Department of Epidemiology & Preventive Medicine

Annual Report 1995

A PARTNER IN THE VICTORIAN CONSORTIUM FOR PUBLIC HEALTH
AND THE CO-OPERATIVE RESEARCH CENTRE FOR WATER QUALITY AND TREATMENT
The Department of Epidemiology and Preventive Medicine is situated on the 3rd floor, 553 St Kilda Road, Melbourne 3004 and is part of the Alfred Campus of the Monash Medical School.

The department also has a clinical trials centre at the Ashley Ricketson Centre of the Caulfield Campus of the Alfred Hospital. This is situated at 260-294 Kooyong Road, Caulfield.
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THE
DEPARTMENT'S
WEB ADDRESS
IS

Location
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1995 was a very active year and a time of great change for the department. During the year we underwent a departmental review which is now required of all departments in the Medical Faculty on a 5 year cyclical basis. The review culminated in strong support of the department's teaching, research and service activities.

Following the review of the department, the Monash University Council authorised a change of name from the Department of Social & Preventive Medicine to the Department of Epidemiology & Preventive Medicine. This change had been recommended in the department's submission to the review because it was felt that the word 'Epidemiology' better reflected the core nature of our activities and the skills of our senior staff. It does not necessarily mean a change in focus of the department's activities which hopefully will continue to focus heavily on the application of epidemiological research to clinical practice and public health problems in the community.

1995 also saw us moved from our increasingly uncomfortable and cramped quarters on the 4th floor of the medical school to a new location at 553 St. Kilda Road. We now share the same building as the American Consulate in Melbourne. The new premises represent a striking improvement and have enabled us to draw together our senior staff and PhD students who have previously been dispersed in three separate locations.

The new department is not large enough to accommodate all our staff and those involved in community based research studies remain at the Ashley Rickeson Centre at the Caulfield Campus of the Alfred Hospital. This is a very valuable resource because of easy parking and good amenities and has proven an ideal site from which to launch various large scale epidemiological projects as well as conduct undergraduate and postgraduate teaching.

The year marked the beginning of several new initiatives. At an undergraduate level it was the first year of the new public health unit in final year which is conducted jointly between ourselves and the Department of Medicine. This six week course at the very beginning of the year is divided into two weeks of general public health, two weeks of clinical pharmacology and therapeutics and two weeks of geriatric medicine. It marked the accomplishment of a long term goal of locating public health teaching in a section of the course where students already were familiar with most of the medical and surgical specialities. In the past it has been very difficult to teach public health at early stages in the course before students can identify its relevance to clinical medicine.
The year also saw the beginning of the new Victorian Consortium for Public Health whereby the Master of Public Health teaching is now shared between four Victorian universities (Monash, Melbourne, Deakin & LaTrobe). Despite the number of universities involved in MPH teaching, we were pleased to see that applications for enrolment remained high and well in excess of the number of places on offer. Our contribution to the new Master of Public Health Degree will focus particularly in the areas of clinical epidemiology and occupational and environmental health, but we have plans to introduce new streams, for instance international health, in coming years.

The smooth co-ordination and expansion of the activities of the consortium was directed by Professor Hedley Peach of the Department of Public Health and Community Medicine at the University of Melbourne. This directorship will rotate between the four partners on a yearly basis. The new consortium arrangement provides the advantage of individual universities being able to focus on and develop indepth expertise in particular areas, rather than having to spread their resources across a large number of public health areas, as was necessary in the past.

July 1995 saw the establishment of a new Cooperative Research Centre in Water Quality and Treatment. This is the first CRC to involve the Monash Faculty of Medicine and this department is playing a key role in co-ordinating the main research program area concerned with public health aspects of water supply. On a worldwide basis, a very large number of episodes of illness are water borne. The rapid urbanisation of South East Asia should also provide many opportunities for the CRC's public health program to develop a research and consulting role well beyond Victoria. The CRC will also establish a strong education program ranging from short courses to PhD level training, to meet the future needs of the Australian Water Industry.

The year also saw the establishment of the Quality Assurance Group within the department. The department is very pleased to be part of this important area of applied research which has originated from an attempt to devise means for reimbursement of medical services on the basis of the outcomes achieved. Several global measures of hospital performance have been put forward to the Commonwealth Government as appropriate measures of the quality of care provided in Australian hospitals. The department's Quality Assurance Group, in collaboration with Associate Professor Neil Boyce of the Alfred Hospital, has designed studies to determine the validity of these indicators. During the year we welcomed Dr Joe Ibrahim and Dr Jenny Majoor as research scholars on this project.
During the year we welcomed several new staff. In the early part of the year Dr Jeremy Beach joined us from the Institute of Occupational Health, University of Birmingham, UK and worked with us for a little over a year as Senior Research Fellow on the Healthwise Study of aluminium workers. Jerry proved himself to be a first rate scientist and a highly popular member of the department's senior staff. We also welcomed back Dr Kit Fairley and Dr Flavia Cicuttini from their NIH/MRC Fellowships which they held in London. Kit took up the position as co-ordinator of the department's CRC research program and his very distinguished background in clinical infectious disease epidemiology has already provided a great boost to that part of the department's activities. Flavia took up the post of Senior Lecturer in Clinical Epidemiology and has established a research program in the epidemiology of rheumatic diseases. She has also taken over responsibility for epidemiology teaching in the earlier years of the medical course.

1995 also saw the retirement of Joan Roberts as the Administrative Officer of the department. Joan was the longest serving member of the department, having joined shortly after it was established. In a dinner held in Joan's honour, I made mention of her outstanding contribution to our activities. In many ways Joan represented the history of the department and her departure is a great loss to us. However, we wish Joan success in her new ventures.

Once again, it is also appropriate for me to recognise the enormous contribution made by all of the academic, administrative, secretarial and research staff to the department's activities. The ability to progress forward on so many fronts would not have been possible without the cheerful contributions of many hardworking people. In particular, thanks must go to my deputy, Michael Abramson, our co-ordinator of post graduate courses, Malcolm Sim and our administrative officers, Sonya McKeown, Merrill Stanley and Marilyn Cowie.

