

# PROGRESS REPORTS OF PROJECTS FUNDED UNDER THE NSW HEALTH OUTCOMES PROGRAM 1992-1993

In June 1993 a summary of each of the demonstration projects funded in 1992-93 under the NSW Health Outcomes Program was presented. The projects are demonstrating how an outcome-oriented approach in planning, implementation and evaluation of public health and clinical services can produce measurable improvements in health outcomes. Information about three of the projects will be provided in the next Health Outcomes report.

## HEALTH GAINS IN INJURY

This project aims to demonstrate how specific organisational change in a district can result in better health services using injury as a case study. A management team for self-inflicted injuries has been established. Subcommittees have been formed in specific sectors of health-care delivery: health promotion and primary prevention; crisis intervention; hospital management; and post-intervention.

Appropriate care protocols for self-inflicted injuries will be prepared and implemented based on information gained from the following activities which have been completed: a literature review and analysis of local mortality and morbidity data; a review of suicide prevention strategies; documentation of existing practices; feedback on this information; and analysis of baseline data from a hospital study and school survey study. Suicide awareness workshops for professionals have been conducted and a resource directory of local agencies and professionals has been compiled. Difficulties have included maintenance of a large management committee and concurrent subcommittees and developing appropriate outcome indicators for suicide where the risk factors are multifactorial; 'at risk' people are difficult to identify; 'masking' and misdiagnosis of attempted suicides are often encountered; lack of appropriate monitoring and surveillance systems; and the management of self-inflicted injuries is dependent on a large number of health and allied professionals.

A similar process beginning in February 1994 will address orthopaedic trauma. Completion date is May 1994.

*Anne Kempton and John Beard,  
North Coast Public Health Unit*

## ORGANISATION AND DELIVERY OF IMMUNISATION PROGRAMS

This project aims to establish and evaluate a system of delivery of on-the-spot immunisation to children and

adolescents less than 15 years old in hospital, general practice and early childhood centres in the Central Sydney Health Area. The main outcome measure will be assessment of the number of immunisations given over the study period in each of the sites. More than 4,000 children were surveyed in August and September. Preliminary results show that 339 children were immunised on-the-spot during the study period; 75 over eight weeks by general practitioners, 72 over six weeks by nurses in the Eastern Sector early childhood centres and 192 over four weeks at Royal Alexandra Hospital for Children. Fewer than 80 per cent of children surveyed had an up-to-date immunisation status. Difficulties included non-compliance with filling out the immunisation data collection forms and resistance of staff to giving on-the-spot immunisation. Completion date is January 1994.

*Margaret Burgess, Royal Alexandra Hospital for Children*

## OUTCOMES OF PATIENTS TREATED FOR CONGESTIVE HEART FAILURE IN WESTMEAD HOSPITAL

This project aims to develop disease indicators for congestive heart failure (CHF) and to explore ways of measuring the outcomes of its treatment. The project is based on all patients entering Westmead Hospital over a four-month period who have a principal diagnosis of congestive heart failure. A data-collection form and case-finding and case-identification procedures have been developed and tested. Data collection began in September. Patient recruitment will continue until January. Study factors being investigated include age, sex, severity of CHF, underlying cause, precipitating factors, investigations, treatment and drug use, co-morbidities and functional status. At four months after discharge follow-up details will be collected, including overall health, health service use and quality of life. Planning and development of the follow-up phase is under way. Completion date is June 1994.

*Fiona Blyth, Westmead Hospital*

## QUALITY OF CARE AND OUTCOME INDICATORS FOR RURAL TRAUMA SERVICES

In July 1993 the rural trauma notification trial began in three localities. Ambulance officers use guidelines to identify seriously injured patients who might benefit from the early mobilisation and intervention of the local medical retrieval team. This information is communicated to the retrieval physician so an immediate coordinated response can be mounted to minimise the delay from injury to effective treatment.

The project team has consulted hospital and Health



District executives, Rural Network Critical Care Committees, NSW Ambulance Service and local clinicians about the development of health indicators. A provisional set of indicators is available.

Piloting of health indicators has begun. Procedures to identify trauma deaths for audit and review have been established. Data collection from ambulance and hospital records is in progress. A pilot clinical audit/outcome committee has been set up in the Central West to review trauma fatalities and all patients identified using the pre-hospital trauma notification guidelines.

We have encountered some difficulties implementing the notification trial resulting in one of the original four localities withdrawing. No formal results are available yet, but a change in attitude from individuals to a regional approach to trauma is apparent. Completion date is July 1994.

*Tony Burrell, Orange Base Hospital,  
David Lyle, Epidemiology and Health Services  
Evaluation Branch, NSW Health Department*

#### **DEVELOPMENT OF AN INDICATOR FOR ACUTE MYOCARDIAL INFARCTION**

The aim of this project is to develop and pilot a standard diagnostic indicator for acute myocardial infarction. The standard diagnosis will be based on a combination of information on patients' symptoms, cardiac enzymes, ECG findings and previous history of myocardial infarction obtained from clinical records. Data have been collected for patients aged 25-79 years who are admitted to one of the Newcastle hospitals participating in the WHO MONICA Project. Data collection began in July and was completed in November, and data entry is being undertaken. Analysis will include the validation of the indicator against the more complex diagnostic criteria developed for the WHO MONICA Project, and will also be compared against ICD codes from the hospital morbidity data. Completion date is January 1994.

