PUBLIC HEALTH ABSTRACTS

The following abstracts were prepared for the first NSW Public Health Network Conference held in Sydney in November. More of the abstracts will be published in the next issue of the Bulletin.

LOW BIRTHWEIGHT - A POPULATION STUDY

The 1987 Midwives' Data Collection was determine if mothers in any of the NSW Health Areas or Regions were at increased risk of delivering a low birthweight infant. A further aim was to determine whether any demographic or reproductive history factors were associated with low birthweight.

The Midwives' Data Collection is estimated to be 96 per cent complete in 1987. The data was analysed using two different sets of outcome measures. In the first, births were classified as either very low birthweight (VLBW), low birthweight (LBW), or > 2,500g. For the second set of outcome measures, births were classified as either small for gestational age (SGA), preterm, or non-SGA term births.

There were variations in the rate of LBW between Health Areas and Regions, with some having a statistically significant increased or decreased risk of LBW between Health Areas and Regions, with some having a statistically significant increased or decreased risk of LBW, or SGA or preterm birth. The risk of SGA birth was related to the mother's marital status, age, parity, ethnic group, socio-economic status and time of first antenatal visit. The risk of preterm birth was related to the mother's marital status, age, parity, prior spontaneous abortion, prior induced abortion, prior stillbirth or neonatal death, time of first antenatal visit and sex of infant.

Charles Algert, Christine Roberts and Pam Adelson.

EPIDEMIOLOGY AND CONTROL OF MENINGOCOCCAL DISEASE IN NEW ZEALAND IN 1992

During the first six months of 1992 the New Zealand Communicable Disease Centre (NZCDC) was notified of or received isolates from 62 cases of meningococcal disease (6.2 cases per 100,000). This rate is significantly higher than rates seen during the previous three years (RR = 3.5, 95% CI 2.6-4.6). When seasonally adjusted, this trend suggests that New Zealand can expect more than 200 cases by the end of 1992, more than the number reported in nay previous year.

The increase in incidence was across all age groups and geographical areas. Maori were significantly more likely to develop meningococcal disease than Europeans (RR = 2.9, 95% CI 1.7-5.1). Six fatalities occurred (10 per cent). Isolates were largely serogroup B (70 per cent) or serogroup C (20 per cent). Subtyping indicated at last five different strains among serogroup B isolates. This "hyperendemic" pattern of moderately increased rates (2 to 10 per 100,000) is associated with serogroup B disease.

Prevention and control strategies that have been implemented include: alerting medical practitioners to encourage early diagnosis and antibiotic treatment, education of patients about early symptoms of disease and encouraging vigorous tracing and prophylaxis of contracts. We have also publicised the association between meningococcal disease and exposure to active and passive smoking.

Michael Baker

INTRODUCTION OF AN URBAN REGIONAL TRAUMA SYSTEM IN SYDNEY

A regional trauma system - the State Trauma Plan - was introduced to Sydney on March 29, 1992. The new system intends to improve health outcomes by reducing the time taken to provide definitive treatment or patients with serious injuries. Under the new system, ambulance officers transport seriously injured patients to the closest Area Trauma Hospital, rather than the closest hospital. Ambulance officers use trauma triage guidelines to determine which trauma patients are actually or potentially seriously injured.

We reviewed the system over the initial three months of its operation. Ambulance data were reviewed before and after the activation of the Trauma Plan. Analyses focused on the number of trauma patients bypassing local hospitals, transport times for bypass patients and the impact of the new transport arrangements on the ambulance service. Results were compared with predictions obtained from a 1988 pilot study.

There were an average of 24 bypass cases per week (25 predicted). There was no deterioration in ambulance transport times. There was a small redistribution of cases between local and Trauma hospitals. Eighty-two per cent of seriously injured patients now arrive at the Trauma Hospital within 60 minutes compared to 6 per cent before the plan's introduction.

Mark Bek, David Lyle, Anthony O'Connell, Val McMahon and Siun Gallagher.

WHY INVESTIGATE MINOR OUTBREAKS OF GASTROINTESTINAL ILLNESS?

Twelve people attending a church camp during the June long weekend presented to hospital with gastroenteritis. We investigated, and faced the usual difficulties of antipathy, limited access to the study population, biases associated with retrospective mail questionnaires, poor response rate, no food samples and no clinical specimens.

Despite these limitations we reached valuable conclusions. The epidemiologic curve suggests a common source outbreak or "exhausting the susceptibles" in a person-to-person outbreak. Gastrointestinal symptoms implied ingestion of a toxin or infectious agent. We were able to rule out water, and a single meal or food as sources of the outbreak. We could not rule out person-to-person transmission of an infectious agent. People with recent gastrointestinal illness had attended the camp, and one had helped in the kitchen. Secondary spread to other household members also suggests a transmissible agent.