Although 1995 was a hectic year of great change and development, I believe we are well placed to continue our great success into the future.
Staff of the Department

PROFESSOR
John McNeil, MB BS, MSc, PhD, FRACP, FAFPHM

LECTURERS AND SENIOR LECTURERS
Michael Abramson, MB BS(Hons), BMedSci, PhD, FRACP, FAFPHM
Rachelle Buchbinder, MB BS(Hons), MSc, FRACP
Robin Burns, BA(Hons), DipEd, MSc, MPH, PhD, MA(Phy)
Flavia Cicuttini, MB BS, FRACP, PhD
Cathy Finocchiaro, MB BS, BSc, MPH, FAFPHM, FACMA
Andrew Forbes, BSc(Hons), MSc, PhD
David Fisher, MB BS, FAFOM
David Goddard, BMedSci, MB BS, DOH, FAFOM, MFOM
Bruce Hocking, MB BS, FRACP
Margaret Hellard, MB BS, FRACP
James MacMillan, MSc
Tilmann A Ruff, MB BS, FRACP
Malcolm Sim, BMedSc, MB BS, MSc, GDipOCCThy, PhD, FAFOM, MFOM, FAFPHM

RESEARCH FELLOWS
Geoffrey Aldred, BAppSc
Jeremy Beach, MB BS, MRCP, AFOM
Geza Benke, BSc, MAppSc
Christopher Fairley, MB BS, FRACP, PhD
John Gill, BAppSc
Steven Gourlay, MB BS, PhD, FRACP
Martha Sinclair, BSc(Hons), PhD
Amanda Thrift, BSc(Hons), PhD

PhD SCHOLARS
Omar Abulwadud, MB ChB (Countries)
Shyamali Dharmage, JIB BS, MSc, MD
Sally Green, BAppSci, GDip(Musculoskeletal Physio)
Andrea Hinwood, MAppSc
Joe Ibrahim, MB BS, FRACP
Jenny Majoor, MB BS
Jean Meaklim, BSc(Hons), MAppSc
Adrian Thomas, MB BS

RESEARCH ASSISTANTS
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Jan Driver BA(Hons)
Sinead Garrett BAppSc
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Joanne Kutin BA, DipAppPsych, M Psych
Pam Lighthbody BSc
Gabriella Nadalin BSc
Tom Parker
Luba Robman MD, PhD
Lynne Rodarella RN
Louise Shiel BSc, GradDipAppSci, DipEd
Fiona Williams BA, RN

RESEARCH NURSES
Beryl Clifford RN
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Anna Laffey RN
Fiona Kobben RN
Sally Lindros BAppSci(Hons), RN
Judy Snaddon BA, SRN, SRN
Kim Sutherland RN
Jessica Willis BSc, GDipHealthServRes, RWN
Christine Woodburn SRN
Hillary Young BSc(Hons), SRN

ADMINISTRATIVE STAFF
Carolyn Barrie Administrative Officer (Healthwise study)
Marilyn Clowie Administrative Officer (short courses)
Michelle Driver Office Assistant
Hilina Kevlin Secretary
Sonya McKeown BA(Hons), Administrative Officer
Joan Roberts Administrative Officer (secretary to Prof McNeil)
Anna Ryan Administrative Secretary
Georgina Snaddon Res/GS Secretary
Merrill Stanley Administrative Officer
(MPh/Postgraduate teaching)
The Department of Epidemiology and Preventive Medicine is one of the most rapidly growing departments within the Faculty of Medicine. The core skills of its senior staff are based around epidemiological methods and their application to clinical and public health problems. The main activities of the department can be divided into teaching, research and consulting services.

TEACHING
Teaching in first, second, third, fourth and sixth years of the undergraduate medical course.

Master of Public Health degree.

Diplomas in Occupational Health and also Epidemiology and Biostatistics.

Short courses in specialised areas of research methodologies, occupational health and the Australian Certificate of Civil Aviation Medicine.

Member of the Victorian Consortium for Public Health and contributor to teaching programs of other Monash departments and institutions.

RESEARCH
A comprehensive research program across the broad spectrum of clinical epidemiology and public health including the areas of cardiovascular disease, respiratory disease, toxicology, genetics, occupational and environmental health, public health services, health economics and preventive medicine.

Supervision of candidates for the degree of Doctor of Philosophy.

Supervision of candidates for the research component of the degree of Master of Public Health.

A partner in the Co-operative Research Centre for Water Quality and Treatment.

Publications in a wide range of peer-reviewed journals.

SERVICE
Hospital appointments

Participation in committees and working parties of professional colleges and associations.

Consultancies for and advice to Federal and State Governments.

Grant application reviewing and refereeing of submitted articles to scientific journals.
FIRST YEAR
Health, Illness & Human Behaviour

Biostatistics was taught as an 8 hour unit within this larger subject in 1995. This unit enables students to demonstrate an understanding of basic concepts and methods of biostatistics in medical research; interpret statistical information presented in medical research publications, and in particular understand the importance of confidence intervals, P-values and sample size; and to appreciate the relevance of statistical information in medical research publications to patient management in medical practice.

The format of the Biostatistics unit in 1995 was completely revamped from previous years and consisted of one lecture and seven small group tutorials. Each tutorial exercise began with a clinical scenario which involved a consultation with a patient, and the application of the appropriate statistical methods to the individual patient’s clinical problems. The latter tutorials also involved the reading of a medical research article. To prepare for the tutorial sessions, it was expected that students would read the designated sections in the course notes provided and prepare sketch answers to the tutorial questions.

The tutorials were designed not to cover the mathematics or computational details of the statistical methods, but instead to concentrate on the clinical application and interpretation of the methods.

Assessment consisted of questions on the HIHB final examination; an assignment involving the selection of an article from one of four leading medical journals and a discussion of the objectives, statistical methods and results of the article; and attendance and participation in the tutorials.

The unit evaluation indicated that the students could see the relevance of biostatistics to medical practice, they enjoyed the format/structure of the tutorials and demonstrated some interest in learning about research methods in medicine. In summary, the biostatistics subunit proceeded fairly successfully, and tutors reported interesting and lively tutorial sessions.

Our thanks to all of the co-opted tutors who participated in this unit.
SECOND YEAR
Introduction to Epidemiology / Statistics in Medicine
In this unit, students learn to interpret epidemiological information in medical journal articles; the difference between descriptive and analytical epidemiology; the strengths and weaknesses of different epidemiological study designs; conduct a small clinical trial; and perform simple statistical analyses.