*Annette Dobson, Centre for Clinical Epidemiology and Biostatistics*

#### **ASSESSMENT OF DIABETES IN SOUTH WESTERN SYDNEY**

This project aims to compare the health outcomes and costs associated with ambulatory stabilisation of diabetics on insulin, with the more traditional method of initiating and stabilising insulin treatment on an inpatient basis. A review consisting of a random sample of medical records belonging to patients who had a principal diagnosis of diabetes in July 1992 and June 1993, and who attended one of five hospitals in South Western Sydney Area, has been completed.

Patients who were admitted to hospital and those who were commenced on insulin on an ambulatory basis were identified. Preliminary results of this review indicated there was no standardised management plan within or between hospitals, and many substantial data items were missing from patients' medical records. From this random sample, most of the patients hospitalised for stabilisation were newly diagnosed Type I patients. Most of those treated on an ambulatory basis were Type II - tablet failure patients. A study has begun recruiting all patients who commence insulin for the first time, to investigate further the health outcomes of these individuals by assessing a number of clinical and psychological variables. Completion date is August 1994.

*Jeff Flack, Diabetes Centre, Lidcombe*

#### **NEW ENGLAND IMMUNISATION REGISTER**

A voluntary immunisation register is operating successfully in Armidale and surrounding areas. The aim of this project is to enrol all new babies from the remainder of the New England Region on to a voluntary immunisation register, to test four interventions to improve the rate and punctuality of immunisations in these infants, and to determine which intervention is the most cost-effective method of improving immunisation in the New England population. The register has been promoted to 143 immunisation providers, health services and maternity units, and local co-ordinators have been appointed. One of four interventions has been assigned to specific geographic areas. These interventions are:

- i) provider lists for provider recall, a client 60-day reminder, client calendar;
- ii) client reminders 14 days before and 30, 60 days after immunisations fall due, a home visit at 90 days, provider lists for recording (not recall);
- iii) client calendar, client reminder at 60 days, home visit at 90 days, provider lists for recording (not recall); and
- iv) client reminder at 60 days, home visit at 90 days, provider lists for recording (not recall).

Data about the costs associated with each intervention are being collected. Immunisation rates, punctuality of immunisations and cost will be measured. A survey of attitudes of providers and clients will also be undertaken. All 143 immunisation providers in the Region have agreed to notify the register of immunisations given. Enrolment of clients began on July 1. Of the 122 providers sent lists with clients' due date, 52 (43 per cent) have responded with a return notification indicating they have immunised



one of the children on their list. Participation has been slightly lower than in the Armidale pilot study which reported a 99 per cent uptake by parents. There has been variation between districts in the response rates of mothers agreeing to be placed on the immunisation register, uptake ranging from 97 per cent to 88 per cent. Completion date is April 1994.

*Andrew Gardiner, New England Region Child Health Service*

#### **BARRABA COMMUNITY HEALTH OUTCOMES PLAN**

The Barraba Community Health Outcomes Plan is being devised as a pilot model suitable for use in small rural communities. This will be achieved through the analysis and interpretation of a broad range of local data which will be used to assist a health service and local government consult with the community to develop and implement plans to improve the health of the community. The first phase of the project, which involved the analysis and interpretation of local data, performed by the Centre for Small Area Research (CSAR), University of Sydney, has been completed. A team comprising representatives from the Public Health Unit, local hospital, shire council, adult learning centre and CSAR has been formed to identify issues needing further investigation and to plan discussions about local health issues. In the next phase, community discussions will be held and the development and implementation of a Barraba Community Health Outcomes Plan will occur. Completion date is September 1994.

*Bob Scott, New England Public Health Unit*

#### **EVALUATION OF THE IMMUNISATION SERVICE IN ORANA AND FAR EAST REGION**

This project aims to evaluate the immunisation programs offered in a rural area of NSW and to examine a cluster sampling method to provide ongoing evaluation of immunisation programs. It also aims to identify constraints leading to failures in compliance on the part of parents and care givers which cause problems in immunisation programs in the State, including: an evaluation of the cold change, logistics of the immunisation program in OFW and an assessment of knowledge, attitudes and practices of health care providers and members of the community in relation to immunisation.

A point prevalence of immunisation status outcomes of children 24-48 months based on the WHO methodology, using 30 clusters of seven children, was planned. The standard WHO door-to-door method was too time-consuming so a modified telephone method was

developed. The clusters have been completed and preliminary results show that immunisation coverage rates for children in Western NSW appear to be better than anticipated. Completion date is January 1994.