One hundred and eleven of the 232 campers (48 per cent) returned questionnaires. In this "minor" outbreak, the burden of illness was considerable. The original 12 cases became 71. Forty-five were sufficiently sick of lose a mean of 2.5 days form school or work and 31 consulted a doctor or hospital.

This investigation shows that "minor" outbreaks may incur major costs to individuals and the community in lost productivity and to the health care system, and that important conclusions can be reached from imperfect and hastily compiled information.

Jane Bell and Anthony Capon.

Motor vehicles injury in the Wentworth and Western Sydney health areas

As part of an investigation of an apparent excess in deaths due to motor vehicles injury in the Wentworth Health Area (compared to NSW overall) we obtained data concerning road traffic casualties for the period 1986 to 1990 for the NSW Roads and Traffic Authority Traffic Accident Database. Twenty thousand six hundred and thirty casualties were reported in this time (8,499 in Wentworth and 18,433 in Western Sydney). Though the number of crashes and casualties fell in this period we found a persisting high rate of fatal and serious injury per 1,000 casualties in the Wentworth Area (140.1 per thousand in 1990, compared to 93.2 and 101.1 per thousand in Western Sydney and Sydney Region respectively).

We assessed risk of fatal and serious injury among all casualties using logistic modelling techniques. Relative risk of serious injury among motor vehicles occupant casualties was significantly different from unity in all three Wentworth Area local government areas (Penrith RR = 1.31, 99% CI 1.05-1.63; Blue Mountains RR = 2.23, 99% CI 1.76-2.84 and Hawkesbury RR = 1.83, 99% CI 1.43-2.35) and in the Baulkham Hills LGA in Western Sydney (RR = 1.72, 99% CI 1.35-2.18). The Auburn LGA was used as the reference (i.e. RR = 1.00).

No significant geographic differences were found in risk of serious injury for motor cycle riders/passengers or pedestrians. Important confounders included in the model of motor vehicle occupant risk were driver age, sex and blood alcohol group, seatbelt use, type of initial impact and exposure to a high risk period (9pm to 3am). A case-control study is being undertaken to assess a range of issues relevant to targeted local interventions aimed at reducing the rate of severe injury.

Glen Close and Anthony Capon.

Development of a public health response to chemical incidents

The public is increasingly demanding a safer environment due to both a raised awareness of environmental hazards as well as its growing effectiveness and involvement in the political process. This is especially evident with the occurrence of chemical incidents where the public is justifiably concerned about the acute and potential chronic health effects which may arise as a result of a chemical release.

The public health response to these incidents has been managed by officers within the 14 Public Health Units across the State and has to date predominately focused on dealing with the acute aspects of these incidents. There are, however, other public health concerns such as the follow-up of long-term health effects and the relaying of health information to the public which are not adequately addressed through this system.

A protocol has been developed within the public health system to ensure consistency in responding to and reporting of chemical incidents. Consideration of a number of criteria including incident location, the level of containment of a chemical involved as well as the severity of potential health effects, will determine the level of response required. A computerised checklist for data collection has been developed to enable the PHUs to make a rapid health assessment for each chemical incident. This system is being trialled in four PHUs.

Christine Cowie, Helen Moore, Stephen Corbett and Greg Thomas.

Sydney Airport epidemiological studies

As part of the process leading to the approval of the proposed third runway at Sydney Airport, the Federal Airports Corporation is committed to sponsoring studies of the potential health effects of the development. Two major epidemiological studies are suggested: a community survey and a database study.

The community survey would select individuals who live under the flight paths with sampling stratified by age, sex and SES. Comparison individuals matched on age, sex, and proximity of home to main roads, will be selected from areas away from the flight paths. Only English-speakers would be studied. The study and comparison groups would be surveyed before and after commencement of third runway aircraft operations. Outcomes measured would include attitudes to aircraft and other noise, sleep patterns, occupation, general physical and mental health, cardiovascular disease risk factors, respiratory health status and use of health services.

The database study would compile statistics on rates of GP attendance, hospitalisation, cancer incidence, birthweight, gestation period and congenital abnormalities for census collector districts in eastern, central, southern and lower northern Sydney to identify possible associations with aircraft flight paths. Census data and ethnicity, age, sex, SES and household structure could be treated as confounding variables.

Michael J Fett.

Public Health Officer training

The Public Health Officer Training Program, begun in 1990, is deigned to equip public health professionals with the skills and experience needed for the developing public health infrastructure in NSW. In February 1993 the first group of public health officers (PHOs) will graduate from the program. For this reason, PHOs decided this was an appropriate time to evaluate the program.