The curriculum includes demography, descriptive and analytical epidemiology, epidemiological study designs, diagnostic and screening tests and statistical applications. The subject comprises 16 lectures and 7 tutorials in the first semester of second year. The tutorials include an introduction to a computerised statistical package, conducting a small clinical trial, analysis of a case control study and critical appraisal of a cohort study from the medical literature. There is also a conjoint exercise with clinical & communications skills, which involves analysing a cross-sectional study of blood pressure. Students are assessed on a mid year short answer examination and tutorial exercises.

THIRD YEAR
Health Promotion
Our department has continued to support, with the Department of Medicine, the teaching of Health Promotion in Year 3.

Our major work has been with student projects - helping students in the preparatory phase and in the marking of posters and reports. We also contributed to the planning of the subject and provided a lecturer from our honorary staff.

FOURTH YEAR
Clinical Pharmacology
The primary role of clinical pharmacology teaching is to vertically integrate basic pharmacology teaching from the pre-clinical years with clinically-oriented teaching in Years 4-6. Fourth year teaching is a series of didactic lectures given by clinical pharmacologists and clinical sub-specialists. The major areas covered are basic principles of clinical pharmacology (pharmacokinetics, drug disposal etc.), as well as in-depth therapeutics of specific disease states.
SIXTH YEAR
Integrated Public Health

This new initiative in teaching public health was introduced to the sixth year curriculum in 1995. Under the leadership of this department, several departments within the Faculty of Medicine collaborated to present an integrated approach during a six week block of teaching at the beginning of the academic year. The subject is structured to horizontally integrate knowledge and problem solving skills across the disciplines of public health, clinical pharmacology, geriatric medicine, rehabilitation medicine and forensic medicine.

This subject combines evidence based decision making, problem solving and self directed learning. It aims to demonstrate a multidisciplinary approach to patient care; and to assist students to see the link between the theory and practice of population medicine. This is achieved through a variety of teaching approaches including: symposia, small group discussions, bedside teaching and on site visits to a wide range of organisations having an interest in public health.

Final year teaching in clinical pharmacology comprises plenary seminars and large group interactive sessions. The seminars cover overdose and poisoning, variability of pharmacokinetic response, drug abuse, problems in drug therapy such as good and bad combinations, poly-pharmacy and adverse drug reactions and prescribing in special patient populations such as in children and the elderly.

The large group sessions comprise discussion of drugs in an interactive manner around clinical cases presented by specialists in the field.

All of the major sub-specialty groups are covered in these sessions. The aim is for all of the above components of clinical pharmacology teaching to be brought together in a clinically meaningful way.

After attending sessions on evidence based medicine, students understand how information derived from research studies should be used to support clinical decisions. They also develop basic skills in evaluating the quality of published studies in order to know whether the information is likely to be useful. Students critically appraise recent papers from the medical literature dealing with therapy, diagnosis, causation and prognosis and apply their conclusions to clinical problems.

This new subject received good reviews from the first class of students which participated in its evaluation. The students were assessed by a multidisciplinary multiple choice examination. The department also provided a number of examiners for the final MBBS long case and OSCE examinations.

SUMMARY

Undergraduate teaching offered by the department is comparable to, and in many cases, superior to that offered by similar departments at other Australian medical schools. However, a review of the department by the Faculty of Medicine in 1995 highlighted the need for further developments in some areas. This was a major focus of discussion during the Academic Staff Retreat held in October 1995, and further changes in the undergraduate teaching program are being implemented in 1996.
Postgraduate Education

During 1995 the department's postgraduate education program continued to expand. The department offers a Masters degree in Public Health, a Graduate Diploma in Epidemiology and Biostatistics, a Graduate Diploma in Occupational Health, PhD training and a series of short courses aimed at continuing education of medical and other graduates in the health sciences. Dr Malcolm Sim has overall responsibility for the postgraduate education program.

The major initiatives during 1995 were the introduction of the first year of the expanded MPH program under the Victorian Consortium for Public Health, the development of a proposal to replace the existing Graduate Diploma in Epidemiology and Biostatistics with a Diploma in Clinical Epidemiology and the development of a proposal to expand the Graduate Diploma in Occupational Health into a Graduate Diploma in Occupational and Environmental Health.

MASTER OF PUBLIC HEALTH

The MPH degree is a vocational course which aims to equip students with the full range of quantitative, analytical and communication skills necessary to work in the broad domain of public health. This requires competence in the quantitative methods of the population-based health sciences and the ability to apply these methods to solve problems in areas such as health services research, public health policy and planning, public health administration, occupational health practice and the provision of primary care within the Australian community.

Objectives of the course are to develop in students the skills necessary to critically appraise quantitative papers published in the epidemiological and public health literature; design, conduct, analyse, interpret and write up research projects relevant to public health; demonstrate an understanding of the historical, social, political and industrial relations context of public health within Australian society; demonstrate an understanding of the health care system in Australia; assess the influence of environmental factors on health and effectively communicate the risks to health of such factors; develop public health policy, health promotion and planning strategies to reduce the impact of health problems within the community, and conduct an economic evaluation of these programs.

The Victorian Consortium for Public Health comprises this department, with the Department of Public Health and Community Medicine at the University of Melbourne, the Faculty of Health Sciences and Faculty of Economics, Education and Social Sciences at La Trobe University, and the Faculty of Health and Behavioural Sciences at Deakin University.

In 1995, new MPH programs were offered by Consortium partners for the first time. In the first two years of the course (Part I), teaching is shared by staff from all four Consortium partners in the following subjects: epidemiology and demography, introductory biostatistics, sociological foundations of public health, health promotion and education, environmental influences on health, research methods and computing, public health policy and planning, and health economics, management and evaluation.
In Part II of the MPH at Monash, students are able to stream into clinical epidemiology or occupational/environmental health specialisations. In addition, planning began for a specialisation in international health. Part II comprises a further year of coursework and the completion of a research project in the fourth year. Students can also undertake a general public health stream.

In 1995, twenty-one students were enrolled by Monash from forty-eight applicants, half of these being medical graduates. A total of seventy-nine students were enrolled across all four years of the course.

The MPH degree meets the requirements of the Australasian Faculty of Occupational Medicine of the Royal Australasian College of Physicians as approved coursework for progression to the Fellowship examination. Several of the subjects are also accredited for CME points for Fellows of the Royal Australasian College of General Practitioners. The MPH is also designed to meet part of the training requirements for trainees of the Australasian Faculty of Public Health Medicine.

