing bereaved people requires clinical skills and because attention should be given to the potential role clinical services may play in prevention.

The purpose of a clinical audit is not only to "explore and identify contributing factors to suicide and attempts", but also to have a formal method for "... initiating contact and effective follow-up with bereaved family and friends" and to "prevent future suicides in bereaved families and friends by being available as a point of contact for support education and counselling"<sup>5,6</sup>. It is thus a form of psychosocial research which inevitably includes a clinical component.

## ETHICAL CONSIDERATIONS

**Beneficence and non-maleficence:** In utilising clinical audit as a therapeutic and a data collection tool, the benefit for the informants, the psychological strain on the interviewer<sup>7</sup> and the benefit to the community should all be considered. Suicide is a traumatic event and bereaved survivors may still show signs of crisis reactions. A clinical audit may be a further traumatic experience. However, a review of psychological autopsies by Beskow<sup>4</sup> reported that when survivors were approached to be interviewed there were few who refused and there were no reports of the people interviewed being harmed by the interview. Many of those interviewed reported benefiting from it<sup>4,8</sup>. In a study on youth suicide<sup>4</sup>, researchers identified that 59 per cent of survivors had unsatisfactory bereavement adjustment outcomes and 31 per cent displayed signs of depression. Interviews designed with due respect for the needs of survivors provide the opportunity to deal with those issues. Well-planned clinical audit can be an integral part of the bereavement counselling process.

**Autonomy:** It is essential that the autonomy of the informants be respected. Appropriate procedures for clinical

audit must be developed and staff conducting clinical audits must be properly trained. From the first approach to the last contact, informants must be confident that their participation is valued, their willingness or refusal to participate is respected, their disclosure or non-disclosure of sensitive information is entirely free<sup>4</sup>, that confidentiality of information is formally guaranteed, and that they understand the purpose of the audit.

**Public good:** Only the collection of the best possible information in the most rigorous manner can justify the intrusion of a clinical audit. Data quality is thus a primary ethical issue.

## METHOD

**What information can be collected?** Schneidman<sup>9</sup> details data to be collected according to three questions: "Why did the individual do it? How did the individual die? What was the most accurate mode of death – accident or suicide?" Clearly, information also needs to be collected which may facilitate the role of clinical services in prevention. A useful outline is suggested by Spellman and Heyne<sup>10</sup>:

- identifying data for the deceased (name, age, marital status, ethnicity, etc);
- details of the circumstances of the death (method, date, time, location, how discovered and by whom);
- the deceased person's history, including social history (legal, family and peer relationships), psychiatric history (diagnoses, suicide attempts, recent mental health treatment, mental health status), relevant medical history;
- predisposing factors (demographic factors, history of suicide attempts, psychiatric treatment history, personality, lifestyle, reactions to stress, substance use, recent life events, stressors and support networks, and death trends in family);
- precipitants (recent changes or losses); and
- warning signs (behavioural changes, affective changes, direct and indirect suicidal communication).

It is important to integrate this data with information from biochemical, toxicological and epidemiological approaches<sup>11,12</sup>.

Table 6 compares the information obtained in a clinical audit versus other collections.

Standard data collections, such as the ABS death data and the ISC hospital separation data, provide only limited information on the risk factors contributing to suicide. In contrast, clinical audits explore in detail the immediate history of the suicide, including information not routinely collected. Although not essential, case control studies can also be conducted as an adjunct to the clinical audit to quantify the effects of the risk factors<sup>26,31</sup>.