*John Hall, Orana and Far West Public Health Unit*

#### **EVALUATION OF TUBERCULOSIS PROGRAM OUTCOME INDICATORS IN SOUTH WESTERN SYDNEY AND A TARGETED INTERVENTION TO MINIMISE DELAY IN DIAGNOSIS**

In stage one of this project the aims are to quantify the delay in diagnosis, notification and initiation of appropriate treatment for TB in South Western Sydney. Factors which contribute to these delays and result in non-compliance of treatment will be examined. Data will be obtained by interviewing all patients attending Liverpool Chest Clinic with a diagnosis of TB over a 12-month period and seeking permission to review their clinical records. Mechanisms for monitoring TB program evaluation indicators will be developed.

The second stage involves trialling interventions to reduce delays in diagnosis, notification and treatment of TB cases. Interventions to be tested involve assessing the availability of the BACTEC diagnostic test and the effectiveness of an educational intervention for GPs and Emergency Department staff which aims to raise awareness of TB.

Interviews are in progress and the sample of GPs to be targeted is being selected. One difficulty has been that many patients with active TB do not attend Liverpool Chest Clinic for treatment (e.g. young children, patients under the care of private physicians supervising therapy, and people in institutions). This has necessitated conducting home visits to interview patients, many of whom require the services of an interpreter.

Preliminary results based on 20 cases of active TB show that the median delay of onset to diagnosis is 2.5 months (range 1 day-26 months); median delay of diagnosis to therapy is one week (range 2 days-9 weeks); median delay of diagnosis to notification is three days (range 0-3 weeks). Completion date is September 1994.

*Greg Stewart, South Western Sydney Public Health Unit*

#### **QUALITY OF CARE AND OUTCOMES INDICATORS FOR CRITICAL CARE**

This project involves the development and testing of a set of quality of care and outcome indicators to monitor and evaluate changes made to the critical care service configuration in South Western Sydney.



Ambulance and hospital services are being reorganised to deal with critical illness more effectively, in acute hospitals or when the need arises to transport critically ill patients between hospitals. A pilot survey of unplanned admissions to intensive care units (ICUs) is being conducted and a database developed. A survey of avoidable deaths across the Area is planned and a pilot of this project is under way at Liverpool Hospital. A hospital review committee will be set up to review these deaths. Deaths, unplanned admissions and patients with acute renal failure will continue to be monitored. Completion date is August 1994.

*Ken Hillman, South Western Sydney Area  
David Lyle, Epidemiology and Health Services  
Evaluation Branch, NSW Health Department*

#### HEALTH INDICATORS FOR DIABETES – A CONSENSUS APPROACH

In September 1993, 45 diabetes health professionals, people with diabetes and NSW Health Department representatives attended the first NSW Diabetes Outcomes Workshop. Their goal was to reach consensus about what data should be collected to monitor outcomes in diabetes, how often and for what purposes.

The workshop was divided into two sessions, each consisting of individual group work and a plenary discussion time. For the first session participants were allocated to one of five groups dealing with specific diabetes outcomes such as acute complications, chronic complications, risk factor and demographic issues and diabetes self-care issues. Groups reconvened to discuss and gain consensus on appropriate and useful health outcome indicators for diabetes. This session resulted in 59 diabetes health outcome indicators representing various diabetes demographic and health outcome measures (including definitions and specifications). These indicators are referred to as 'agreed' diabetes indicators. Ten others were identified as potential indicators which required further discussion and development.

In the second session participants were assigned to one of four work practice areas – hospitals, GP and specialist, diabetes centre and community – to try to identify who could and should collect data. The 'agreed' indicators were considered by the four practice areas with respect to the practicalities of data collection. Most were seen as appropriate and feasible to be collected by all four areas. Several issues and areas of contention were identified for further discussion and debate.

A working party will be established to consider the potential indicators, any necessary indicator development and to resolve the areas of contention.

The working party will also investigate further practical aspects of the collection of these items.

The 1993 NSW Diabetes Outcomes Workshop is a first step in establishing a minimum diabetes dataset for use in Australia. Its final report will be distributed in December 1993. The project has been completed.

*Stephen Colagiuri, Diabetes Australia*

#### PROFILING SEVERITY OF ILLNESS AND OUTCOME OF INTENSIVE CARE

This project will add substantial value to the Australian and New Zealand Intensive Care Society (ANZICS) information system which contains a standardised core of clinical data collected by 50 intensive care units (ICUs) in Australia. The aims are to design and implement a production data analysis and reporting system for the national ANZICS database and to prepare statistical reports on critical illness and intensive care units in Australia. Data on more than 8,000 ICU patient admissions have been analysed. Preliminary results show there are considerable differences in the patient mix across units, although the grouped data show little variation in severity of illness or outcomes with sex or age. Calculated standardised mortality ratios using APACHE II predictors compared favourably with published studies. Mean age was  $57.8 \pm 16.8$ , mean APACHE II was 15.1, survival from ICU to discharge was 90 per cent and standardised mortality ratio was 0.81. Figure 1 illustrates mortality for ICUs for all diagnoses.

The data collection software will continue to be refined and education for the uses of the data will be provided. The central database and data error checking will also continue to be refined. Completion date is June 1994.

*David McWilliam, Royal Prince Alfred Hospital*

FIGURE 1