During 1995, nineteen MPH students met the requirements for graduation and a full list with projects is presented in Appendix I. This increase in the number of students meeting the requirements was largely due to the efforts of Dr Cathy Finnchiaro who took over the role of project Part B Co-ordinator and provided a stronger link between the department and students undertaking their project.

We are very grateful to the subject co-ordinators, especially those external to the department, who helped to ensure the continued success of the MPH in 1995 (see Appendix 2). Our thanks also go to the many project supervisors who gave up their time to guide the students through to completion of their projects.

**GRADUATE DIPLOMA IN OCCUPATIONAL HEALTH**

The numbers applying to do this course continued to decline in 1995. Only eleven students applied, with five new students taking up a place. This made a total of fifteen students for the year. Ten students completed the requirements for graduation during the year (see Appendix I).

To widen the appeal of this course and to incorporate recent developments in environmental health, a proposal was developed to change it to a Graduate Diploma in Occupational and Environmental Health to be introduced from 1997. Dr David Fish, on part-time secondment from the Australian Government Health Service, played a major role in subject co-ordination and also assisted in developing the proposal for the course change and introduction of the new subjects.

**GRADUATE DIPLOMA IN EPIDEIMIOLOGY & BIOSTATISTICS**

No students enrolled for this course in 1995, following only one student the previous year. Due to staff shortages and the absence of a course co-ordinator, it was decided not to offer the course for this year.

During the year a proposal was developed to modify the Diploma to a Graduate Diploma in Clinical Epidemiology. This was done to more closely align with one of the major research areas in the department and also because of a perceived need for training in this discipline in Melbourne. The course will be offered in 1996.
Short courses

During 1996, the department continued to conduct short courses ranging up to two weeks in length. The main focus of the short course program continues to be the Australian Certificate of Civil Aviation Medicine for medical practitioners. This course is conducted twice a year and is now attracting overseas students from countries such as Iran, Fiji, Korea and Papua New Guinea.
The newly appointed Director of Aviation in Papua New Guinea, Dr A Sen Gupta, completed the course in 1995.

The department has become more involved in designing courses for particular target audiences, for example a three day course on respiratory disease for the Australian Government Health Service and a four day course on risk assessment for Health and Community Services.

EPIDEMIOLOGY IN OCCUPATIONAL HEALTH

Six participants shared this five day certificate course with students in the Graduate Diploma in Occupational Health. At the conclusion of the course, participants were expected to be competent and confident in epidemiological principles, basic statistics and critical appraisal of published papers in occupational epidemiology. The course is assessed by a multiple choice examination.

AUSTRALIAN CERTIFICATE OF CIVIL AVIATION MEDICINE

The Australian Certificate of Aviation Medicine course is run by this department in conjunction with the Department of Physiology, the Civil Aviation Safety Authority and the Aviation Medical Society of Australia and New Zealand.

The course is a prerequisite for medical practitioners wishing to become a Designated Aviation Medical Examiner (DAME) and is designed to provide a basic knowledge in civil aviation medicine. This enables medical practitioners completing the course to perform medical examinations on pilot licence holders, give relevant advice to air crew and air traffic service officers and make appropriate decisions on air crew medical fitness for flying status.

The course consists of two modules over two weeks, the first covering physiology and the principles of flight, and the second concentrating on clinical aspects. In 1995, forty-seven participants completed the requirements for the certificate.
NOISE AT WORK
This course was presented in conjunction with the Department of Mechanical Engineering. There were seventeen participants involved in occupational health and safety from the manufacturing industry and from statutory bodies.

ASSESSMENT OF RESPIRATORY DISEASE AND DISABILITY
Twenty-four medical practitioners and nurses from the Australian Government Health Service attended this three day course which was conducted by staff from this department and also from the Department of Respiratory Medicine at the Alfred Hospital. The course covered clinical and laboratory aspects of respiratory disease, assessment of disability from respiratory disease and occupational respiratory disease.

RISK ASSESSMENT TRAINING COURSE
This four day course was provided for fifteen senior professionals in management roles in the Public Health Branch of Health and Community Services. Principles and application of risk assessment were introduced to demonstrate the various facets of risk assessment through practical syndicate exercises.
Department seminars

A program of monthly presentations by PhD students, academic staff and associates of the department was organised throughout 1995. These sessions were open to professionals working in public health and in occupational and environmental health disciplines, both internal and external to the department. Masters of Public Health students were also encouraged to participate. Sessions were generally well attended and provided a rich milieu for the exchange of ideas and information. They provided an invaluable forum in which PhD students and others could clarify research methodologies, get feedback on approaches used and demonstrate their presentation skills.

Topics presented during this program included:

- Pesticide residues in the diet: subacute effects of fenitrothion in humans
- Non responders and volunteers: can't live with them, can't live without them
- Retrospective occupational exposure assessment by expert panels
- Outbreak of non-toxigenic Corynebacterium in a Koori community in Gippsland
- Indirect measures of atherosclerosis
- Australian National Blood Pressure Study
- The association between the quality of inpatient care and early readmission and the preventability of emergency hospital readmissions
- Construction of a job exposure matrix by occupational hygienists
- Recruitment strategies for large scale studies,
- Evaluation of goniometry

To alternate with the department seminar program, journal club presentations by PhD students provided an added focus of interests for department staff.
OMAR ABDULWADUD

Evaluation of asthma management strategies in the hospital and community

Commenced 1994
Supervisors - Michael Abramson
            Haydn Walters
NIHRMRC Public Health Scholarship

This study aims to assess the level of asthma knowledge, attitudes and beliefs, self management skills and quality of life among patients of the Alfred Hospital Asthma Clinic and neighbouring general practices. Subject recruitment has been completed. A hospital based randomized controlled educational trial has been implemented. Out of a total of 64 potential candidates allocated to the intervention group, 34 attended the full program and 30 of these have completed six month follow up questionnaires. Data entry is complete and a strategy is now being developed for data analysis.

GEZA BENKE (part time)

Retrospective assessment of occupational exposures by job exposure matrices and expert evaluation

Commenced 1995
Supervisors - Malcolm Sim
            Michael Abramson

This research involves the development and evaluation of an exposure data matrix for retrospective studies in occupational epidemiology and investigation of the use of questionnaires and experts in the evaluation of retrospective exposures in community-based case-control studies.