## From whom should information be collected?

Information should be sought from knowledgeable informants. These include the relevant health workers as well as first or second degree relatives or close friends. In three studies where alternative informants were available, the proportion of cases with acceptable interview data ranged from 89 per cent to 100 per cent<sup>4</sup>. The refusal rate recorded in two of the studies was only 7 per cent and 9 per cent. In an audit of suicide in the elderly, a review of the



TABLE 6

INFORMATION COLLECTED IN SUICIDE DATA COLLECTIONS IN NSW<sup>19</sup>: RELEVANCE TO PREVENTIVE APPROACHES AND THE EXTENT TO WHICH THESE ARE AVAILABLE IN VARIOUS DATA SOURCES

Data Collection	Australian Bureau of Statistics (ABS) Death Data <sup>14</sup>	NSW Mental Health Client Suicide Incident Monitoring System <sup>15</sup>	Inpatient Statistics Collection (ISC) separation data (attempts)	Clinical audit
Identifying Information:				
Intent <sup>16</sup>	✓	✓	✓	✓
Demographics	✓	✓	✓	✓
Psychiatric diagnoses		✓	✓	✓
Psychiatric history <sup>5, 17, 18, 19, 20, 21, 22, 23, 24</sup>				✓
Personality <sup>5, 25, 26</sup>				✓
Method, location and time	✓	✓	✓	✓
Risk factors <sup>18, 25</sup>				✓
Life events <sup>21</sup>				✓
Social support <sup>25, 27</sup>				✓
Interpersonal stressors <sup>27, 28</sup>				✓
Precipitants				✓
Family history <sup>5</sup>				✓
Physical comorbidity <sup>19, 21, 29, 30</sup>	✓		✓	✓
Health care contacts <sup>21, 22, 29, 31</sup>		✓		✓
Previous attempt		✓		✓
Warning <sup>5, 21</sup>		✓		✓
Preventability				✓

availability of knowledgeable informants found there was at least one knowledgeable informant in 90 per cent of the cases and two or more in 50 per cent of cases<sup>32</sup>.

The main technical disadvantage of the clinical audit lies in the retrospective nature of data collected. Both the interviewer and the informants are aware the person has committed suicide and recall may be distorted by this knowledge<sup>19</sup>. It is therefore important to conduct the interview and record the interview in a structured manner.

**Who should collect the information?** It is sometimes suggested the audit be conducted by the health worker/s responsible for the care of the person who committed suicide<sup>6</sup>. But few people who commit suicide are under the immediate care of a health worker. More generally it is suggested interviews be conducted by researchers who should have relevant clinical experience to enable them to deal with people in grief and assist the individual in gaining access to appropriate services<sup>10</sup>. An alternative model is a clinical audit or review committee consisting of three or four impartial investigators who are qualified multidisciplinary mental health practitioners<sup>10</sup>.

**When should the interview be conducted?** There should be a fine balance in timeliness when considering the grieving process and willingness to discuss the event, and the quality of the data. A short time may increase the therapeutic potential of the interview as well as the risk of harm. On ethical grounds, it has been suggested interviews should not take place until four weeks after the suicide<sup>4</sup>. To ensure reliability of the data collected, most of the studies in the literature reviewed recommend no more than

a six-month interval before the interview<sup>4, 7, 33</sup>. Most studies reviewed allowed a period of eight weeks and in one study where the median time interval was nine weeks, 41 per cent of those interviewed said they would have preferred an earlier interview<sup>4</sup>. Some provision should clearly be made for people who wish to have earlier contact with the clinical audit team.

**How is the information collected?** Contact by telephone followed by an introductory letter is recommended. This approach has a low rejection rate and provides an opportunity to meet survivors in an empathic manner for first contact<sup>7</sup>. Techniques for data collection include: questionnaires using standardised schedules, taping of interviews<sup>7</sup>, review of health records and review of coroners' records. It is important to collect this information in a formal and structured way.

**How valid and reliable is the information collected?** Despite differing methods of approach to families and interview techniques, studies show high compliance and consistency of results across a wide age range and geographic samples<sup>33, 34</sup>. Although the psychiatric diagnoses assigned show a high level of validity<sup>18, 34</sup> and reliability, this approach to assigning psychiatric diagnoses is likely to have a higher specificity than sensitivity<sup>34</sup>.

No literature was found on the validity and reliability of other information collected by this method.

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## Suicide mortality in NSW

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**Would it be feasible to conduct clinical audits on all suicides in NSW?** Suicide is a relatively rare event. In NSW in 1992 there were 740 deaths by suicide<sup>35</sup>. The average burden for an Area Health Service with the highest number of suicides lies within the range of 3-13 a month – an average of seven clinical audits a month<sup>36</sup>. Some of the smaller District Health Services have one suicide a year and it would be beneficial for these Districts to combine their efforts in conducting clinical audits.