There was general agreement among the PHOs that the program provided valuable experience for working as a public health professional. The PHOs endorsed eight recommendations for future program development. They are summarised as follows:

- The role and definition of a PHO should be clarified and promoted within the Public Health Network.
- A full-time position should be created to coordinate the development of the Public Health Network and the Public Health Officer Training Program.
- Supervision of PHOs should be improved by development of guidelines for supervisors; provision of supervisor training; regular meetings of supervisors; provision of dedicated regular time supervision; identification of alternate supervisors to cover during absence; structured/regular feedback; and placement evaluation.

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- Placement guidelines and minimum standards should be developed to ensure the provision of good quality placements. These should include guidelines for supervisors and detail minimum workplace conditions such a workstation, dedicated desktop computer, telephone and induction to the Public Health Unit and Area/Region.
- An induction program should be developed for all new PHOs.
- Time required to carry out the tasks of the PHO representative should be recognised in any placement.
- A mentor system should be introduced into the program.
- The Epidemiology and Health Services Evaluation Branch, in conjunction with Human Resources Branch, should examine options for accreditation of the PHO Training Program.

There was general agreement that the evaluation workshop was valuable and should be conducted on an annual basis.

Susan Furber, Alex Goodwin and Isla Tooth.

HEALTH SERVICES AND THE ELDERLY

Medical and diagnostic services for people aged 65 and over comprise a substantial proportion of all services provided by the Health Insurance Commission under the Medicare Benefits Schedule. To examine the utilisation of these services we examined de-identified data on services used by a cohort of people receiving one or more services in NSW in 1991. The results of these analyses showed that overall, there was not an excessive rate of utilisation among people of this age group. Of more than 7,000 people in this cohort, 39 per cent had between 1 and 10 services during 1991, 66 per cent had between 1 and 20 services and 82 per cent between 1 and 30 services.

Fifty-one per cent had between 1 and 10 doctor's attendances, and 79 per cent had between 1 and 20 attendances. The most frequent attendance to be reimbursed was a standard consultation lasting between 5 and 25 minutes which involved taking a history, examination of the patient and implementing a management plan in relatin to one or more problems. Sixty-two per cent of people had a standard attendance at a surgery and 20 per cent had a standard home visit. Forty-four per cent had a initial specialist attendance and 39 per cent had a subsequent specialist attenance.

Differences in diagnostic testing patterns were found between groups of people defined by their age group, geographical area of residence and whether they were referred by a specialist or a general practitioner. We report the results of these analyses and discuss the potential benefits and disadvantages of using claims data to evaluate utilisation of medical and diagnostic services and current clinical practices.

Marion Haas, Louise Rushworth and Marilyn Rob.

NEWS AND COMMENT

FUNDING FOR THERAPEUTIC ASSESSMENT GROUP

The NSW Health Minister, Mr Ron Phillips, has given the NSW Therapeutic Assessment Group (TAG) a commitment for ongoing funding. TAG, which was set up in June 1988 and meets bi-monthly, comprises clinical pharmacologists, directors of pharmacy, key physicians, drug information pharmacists, and representatives from all NSW teaching hospitals and the pharmacology and pharmacy departments of their universities.

The group is chaired by Professor Ric Day and its key activities have included:

- development, in consultation with other expert groups and individuals, of objective guidelines for the appropriate use of specific drugs or drug groups;
- drug utilisation reviews;
- sharing of drug committee policies and decisions of member hospitals;
- dissemination of information as part of its educative and advisory role; and
- research, including a study investigating academic detailing as a strategy to improve the quality of general practitioner prescribing.

For information on TAG contact Roberta Lauchlan on (02) 361 2092.

DENTAL KIT FOR KIDS

The School Dental Clinic at Lismore Base Hospital has used a $25,500 National Health Promotion Program grant to produce a kit aimed at raising dental health awareness among children at infants and primary school. Hospital Chief Executive Officer Paul Dyer, who launched the kit, said it promoted dental health awareness in an entertaining, informative and educationally sound style. For more information about the kit contact Lismore Base Hospital Senior Dental Therapist Gail Loader on (066) 216235.

NHMRC RECOMMENDATIONS

The National Health and Medical Research Council has recently made recommendations about:

- tetanus prophylaxis for wound management;
- *Haemophilus influenzae* immunisation;
- notifiable diseases - recommended list; and
- *Listeria* infection

and issued the following publication:

- Recommended minimum exclusion periods from school, pre-school and child care centres of infectious diseases cases and contacts.

Details of recommendations and publications can be obtained by contacting Mrs Corinne Hopman on (06) 289 7646.