SHYAMALI C DHARMAGE

Environmental risk factors of asthma

Commenced 1995
Supervisors - Michael Abramson
            Frank Thien

A follow up study will be carried out on a cohort of approximately 600 people over a period of three years to identify indoor environmental risk factors for the development of asthma.

During 1995, the department had an active role in post-graduate research training with nine PhD students enrolled. The areas of research currently undertaken by these students encompass a broad range of areas in epidemiology, occupational and environmental health, public health, quality care and pharmaco-epidemiology.
SALLY GREEN

Management of the stiff and painful shoulder
Commenced 1995
Supervisors - Rachelle Buchbinder
Michael Abramson
Departmental scholarship
A reliability study of the measurement of shoulder range of motion was conducted in 1995 and is now being written up for publication. A Cochrane review of interventions for shoulder pain, in conjunction with the musculoskeletal Cochrane review group was undertaken, and all literature searching and methodological assessment done. The protocols for a general practitioner audit and a trial of physiotherapy in the management of shoulder pain have been finalised.

ANDREA HINWOOD

Arsenic exposure, human absorption, risk and cancer
Commenced 1994
Supervisors - John McNeil
Malcolm Sim
Australian Postgraduate Award
Although health effects from arsenic have been well-documented, at the present time little is known about the degree of human absorption for people living in an area of very high environmental contamination and whether potential exposure sources including drinking water, inhalation and ingestion of soil and ingestion of contaminated food are important contributors to arsenic body burden. In 1995 a pilot study was conducted to trial methodologies to be utilised in a larger study which aims to determine whether people living in areas with elevated arsenic concentrations in the environment absorb any arsenic.

At least fifteen rural areas in central and north eastern Victoria have been found to have high levels of arsenic in soil and groundwater, in some cases several orders of magnitude in excess of current national and international guidelines, making these areas unique in terms of arsenic exposure in developed countries. Environmental data gathered during the pilot trial confirmed high concentrations of arsenic in water and soil.
JOSEPH IBRAHIM
The reliability, validity and risk adjustment of a set of pilot hospital wide clinical indicators
Commenced 1995
Supervisor - John McNeil
Commonwealth Department of Human Services and Health
The aim of this project is to establish the reliability, validity and risk adjustment of a pilot set of hospital wide clinical indicators as quality of care markers. The indicators to be studied include rate of emergency patient hospital readmissions within 28 days of separation; rate of post-operative wound infection; rate of hospital acquired bacteraemia and rate of unplanned return to the operating room.

JENNY MAJoor
The reliability, validity and risk adjustment of nosocomial infection clinical indicators
Commenced 1995
Supervisor - John McNeil
Commonwealth Department of Human Services and health
This project involves an examination of the reliability, validity and risk adjustment of nosocomial infection clinical indicators and is part of a larger project examining the reliability, validity and risk adjustment of a pilot set of hospital wide clinical indicators.

JEAN MEAKLIM
Risk assessment of grain protectants
Commenced 1992
Supervisors - John McNeil
Malcolm Sim
Victorian Health Promotion Foundation
This project is investigating human health effects of using chemicals to protect stored grain from insect infestation. A survey is underway of current grain farmers to determine their current and past practices of stored grain protection, exposure to confounding chemicals and health status.

ADRIAN THOMAS
Antioxidant medication and senile cataract progression
Commenced 1994
Supervisor - John McNeil
This study is looking at the effect of Vitamin E on the progression of nuclear and cortical cataract in people 60 years and older. Specialised photographic techniques are being used to assess the progression of cataract in active treatment and control groups.
Research program

During 1995, the department had an active research program, comprising several research projects in such diverse areas as clinical trials, environmental health, occupational health, infectious disease and quality in health care. A common thread through these projects is the application of epidemiological methods.

The major new initiative in 1995 was the department’s active role in the new Co-operative Research Centre for Water Quality and Treatment which was established in response to increasing concerns about the public health impact of water quality and the lack of high quality scientific data in this area. There are seventeen organisations taking part in this CRC, representing a broad spectrum of universities, Australian water authorities and industry partners, each bringing particular research expertise. The CRC will be the focus for many research projects in the coming years.

The department continues to attract a high level of research funding from a variety of sources. During 1995, the department continued to receive NH&MRC Program and Project Grants, as well as several grants from industry and government.
ASTHMA MANAGEMENT AND MORTALITY FROM ASTHMA

Dr MJ Abramson Dr OH Drummer
Prof JJ McNeil Prof EH Walters Dr A Forbes
1994-1996
NH&MRC PHRD C Project Grant $193,578

This study is a case-control study to define the role of asthma management in mortality from asthma. Cases of asthma deaths in Victoria and controls from a sample of patients presenting in the Emergency Department of the Alfred and other hospitals with severe attacks of asthma have been recruited. Interviews were conducted throughout 1995 of controls, medical attendants and relatives of cases. Blood levels of beta-agonists, theophylline and synthetic steroids are being measured by standard techniques. The results of this study should influence future management of asthma.

ARSENIC EXPOSURE, HUMAN ABSORPTION, RISK AND CANCER

Dr M Sim Prof J McNeil
A Hinwood D Jolley A/Prof O Drummer
NH&MRC PHRD C Small Grant $19,670

In 1995 a pilot study was conducted to trial methodologies to be utilised in a larger study which aims to determine the degree of arsenic absorption in people living in areas with elevated arsenic concentrations in the environment.

Although health effects from arsenic have been well-documented, at the present time little is known about the degree of human absorption for people living in an area of high environmental contamination, or whether potential exposure sources including drinking water, inhalation and ingestion of soil and contaminated food, are important contributors to the body burden of arsenic.

A RANDOMISED TRIAL OF AN ANTIOXIDANT TO PREVENT ATEROMA PROGRESSION IN SMOKERS

Prof JJ McNeil A/Prof BP McGrath
1994-1998
NH&MRC PHRD C Project Grant $328,913

There is substantial evidence that the progression of atherosclerosis may be related to the oxidation of low density lipoprotein (LDL-cholesterol). This is a double-blind randomised controlled clinical trial in current smokers aged 55 or older who will be followed for four years to determine the prophylactic effects of vitamin E in reducing the progression of carotid atheroma.