Some mental health services already conduct reviews of suicides and serious suicide attempts by mental health clients as part of the post-suicide management protocol. These reviews are conducted to debrief staff and relatives formally and to evaluate health service issues for improved management of mental health clients. They do not usually include systematic data collection on suicide risk factors from the bereaved relatives and, if counselling of bereaved relatives is required, information is collected on an ad hoc basis.

The clinical audit, including interviews with the bereaved relatives, could therefore be structured as part of the post-suicide management protocol. This could be done not only for mental health clients, but also extended to all suicides.

If the clinical audit process were extended to include all serious suicide attempts (an estimated 3,536 attempts resulting in hospitalisation in NSW in 1992<sup>37</sup>), it would have much greater resource and workload implications.

### CONCLUSION AND RECOMMENDATIONS

Clearly there are well established procedures for conducting clinical audits for suicide and many important design factors of such a system are well defined. Setting up clinical audits for all suicide deaths in NSW and exploring the immediate preceding histories to identify possible preventive approaches is thus feasible in principle. The burden for each Area and District is probably manageable and, if the clinical audit is part of a protocol for the post-suicide management, it would be a valuable source of information for the Mental Health Services. It would enable them to identify appropriate intervention and prevention strategies, provide staff education and support, and provide counselling to the bereaved. Such an approach could be developed at a local level, address local problems and visibly meet community expectations that suicide deaths are given serious consideration.

1. Membership of MHEG is open to people with professional interest and expertise in mental health epidemiology who are willing to contribute to the planning and production of a series of publications and reports on important mental health topics. The policy of MHEG is joint publication by the group as a whole in which authors are listed in order of their contribution to the particular report. The contact address for MHEG is Mental Health Epidemiology Group, Centre for Clinical Policy & Practice, Public Health Division, NSW Health Department, Locked Bag 961, PO North Sydney 2059. (Fax: 391 9041, Internet email jchip@gwsm.doh.health.nsw.gov.au).

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3. A more detailed report which will review the practicality of implementation of clinical audits on a State level is being prepared. Protocols for data to be collected, ethical and legal issues affecting the audit and the feasibility of implementing this on a local level will be discussed. Suggestions are invited.

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13. Note – The Australian Coroners Society has endorsed the recommendations of the report: Coronial Information Systems: needs and feasibility study, J Moller, National Injury Surveillance Unit, Adelaide, 1994 to develop a coroners' database. This is not operational yet.

14. Note – There is a two-year delay in receiving death data from the ABS.

15. Note – The NSW Suicide Notification and Incident Monitoring System has been operating for 41 months. The system has collected data on suicide of clients of the public mental health services. The system is being reviewed and a report on the existing data as well as the review will be available soon.

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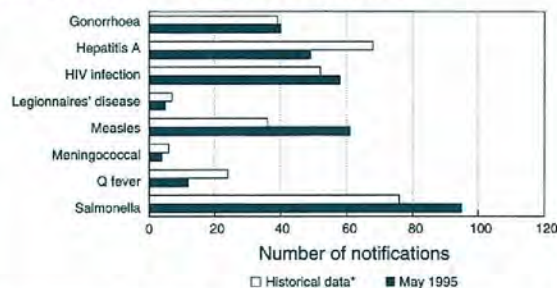
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35. ABS Death Data, 1992.

