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About the department

The Department of Epidemiology and Preventive Medicine (DEPM) was established in 1969 at the Monash University Medical School - Alfred Hospital, and is now located at 553 St Kilda Road, Melbourne, with easy access to Monash Medical School and the Alfred Hospital.

DEPM continues to play a prominent role in public health medicine in Australia. The core skills of the department relate to epidemiology (the study of the distribution, risk factors and causes of disease) and its application to problems in clinical medicine and public health.

A number of trends in public health and health care funding have led to an increased demand for these specialist skills. These trends include an emphasis on applied clinical research to provide evidence of effectiveness of medical interventions; a rapid increase in provision of health related data driven by the need for financial accountability and quality assurance; a growing emphasis on, and financial incentives for, prevention of illness; an increased focus on measuring the quality of health care; and an increased concern about legal liability which requires identification of long term hazards of medical interventions.
Financial support for research in DEPM is drawn from a variety of State and Federal Government bodies, private companies and charitable organisations primarily in the form of competitive grants. DEPM ranks among the most successful Monash University departments in attracting external research funding. We also undertake contract research and consultancies for a wide range of industry bodies and government departments, and are partners in the Australian Government Cooperative Research Centre Program.

We have an extensive teaching program including undergraduate medical and biomedical science degrees, postgraduate courses including the Master of Public Health, a range of Diplomas and Certificates, and several short courses.

We also provide high quality PhD research training to graduates from a broad spectrum of medical and non-medical backgrounds. Epidemiology (together with Biostatistics) is the key scientific discipline underlying some of the most important and rapidly developing areas in medicine, and our PhD graduates are equipped with core skills which form the basis for a successful future career in a range of fields.
The Department is located conveniently close to The Alfred Hospital and is easily accessible by public transport from the city. Trams run from Flinders Street Station south along St Kilda Road - numbers 3, 5, 6, 16, 64, 67 to Moubray Street. Trains run from Flinders Street to Prahran Station (Sandringham line), with a short walk to St Kilda Road. We are on Melway map 58, 2L B9 and metered car parking is available on St Kilda Road or Moubray Street.
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Contact details for individual research units can be found on the page for that unit.

Visit our website at www.med.monash.edu.au/epidemiology
For this Department, the new millenium began with a very active and rewarding year. Several of our long term initiatives came to fruition along with others which were rather unexpected. Our senior staff and students gained a number of major awards and prizes, and our publications almost doubled from 1999.

During the course of the year the Department secured two major grants, one for the establishment of the Victorian State Trauma Registry and the other for the establishment of the Gulf War Veteran’s Health Study with a research team headed by A/Prof Malcolm Sim. These have helped consolidate our position as one of the major academic units with the depth of expertise required to undertake large scale epidemiological projects. Our supporting skills in data management, biostatistics and computing represent an important resource for studying health related issues in Australia.

A substantial number of other projects were also commenced during the year. New NHMRC funding was awarded to Michael Abramson and Theo Vos and the ASFAST study gained an additional year of funding. A new SMURF (Strategic Monash University Research Fund) grant was awarded to explore the feasibility of a major Victorian Cohort Study and a new Monash SIF (Strategic Innovations Fund) grant was awarded to assist in establishing a Health Management Course in Malaysia in collaboration with the George Washington University. A full list of new and current grants are listed within this report.

On the teaching front we have continued to contribute to a large and growing range of post-graduate programs. During 2000, over 250 post-graduate students and 22 PhD scholars were enrolled in one or other of our courses. Activity was particularly great with the Master of Public Health course which is delivered under a consortium arrangement with the University of Melbourne, La Trobe University and Deakin University. In 2000, Monash assumed leadership of the consortium for two years and bore a substantial role in the renegotiation of the PHERP agreement. Under this agreement, the Commonwealth provides a subsidy for the provision of this degree course and during 2000 negotiations took place for a further five year renewal of this grant. However the Commonwealth has decided to claw back 20% of the funding for ‘new initiatives’ and during 2001 we will be exploring ways of attracting some of this funding for a new development in Human Health Risk Assessment.

Amongst the new developments in postgraduate teaching was a program funded by the Asian Development Bank to enable students selected by the Indonesian Ministry of Health to undertake the Master of Health Services Management degree. This program is coordinated by Dr Jenny Majoor and in 2000 involved 25 students, each of whom has spent 12-18 months in Melbourne to complete the degree. The students have added a great deal to the department and to our knowledge and appreciation of Indonesian culture. We are looking forward to the program continuing in future years.