RISK FACTORS FOR THE DEVELOPMENT OF TIAPROFENIC ACID (SURGAM) ASSOCIATED CYSTITIS

Dr R Buchbinder Prof JJ McNeil
1994-1995
Roussel Uclaf Pharmaceuticals $37,500

Tiaprofenic acid has been associated with inflammation of the bladder, characterised by increased frequency and pain on passing urine. This case control study aims to determine whether there are any identifiable risk factors that predispose to the development of cystitis among recipients of tiaprofenic acid.
A THREE GENERATION POPULATION BASED STUDY OF THE GENETIC EPIDEMIOLOGY OF ASTHMA AND ATOPY

Dr J Hopper Dr S Harrap
Dr M Abramson Prof G Bowes

1995-1997 NH&MRC Project Grant $126,971

The aim of this study is to investigate genetic factors in asthma by examining the familial aggregation of asthma and conducting genetic linkage studies. Families with a high prevalence of asthma were recruited in a followup of the 1968 Tasmanian Asthma Survey. Family members who agree to participate complete a questionnaire, undergo skin testing for allergies and provide blood for DNA testing. The results should help identify genes responsible for asthma and determine the effects of such genes in the population.

A STUDY OF PAINT AND ASTHMA

Dr M Abramson Prof H Walters
Dr J Beach
1995 Dulux

$30,600

In collaboration with the Department of Respiratory Medicine at the Alfred Hospital, this randomised, cross-over study was undertaken to look at the effect of using a new environmentally friendly paint on asthmatics. A group of asthmatic subjects was recruited, each agreeing to spend one hour painting with each of the two paints. Subjects had respiratory symptoms and lung function assessed every 15 minutes during the period they were using each paint, and at the end of each session, airway responsiveness to methacholine was measured.

The results suggested there may be some benefit from using the new volatile organic compound free paint in terms of respiratory symptoms, but neither paint caused any changes in lung function or airway responsiveness. The results were presented at the Thoracic Society of Australia and New Zealand Annual Meeting in Perth, and an abstract has been accepted for presentation at the forthcoming meeting of the European Respiratory Society.

USAGE PATTERNS IN PHOSPHINE USERS

Prof J McNeil Dr M Sim
Dr A Forbes Dr P Williams
1995-1996 NH&MRC PHRDC Project Grant $119,000

The aim of this project is to test the hypothesis that phosphine, a widely-used grain fumigant, is carcinogenic in users. Victorian grain farmers are being interviewed to collect data including exposure to phosphine, other fumigants and pesticides, other relevant chemicals, tobacco and alcohol exposure and medical history.
PREVENTION OF CATARACT IN THE ELDERLY WITH LOW DOSE ASPIRIN AND VITAMIN E

Prof JJ McNeil  Prof H Taylor  Prof C Silagy
1994-1998
NH&MRC PHRDC Development Program Grant $1,031,223

More than one million operations for cataract removal are performed yearly in the United States, and cataract accounts for half of all blindness worldwide. Animal studies have suggested that the formation of cataracts may reflect the oxidation of lens components. The aim of this study is to indicate whether or not vitamin E can slow cataract development.

Approximately one thousand persons with evidence of early cataract development are being randomised, half of these receiving daily treatment with vitamin E and the other half receiving a placebo. The condition of the lens in all participants is being documented at enrollment and also at yearly intervals using specialized photographic techniques. After four years, the progress of lens damage in both groups will be compared.

DRINKING WATER QUALITY RISK ASSESSMENT - COST BENEFIT ANALYSIS

Prof J McNeil  Dr M Sim
Dr M Sinclair  Prof R Douglas
1995
Dept Health & Community Services $88,000

This project provides an overview of currently available information on the public health consequences of variations in the microbiological quality of drinking water, to assist policy makers in the application of the new Australian Drinking Water Guidelines to the particular circumstances existing in Victoria.

This information will be derived from a survey of the published literature and liaison with local and overseas public health and water supply authorities. Methods of assessing the disease risks associated with water supplies of varying quality will be reviewed, and models will be developed to explore the costs and benefits of implementing changes in water supply guidelines.
MORTALITY AND MORBIDITY AMONG ALUMINIUM INDUSTRY WORKERS

Prof JJ McNeil  K Robinson  Dr M Sim
Prof AW Musk
1994-1996 Alcoa of Australia Limited and Portland Aluminium

$1,720,000

This study is a major historical and prospective cohort study investigating cancer incidence, mortality and respiratory morbidity in aluminium industry employees involved in mining, refining and smelting at ten sites in Victoria and Western Australia. A pilot study was carried out in 1995 and a baseline survey began in May 1995. Information obtained at interview includes demographic information, job history, previous illnesses, respiratory symptoms and lifestyle factors. Tests of respiratory function and atopy are also being carried out.

Over five thousand employees are expected to be recruited into the baseline survey. In addition, a cohort of one thousand new employees will be recruited over the next three years and monitored annually for respiratory function and bronchial reactivity.

RELIABILITY, VALIDITY AND RISK ADJUSTMENT STUDY OF A PILOT SET OF HOSPITAL WIDE CLINICAL INDICATORS

Prof JJ McNeil  A/Prof N Boyce  Dr J Ibrahim
Dr J Majoer  Ms K Baxter
Commonwealth Department of Health & Family Services

$420,000

This project involves assessing the validity and reliability of a set of pilot hospital wide quality of care indicators. Risk adjustment models which may allow individual hospitals to compare their performance with each other in the future will also be examined. The research is to involve up to 30 hospitals with more than 10,000 separations from Victoria, NSW and South Australia, and is expected to be completed by May 1997.

The clinical indicators to be evaluated are:
• rate of emergency patient hospital readmissions within 28 days of separation
• rate of post-operative wound infection
• rate of hospital acquired bacteraemia
• rate of unplanned return to an operating room.

A retrospective case-control study is planned comparing independent assessment of quality of care based upon the medical records of patients who are positive for the indicators with the medical records of patients who do not have evidence of the indicator being present, using explicit and guided implicit review tools. Reliability of indicator data will be examined in tandem with the collection of information for the validity study.
CRC FOR WATER QUALITY
AND TREATMENT

Monash staff working on the CRC WQT are -
Prof J J McNeil    Dr C Fairley    Dr M Sim
Dr M Sinclair    Dr M Hellard

The CRC WQT currently has seventeen partners representing the spectrum of Australian water authorities, contractors, consultants, chemical suppliers, universities and major research institutes.