36. Northern Sydney Area Health Service – 85 cases registered – ABS Death Data, 1992.

37. NSW Inpatient Statistics Collection separations, 1992.

# INFECTIOUS DISEASES

**FIGURE 11**
**SELECTED INFECTIOUS DISEASES:  
MAY 1995 COMPARED WITH HISTORICAL DATA**


\* Historical data: the average number of notifications diagnosed in the same month in the previous three years

**TABLE 7**
**SUMMARY OF NSW INFECTIOUS DISEASE NOTIFICATIONS  
JUNE 1995**

Condition	Number of cases notified			
	Period		Cumulative	
	June 1994	June 1995	June 1994	June 1995
Adverse reaction	2	—	21	12
AIDS	38	17	273	140
Arboviral infection	34	11	341	431
Brucellosis	—	—	—	—
Cholera	—	—	—	—
Diphtheria	—	—	—	—
Foodborne illness (NOS)	14	5	130	271
Gastroenteritis (instit.)	25	10	112	96
Gonorrhoea	26	15	185	194
H influenzae epiglottitis	4	—	18	3
H influenzae B - meningitis	4	2	10	5
H influenzae B - septicaemia	2	—	8	4
H influenzae infection (NOS)	1	—	8	2
Hepatitis A	48	13	290	286
Hepatitis B	347	87	2,183	2,155
Hepatitis C	832	248	4,427	3,806
Hepatitis D	2	—	13	8
Hepatitis, acute viral (NOS)	—	—	1	1
HIV infection	32	25	248	286
Hydatid disease	3	1	8	5
Legionnaires' disease	8	2	36	43
Leprosy	1	—	2	—
Leptospirosis	1	—	11	12
Listeriosis	—	—	4	6
Malaria	20	—	115	74
Measles	17	21	310	338
Meningococcal meningitis	7	9	29	25
Meningococcal septicaemia	3	3	13	11
Meningococcal infection (NOS)	2	—	6	10
Mumps	1	2	3	5
Mycobacterial tuberculosis	37	4	222	116
Mycobacterial - atypical	36	—	271	163
Mycobacterial infection (NOS)	3	—	18	48
Pertussis	73	44	754	455
Plague	—	—	—	—
Poliomyelitis	—	—	—	—
Q fever	20	5	153	79
Rubella	5	1	57	50
Salmonella infection (NOS)	66	24	646	689
Syphilis	83	20	551	399
Tetanus	—	—	—	—
Typhoid and paratyphoid	3	—	16	23
Typhus	—	—	—	—
Viral haemorrhagic fevers	—	—	—	—
Yellow fever	—	—	—	—

**SLIGHT INCREASE IN HIV NOTIFICATIONS**

The total number of notifications of HIV infection has decreased almost every year from 1987, when 2,083 cases were notified, to 1994, when 461 were notified. However the notification rate is slightly higher this year when compared with both the same period last year (Table 7) and historical data (Figure 11). It appears the final figure for 1995 will be slightly higher than that for 1994. HIV notifications are reported by the date of diagnosis rather than the date of infection, because this is usually not known. Further data on new HIV notifications, with evidence of recent infection, are available in the *Bulletin* supplement '1993 Infectious Disease Notifications' published in March 1995.

**MEASLES IN A HIGH SCHOOL**

Between May 29 and June 21 a cluster of 14 cases of measles was identified in students of a high school in the Central Sydney Area. All cases occurred in females aged 13 to 15 years and three cases were confirmed by serology. The cases resided in the Central, Southern, Western and South Western Areas of Sydney. Subsequently letters were sent to parents on two occasions, urging them to check their children's immunisation records and if necessary to have them immunised. This cluster highlights the importance of the adolescent measles/mumps/rubella (MMR) immunisation program which was implemented in NSW in 1994. This program replaced the schoolgirl rubella immunisation program. Both boys and girls are now immunised with MMR in Year 6 or 7. This should eliminate the circulation of measles, mumps and rubella virus in high schools in the near future as the cohort of immunised children passes through the school grades.

Measles notifications are high compared with the same period last year (Table 7) and historical data (Figure 11). March-July is typically a period of low measles activity. The notification rate usually peaks between September and November.

**HEPATITIS A IN A CHILD CARE CENTRE**

Central Sydney Public Health Unit reported seven cases of hepatitis A in a child care centre from mid-May and through June. A member of staff was the first case notified, followed by six children. Immunoglobulin was recommended for all those attending the centre as soon as the first case was notified. That an adult was the first case notified is not unexpected as hepatitis A is usually asymptomatic in young children. This can make outbreaks associated with child care centres very difficult to detect and control.