The CRC research partners include -
• Australian Water Quality Centre, Adelaide
• CSIRO, Division of Chemicals and Polymers, Melbourne
• Australian Water Technologies, Sydney
• University of Adelaide
• University of South Australia
• Department of Epidemiology & Preventive Medicine, Monash University, Melbourne
• RMIT, Department of Chemical and Metallurgical Engineering, Melbourne
• National Centre for Epidemiology and Population Health, ANU, Canberra
• CMPS&F Environmental, Melbourne

The CRC industry partners are -
• South Australian Water Corporation
• ACTEW Corporation, Canberra
• Water Authority of Western Australia
• Melbourne Water Corporation
• Water services Association of Australia, Melbourne
• Australian Water Services, Sydney
• Thames water Asia/Pacific, Melbourne
• ICI Australian Operations, Melbourne

Objectives of the CRC WQT are to improve public health associated with water supply through the conduct of strategic and applied research; to develop an understanding of the factors which affect water quality and their significance; to develop strategies which will provide for improved water quality at minimum cost; to provide a platform for new treatment technologies to benefit Australia and the Australian water industry internationally.
Service activities of academic staff

The department is unique amongst its corresponding departments in other medical schools by virtue of the number of specialist physicians on the academic staff. The senior academic members of staff are involved in numerous service activities in the community, including hospital appointments, membership of government committees and active participation in many professional societies and colleges.

John McNeil is a member of the Public Health Association, the Australian Epidemiology Association, the Cardiac Society of Australia, the Australasian Society for Clinical Pharmacologists and Toxicologists, the Australian Drug Evaluation Committee and the Board of Censors of the Faculty of Public Health Medicine.

He is also a member of several Monash committees including the Medical Faculty Board, a member of the Management Committee of the Alfred Hospital and Chair of the Alfred Hospital Ethics Committee. He is a visiting physician to the Alfred Healthcare Group and Monash Medical Centre and lectures to both undergraduate and postgraduate students.

Jerry Beach is a respiratory physician from the University of Birmingham who spent 1995 working in the department on a study of mortality and morbidity among employees in the aluminium industry. He is a member of the British Thoracic Society, the European Respiratory Society, the Society of Occupational Medicine and the Royal College of Physicians in Edinburgh. He is also an associate member of the Faculty of Occupational Medicine, UK.

Michael Abramson is Deputy Head of Department and is a fellow or member of many societies including the Royal Australasian College of Physicians, the Thoracic Society of Australia and New Zealand, the American Thoracic Society, the Australian Faculty of Public Health Medicine, the Australasian Epidemiological Association, the International Society for Environmental Epidemiology, and others.

Michael is also a member of the National Asthma Campaign Evaluation Committee, the Asthma Foundation of Victoria Medical & Scientific Advisory Committee, the Alfred Hospital Medical Research Advisory Committee Interview Panels and he is also the Thoracic Society of Australia & New Zealand, Occupational and Environmental Special Interest Group Co-Convenor.

Rachelle Buchbinder is a member of the Australian Rheumatology Association, the Royal Australian College of Physicians, the Australian Medical Association and the American College of Rheumatology.

Robin Burns is a member of the Public Health Association and the Health Education Association.
Flavia Cicuttini is a rheumatologist who in 1995 was awarded a NHMRC Neil Hamilton Fairley Fellowship to study at the London School of Hygiene and Tropical Medicine. During this year Dr Cicuttini was also attached to St Thomas' Hospital, London.

Christopher Fairley was also the recipient of a NHMRC Neil Hamilton Fairley Fellowship to study in London during 1995 at the Colindale Public Health Laboratories. He is a member of the Australian Society for Infectious Diseases and the Victorian Society of Venereology.

Catherine Finocchiaro is a member of several associations including the Public Health Association, the Australian Federation of Medical Women, the Intern Training Accreditation Committee of the Victorian Medical Practitioners Board, the Australian Medical Association and the Royal Australian College of Medical Administrators.

Andrew Forbes is a member of the Statistical Society of Australia, the American Statistical Association, the Institute of Mathematical Statistics and the International Biometric Society.

David Fish is the Victorian Regional Censor for the Australasian Faculty of Occupational Medicine. He is also a member of the Regional Committee and the Board of Censors.

David Goddard is a consultant in occupational medicine to the Royal Australian Air Force and an examiner for the Australasian Faculty of Occupational Medicine. David is a Fellow of the Australasian Faculty of Occupational Medicine and a member of the Australian and New Zealand Society of Occupational Medicine.

Bruce Hocking, in 1995, was President of the Australasian Faculty of Occupational Medicine, Royal Australasian College of Physicians.

Martha Sinclair is a member of the Genetics Society of Australia and the Australian Society for Microbiology. Martha is also the departmental network manager.

Mandy Thrift is a member of the Public Health Association of Australia and New Zealand, the International Epidemiological Association, the Australian Association of Neurologists and the Australian Epidemiological Association.

Tilman Ruff is a team leader in the Indonesian Healthy Start for Child Survival Project and has worked on the Lombok Hepatitis B Immunisation Model Project. Tilman is also vice-president of the Medical Association for the Prevention of War, a Convenor of the Melbourne International Trave Health Interest Group and a member of the Scientific Program Committee for the 4th Conference on International Travel Medicine held in Mexico in 1995.