The hepatitis A notification rate has been similar this year to that for the same period last year (Table 7). Central Sydney Area had a notification rate higher than the State average so far this year with 13.7/100,000 population (the NSW average was 4.7/100,000). An outbreak in Eastern and Central Sydney originally involving injecting drug use as a risk exposure was reported in the January 1995 *Bulletin*.

**Q FEVER: GREATER IMMUNISATION COVERAGE NEEDED**

Q fever is a disease caused by the rickettsial microorganism *Coxiella burnetii*. The disease can be variable in its mode of onset and the severity of the illness experienced (from a mild febrile illness to a chronic debilitating condition that can last from months to years). It is usually transmitted

Continued on page 73 ►

TABLE 8

INFECTIOUS DISEASE NOTIFICATIONS FOR 1995  
BY PUBLIC HEALTH UNIT FOR NOTIFICATIONS RECEIVED BY JUNE 30, 1995

Condition	CCA	CSA	CW	ESA	HUN	ILL	NC	ND	NSA	SE	SSA	SW	SWS	WEN	WN	WSA	U/K	Total
AIDS	2	32	-	49	5	1	11	-	15	-	10	-	5	5	-	5	-	140
Arboviral infection	5	3	-	6	10	24	163	38	3	146	3	11	-	2	17	-	-	431
Gonorrhoea infection	2	31	6	77	2	9	10	6	6	4	13	-	10	2	8	8	-	194
Hepatitis B - acute viral	-	3	-	6	-	-	1	2	-	1	1	-	2	1	7	3	-	27
Hepatitis B - chronic/carrier	11	-	7	131	-	-	4	9	1	-	4	-	-	4	7	52	-	230
Hepatitis B - unspecified	12	215	6	37	49	47	26	3	234	15	298	10	662	9	5	270	-	1,898
Hepatitis C - acute viral	-	-	-	3	-	-	-	-	-	1	-	-	-	2	24	1	-	31
Hepatitis C - unspecified	102	394	166	649	244	211	379	66	256	118	255	118	397	69	13	334	-	3,771
Hepatitis D - unspecified	-	-	-	1	-	-	3	-	-	-	1	-	3	-	-	-	-	8
Hepatitis, acute viral (NOS)	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
HIV infection	4	41	1	102	9	6	7	-	13	-	12	-	18	8	1	14	50	286
Hydatid disease	-	-	1	1	-	-	1	-	1	-	-	-	1	-	-	-	-	5
Legionnaires' disease	-	1	-	2	9	5	1	1	5	-	-	-	2	1	-	16	-	43
Leprosy	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Leptospirosis	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	2
Malaria	2	5	-	7	7	4	8	1	19	-	3	2	4	3	-	9	-	74
Meningococcal infection (NOS)	1	-	-	1	1	-	2	-	-	-	2	1	1	-	1	-	-	10
Meningococcal meningitis	2	1	2	2	5	3	3	1	2	1	2	-	1	-	-	-	-	25
Meningococcal septicaemia	-	2	-	-	5	-	1	-	1	-	1	-	1	-	-	-	-	11
Mycobacterial atypical	4	24	-	40	12	6	7	3	19	1	17	3	18	1	6	1	-	162
Mycobacterial infection (NOS)	4	2	-	1	3	-	3	-	4	-	-	-	29	-	-	2	-	48
Mycobacterial tuberculosis	-	12	1	9	4	4	2	2	15	1	19	1	6	2	3	35	-	116
Q fever	-	1	4	-	6	2	13	23	-	-	-	1	1	-	27	1	-	79
Syphilis infection	4	43	7	77	9	9	28	22	16	4	32	2	50	7	65	24	-	399
Tuberculosis - non active	-	-	-	-	-	5	1	-	10	-	24	1	-	-	1	1	-	43

TABLE 9

VACCINE PREVENTABLE AND RELATED CONDITIONS, NOTIFICATIONS FOR 1995  
BY PUBLIC HEALTH UNIT, RECEIVED BY JUNE 30, 1995

Condition	CCA	CSA	CW	ESA	HUN	ILL	NC	ND	NSA	SE	SSA	SW	SWS	WEN	WN	WSA	Total
Adverse event after immunisation	-	-	-	-	-	-	-	2	-	1	2	5	-	2	-	-	12
H. influenzae epiglottitis	-	-	-	1	-	-	1	-	-	-	1	-	-	-	-	-	3
H. influenzae infection (NOS)	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2
H. influenzae meningitis	-	1	-	-	-	-	3	-	-	-	-	-	-	-	-	1	5
H. influenzae septicaemia	-	-	-	-	1	-	-	-	1	-	1	-	-	-	-	1	4
Measles	8	22	2	46	32	51	18	27	10	5	27	8	20	32	-	30	338
Mumps	-	-	-	1	-	2	1	-	-	-	-	-	-	-	-	-	5
Pertussis	14	13	5	17	26	36	117	6	39	11	24	25	20	42	11	49	455
Rubella	-	-	-	4	-	2	8	1	1	-	12	1	-	4	1	16	50

TABLE 10

FOODBORNE INFECTIOUS DISEASE NOTIFICATIONS FOR 1995  
BY PUBLIC HEALTH UNIT, RECEIVED BY JUNE 30, 1995

Condition	CCA	CSA	CW	ESA	HUN	ILL	NC	ND	NSA	SE	SSA	SW	SWS	WEN	WN	WSA	Total
Foodborne illness (NOS)	16	9	-	-	162	-	-	1	-	-	-	8	37	-	19	19	271
Gastroenteritis (inst.)	-	11	-	-	2	-	45	-	33	-	-	-	-	-	2	3	96
Hepatitis A - acute viral	8	45	30	77	10	7	14	-	22	-	20	10	22	3	3	15	286
Listeriosis	-	1	1	1	-	-	-	-	1	1	-	-	-	-	-	-	6
Salmonella (NOS)	15	38	13	46	56	39	87	45	65	27	62	20	55	32	27	62	688
Typhoid and paratyphoid	-	1	-	7	-	-	1	-	2	-	5	-	3	1	-	3	23
Vibrio infection (non cholera)	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1

**Infectious diseases**

► *Continued from page 71*

by the airborne dissemination of rickettsia in dust from premises contaminated by placental tissues, birth fluids and/or excreta from infected animals. This usually occurs in establishments processing infected animals or animal products.

Q fever is a preventable condition and a vaccine has been readily available in NSW since 1993. The vaccine is highly effective in preventing the disease if a susceptible individual is immunised before exposure to *Coxiella burnetii*.

The level of notifications received for this condition has decreased over the period 1993-1995, from 6.6/100,000 population in 1993 to 2.6/100,000 (projected for 1995) (see Figure 12). Unfortunately, for almost half these notifications, the occupation of the individual was not adequately coded. Of the cases whose occupations were recorded, 60 per cent were directly identified with the meat industry and a further 28 per cent were associated in some way with industries dealing with livestock (Figure 13). Young males entering employment in the meat industry continue to be disproportionately affected (Figure 14). Most notifications come from the country areas of NSW and in particular from the Northern Districts and Western NSW (Table 8).

The Meat Industry and the WorkCover Authority of NSW, through the administration of the Occupational Health and Safety Act 1983, are best placed to ensure the health of workers in the meat and livestock industry is protected through better implementation of the program to immunise against Q fever. The role of the NSW Health Department is to maintain an effective surveillance program. In addition, some Public Health Units (PHUs) have produced information sheets on this disease.

**MENINGOCOCCAL MENINGITIS**

There was an increase in sporadic cases of meningococcal meningitis notified in June (Table 11). No case was related to any other.