Malcolm Sim is a member of the Board of Censors and Chief Examiner for the Australasian Faculty of Occupational Medicine and also an Editorial Board member and reviewer for the journal Occupational and Environmental Medicine. He is a member of the Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists, the Australasian Epidemiological Association and the International Commission on Occupational Health.
Appendix 1 -
1995 graduates

Master of Public Health

Shirley Aldridge
Diagnosis of congenital deafness in Victoria, Australia
Supervisor: Dr Frederick Jarman

Ross Andrews
Age-appropriate immunisation of 2-4 year old children in Upper Yarra.
Supervisor: Dr Patricia Wilkinson

Susan Crockett
The knowledge, attitude and practice of Turkish men living in Victoria toward family planning
Supervisor: Dr Can Tuncer

Moynen Curtis
Health needs assessment of carers from a population based survey of the community living on the Bellarine Peninsula.
Supervisor: Dr Sandra Gifford

Malcolm Dobbin
Smoking cessation interventions: attitudes and practices of Victorian General Practitioners
Supervisor: Dr Graeme Oliver

Alexander Doull
Characterising the extremely low frequency magnetic field and occupational exposures and dose of some Australian electrical and electronics workers.
Supervisor: Dr David Goddard

Carol Head
General practice and domestic violence - General practitioner perspectives
Supervisor: Dr Robin Burns

Gail Miles
Characteristics of Royal District Nursing Service clients with diabetes mellitus and their use of the diabetic teaching program
Supervisor: Dr Andrew Forbes

Paul Myles
Demographic characteristics and predictors of smoking cessation six months after surgery
Supervisor: Prof John McNeil

Michael O'Toole
Occupational stress in doctors in the city of Dandenong
Supervisor: Dr David Goddard

Bruce Parnell
An international investigation of professionals' perceptions about continuing HIV transmission amongst men in gay communities
Supervisor: Dr Sandra Gifford

Daryl Pedler
The contribution of a provincial base hospital to the continuing education of its general practitioners
Supervisor: Dr Peter Fleming

Judith Rassaby
Quality of life in adult asthma
Supervisor: Dr Michael Abramson
S. Ann Stevens
Evaluation of educational outreach to general practitioners as part of the PAP Test
Victoria Program
Supervisor: Dr Jill Cockburn

Angela Taft
Beliefs about and experiences of general practitioner support by women victims of domestic violence.
Supervisor: Dr Robin Burns

Graham Tallis
The effect of a 'critical pathway' program on the outcomes for patients with fractured neck of femur
Supervisor: Dr William Hart

Bruce Walker
Reliable and common methods of detecting chiropractic spinal 'subluxation':
The opinion of Victorian chiropractors.
Supervisor: Dr Rachelle Buchbinder

Elizabeth Waters
Socio-economic disadvantage and risk of dying in hospital.
Supervisor: Dr William Hart

Diploma in Occupational Health

John W Bridge
Trevor J Brott
Paul Chi-Chin Kwan
Derek F Davoy
David S Elder
Joseph A Giramondo
Anne M Hannebery
Michael A Henderson
Diane L Hughes
Rose Khouri
John F Lanyon
Gale A Ogston
Joseph F Pane
Elisabeth J Wiltshire

Diploma in Epidemiology and Biostatistics

Margaret P de Campo

Doctor of Philosophy

Christopher Fairley
The determinants and transmission of human papilloma virus infection
Supervisors: Prof J McNeil
Dr M Abramson

Steven Gourlay
Assessment of pharmacological therapies for smoking cessation
Supervisor: Prof J McNeil
## Appendix 2 - Postgraduate Subjects & Co-ordinators

<table>
<thead>
<tr>
<th>Subject</th>
<th>Co-ordinator</th>
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<tbody>
<tr>
<td>Advanced Epidemiology</td>
<td>Dr Andrew Forbes</td>
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<tr>
<td>Advanced Toxicology</td>
<td>Dr David Goddard</td>
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<tr>
<td>Environmental and Communicable Hazards</td>
<td>Dr Tilman Ruff</td>
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<tr>
<td>Epidemiology and Demography</td>
<td>Mr Damien Jolley</td>
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<tr>
<td>Ethnicity, Gender, Age and Class</td>
<td>Dr Vivian Lin</td>
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<td>Health and Human Rights</td>
<td>Ms Bebe Loff</td>
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<td>Health Promotion</td>
<td>Ms Sally Fawkes</td>
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<tr>
<td>Health Promotion and Illness Prevention</td>
<td>Dr Robin Burns</td>
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<tr>
<td>Health Services Research and Evaluation</td>
<td>Dr Cathy Finocchiaro</td>
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<tr>
<td>Infectious Disease Epidemiology</td>
<td>Dr Vivian Lin</td>
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<td>International Health</td>
<td>Dr Nick Crofts</td>
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<tr>
<td>Introductory Statistics</td>
<td>Dr Sandy Thompson</td>
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<tr>
<td>Occupational Hygiene</td>
<td>Dr Mike Toole</td>
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<tr>
<td>Public Health Administration</td>
<td>Ms Priscilla Robinson</td>
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<tr>
<td>Public Health Project Part A</td>
<td>Mr Stephen Farish</td>
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<tr>
<td>Sociological Foundations of Public Health</td>
<td>Dr Andrew Forbes</td>
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<tr>
<td>Special Topics in Occupational Health</td>
<td>Dr David Goddard</td>
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<tr>
<td>Toxicology</td>
<td>Dr Cathy Finocchiaro</td>
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<td>Dr Malcolm Sim</td>
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<td>Dr Jeanne Dow</td>
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<td>Dr David Goddard</td>
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Appendix 3 - Publications


Cicuttini, FM, Byron, KA, Maier, D, Wootton, AM, Muirden, K, Hamilton, JA. Serum IL-4, IL-10 and IL-6 levels in inflammatory arthritis. Rheum International, 14(5): 201-206.


Abstracts


Abdulwadud O, Abramson MJ and Walters EH. A comparison of participants and non participants in an educational intervention at a hospital asthma clinic. The Alfred Group of Hospitals Research Week '95, P6:10 1995.


HONORARY STAFF MEMBERS

ASSOCIATES

JE Aldred  MB BS, Dip Pharm, PhC, FPSA
GD Johnstone  BA, LLB
D Hill  PhD
GS Whyte  MB BS, FRCPA

HONORARY SENIOR LECTURERS

D Barton  MB BS, MSc, FAFOM, MFOM
R Borland  BSc, Msc, PhD
G Dowse  BMedSc, MB BS, MSc
SM Garland  MB BS, FRCPA, MASM, FMCVEN
G Giles  CertEd, MSc, PhD
ML Grayson  MB BS, MD, FRACP
WG Hart  MB BS
E Knight  MB BS, FRACGP, FAFOM
VR Lim  BA, MPH, PhD
J Milne  MB BS, MSc, FAFOM, FFOM
H Mitchell  DipMedRec, MB BS, MSc, MD, FRACP
DG Robertson  MB BS, FRACP

HONORARY LECTURERS

PG Giles  MB BS
DJ Jolley  MSc
KJ Macdonald  MB BS, FAFOM
P Robinson  BSc, MPH