**INFLUENZA SURVEILLANCE**

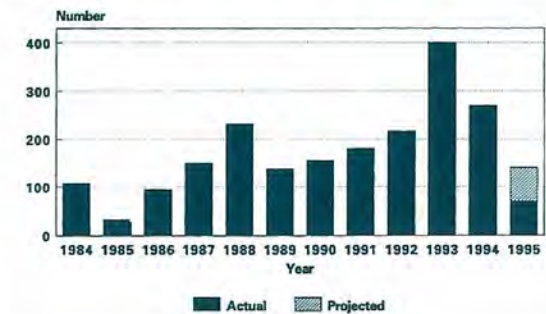
Data describing influenza-like illness (ILI) activity during the winter season of 1995 indicate local outbreaks in southern and western NSW. As isolates of influenza virus are declining the agent most likely to be responsible for ILI in following weeks is RSV.

Surveillance data for influenza provided by sentinel general practices representing about 73 doctors and 9,500 consultations a week were reported by nine PHUs to the end of June. The consultation rates for ILI reached a peak in the second week of June (4.1 per cent) and then gradually decreased. South East PHU (covering the districts of the South Coast, Monaro and the Southern Tablelands) has reported rates above the epidemic level since the second week of May. Here the peak in consultation rates was reached in the third week of June (19.2 per cent).

School absenteeism has increased since early May. The average rate for May, reported by five PHUs representing 13 schools and 9,200 pupils, was 5.9 per cent. The average rate for June, reported by nine schools covering 5,800 pupils (but included only up to the third week of June) was 10.5 per

**FIGURE 12**

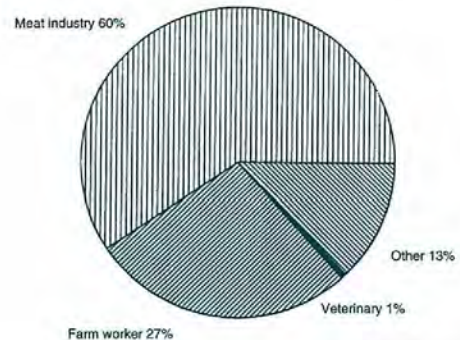
**Q FEVER NOTIFICATIONS, NSW 1984-1995**



Source: NSW Department of Health

**FIGURE 13**

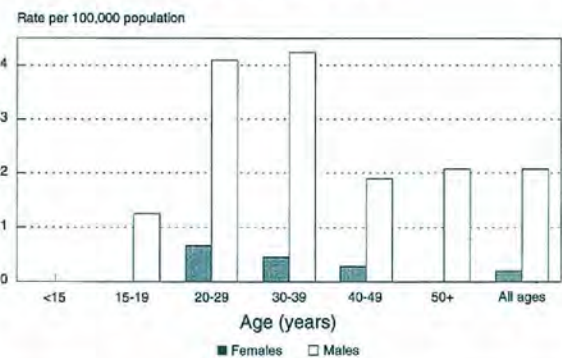
**Q FEVER NOTIFICATIONS 1993-1995, NSW BY OCCUPATION**



Source: Infectious Diseases Surveillance System

**FIGURE 14**

**Q FEVER NOTIFICATIONS BY AGE NSW 1995**



Data current to July 3, 1995

Source: Infectious Diseases Surveillance System

Continued on page 74 ►

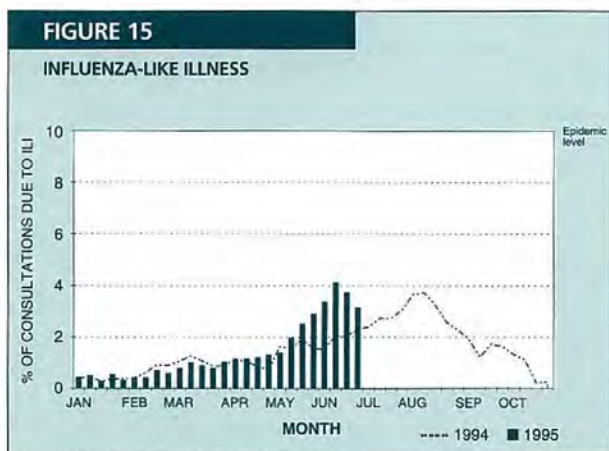
## Infectious diseases

► Continued from page 73

cent. Once again South East PHU reported the highest rates since May. Due to school holidays no report for school absenteeism has been received since the end of June.

The Prince of Wales and Westmead laboratories have reported 13 isolates of influenza A and seven of influenza B by serology for the first week of July. Cross-reaction was found for four patients, that is, samples from four patients were positive for both influenza A and B. During the same period the laboratories of the Institute of Clinical Pathology and Clinical Research at Westmead Hospital, the Virology Department of the Royal Alexandra Hospital for Children and Liverpool reported one influenza A, two influenza B, 62 RSV, three parainfluenza 3 and one rhinovirus isolate between them. The number of influenza virus and RSV isolates detected was higher than for the same period last year but lower than the number detected each week during June. All the NSW influenza isolates for the previous weeks were subtype A(H1N1) with a minor antigenic drift from the A/Texas/36/91 strain and B/Beijing/184/93-like strain. The A(H1N1) viruses reacted well with A/Texas/36/91 sera contained in 1995 vaccine.

1. National Influenza Surveillance 1995, *CDI* 1995; 19(13):321.



**TABLE 11**

INFECTIOUS DISEASE NOTIFICATIONS FOR 1995  
BY SELECTED MONTH OF ONSET FOR NOTIFICATIONS  
RECEIVED BY JUNE 30, 1995

Condition	Mar	Apr	May	Jun	Total
Adverse event after immunisation	2	2	4	-	8
AIDS	24	19	23	17	83
Arboviral infection	178	116	76	11	381
Foodborne illness (NOS)	26	25	7	5	63
Gastroenteritis (instit.)	10	34	37	10	91
Gonorrhoea infection	40	29	40	15	124
H influenzae epiglottitis	1	2	-	-	3
H influenzae infection (NOS)	-	1	-	-	1
H influenzae meningitis	1	-	-	2	3
H influenzae septicaemia	2	-	1	-	3
Hepatitis A - acute viral	51	32	49	13	145
Hepatitis B - acute viral	10	8	4	1	23
Hepatitis B - chronic/carrier	44	35	52	11	142
Hepatitis B - unspecified	407	324	348	75	1,154
Hepatitis C - acute viral	7	3	12	-	22
Hepatitis C - unspecified	801	528	686	248	2,263
Hepatitis D - unspecified	-	2	-	-	2
Hepatitis, acute viral (NOS)	-	-	1	-	1
HIV infection	51	39	58	25	173
Hydatid disease	4	-	-	1	5
Legionnaires' disease	11	2	5	2	20
Leptospirosis	-	1	-	-	1
Listeriosis	2	-	-	-	2
Malaria	10	10	17	-	37
Measles	66	34	61	21	182
Meningococcal infection (NOS)	2	3	1	-	6
Meningococcal meningitis	4	2	2	9	17
Meningococcal septicaemia	1	-	1	3	5
Mumps	-	-	1	2	3
Mycobacterial atypical	53	21	7	-	81
Mycobacterial infection (NOS)	10	11	12	-	33
Mycobacterial tuberculosis	27	12	16	4	59
Pertussis	71	62	127	44	304
Q fever	11	11	12	5	39
Rubella	7	5	15	1	28
Salmonella (NOS)	120	98	95	24	337
Syphilis infection	83	62	81	20	246
Typhoid and paratyphoid	2	5	-	-	7

### Abbreviations used in this Bulletin:

CSA Central Sydney Health Area, SSA Southern Sydney Health Area, ESA Eastern Sydney Health Area, SWS South Western Sydney Health Area, WSA Western Sydney Health Area, WEN Wentworth Health Area, NSA Northern Sydney Health Area, CCA Central Coast Health Area, ILL Illawarra Health Area, HUN Hunter Health Area, NC North Coast Public Health Unit, ND Northern District Public Health Unit, WN Western New South Wales Public Health Unit, CW Central West Public Health Unit, SW South West Public Health Unit, SE South East Public Health Unit, OTH Interstate/Overseas, U/K Unknown, NOS Not Otherwise Stated.

Please note that the data contained in this Bulletin are provisional and subject to change because of late reports or changes in case classification. Data are tabulated where possible by area of residence and by the disease onset date and not simply the date of notification or receipt of such notification.