During the year we also commenced planning for new postgraduate diploma courses in clinical research methods and health risk assessment. In keeping with developments in our other postgraduate courses, these will be provided largely by distance education with a minor attendance component. We also commenced planning for a new Master of Health Services Management Program to be provided in Malaysia jointly with the George Washington University. This project will cement our relationship with one of the United States’ leading universities and be a forerunner of other new offshore developments.
In the undergraduate area we continued our existing program (which has involved teaching in every year of the undergraduate MBBS course and in two of the three years of the BBiomedSci), while at the same time planning for the introduction of the new five year medical curriculum. Michael Abramson has represented the Department in planning this curriculum, assisted by Jenny Majoor, Tony La Montagne and others. In the new course, population health will be a ‘theme’ integrated with clinical and practical teaching throughout the undergraduate program. First impressions suggest that we are likely to maintain a strong role in undergraduate medical teaching in the foreseeable future.

Another new development during the year was the establishment of a joint clinical epidemiology unit at one of the State’s foremost private hospitals, Cabrini. Associate Professor Rachelle Buchbinder was appointed to head this unit which has been funded by the Cabrini Research Foundation. Rachelle has been a part time senior lecturer within the Department and her promotion to this new and important position was welcomed by all.

During the year several of our staff moved on to new positions. Kit Fairley, who joined the department as a PhD student in 1989, was appointed to the newly established Chair of Sexual Health at the University of Melbourne. Since 1995, Kit has headed both the Infectious Disease Epidemiology Unit and the Public Health Risk Assessment Program for the CRC for Water Quality and Treatment, and his departure leaves a gap that will be difficult to fill. Lin Fritschi, another valued senior colleague, took up a new position as Senior Lecturer in Epidemiology at our equivalent department in Perth. Lin made an outstanding contribution to our teaching program and to the success of the Healthwise Study, and has also been greatly missed.

Other staff leaving during the year included Sheila Killalea, Kath Ogden, Nicole Doherty, Megan Buick and Rachel Stoney, all of whom had been valued colleagues. On the other hand, we welcomed several new colleagues, including Joan Ozanne-Smith and Mark Wahlqvist (Professors); Vijaya Sundararajan, Theo Vos, David Taylor, Tony LaMontagne and David Newman (Senior Lecturers); Helen Kelsall (Senior Research Fellow); Dean McKenzie (Research Fellow); several new research nurses, Sue Cromie, Brendan Allen, Jane Brack, Robyn Funston and Christine Dos Santos; new administration staff, Maida O’Keefe and Mandy Hipwell, and new PhD scholars, Caroline Marshall and Dannie Liew. Our honorary staff also expanded with new appointments including Dr Philip Stokoe, Prof Mark Elwood, Prof Andrew Tonkin, A/Prof Paul Myles, A/Prof Frank Rosenfeldt, Dr Alex Proudfoot, Dr Sherene Devaneson, Prof Richard Southby, Dr Joanne Williams, Dr David Dunstan and Prof E Haydn Walters.

Honors and awards during the year included the Order of Australia to Mark Wahlqvist for his contribution to science and teaching in the areas of medicine and nutrition. Our colleague Chris Silagy, at the Institute of Public Health and Health Services Research, was also awarded an Order of Australia for his contribution to medicine. Amongst other notable successes were the Victorian DHS award for excellence in Public Health Research to the Water Quality Study Team, and individual awards to Anita Wuuka, Jenny Majoor, Frank Giorlando, Paul Martin, Margaret Hellard and Joe Ibrahim.

It has become my practice to finish this report by thanking all of our staff for their hard work and dedication during the year. This year I would particularly like to recognise the outstanding support provided by our administrative staff whose competence, efficiency and cheerfulness do much more than simply provide the Department with the highest standards of administrative excellence. They also play a key role in maintaining the morale at all levels of the Department. I wish them and all of our staff continuing success in 2001 onward.

www.med.monash.edu.au/epidemiology
Highlights of 2000

- The Water Quality Study team from the CRC for Water Quality and Treatment in DEPM was awarded the Victorian Department of Human Services 2000 Award for Excellence in Public Health Research.

- DEPM was awarded the tender by the Department of Human Services to establish the Victorian Trauma Registry which will monitor and evaluate the Victorian State trauma system. DEPM is collaborating with the Alfred Hospital, Royal Melbourne Hospital and the Monash Accident Research Centre.

- Anita Wluka, a PhD scholar at DEPM, was awarded the prestigious 2000 Glenn Foundation Endocrinology and Aging Award by the American Society of Endocrinology.

- Jenny Majoor won the Medical Faculty's Silver Jubilee Prize for teaching. Jenny coordinates and teaches postgraduate courses in Health Services Management and in 2000, thirty students came to Melbourne from Indonesia, funded by the Asian Development Bank, to study Masters in Health Services Management.

- The Minister for Veterans' Affairs, Bruce Scott, announced on 28 June, that DEPM and Health Services Australia would conduct a comprehensive study of the health of Australia's Gulf War veterans.

- At Alfred Research Week - The Michael J Hall Prize was awarded for the poster "A clinical trial of air ionisers in the treatment of asthma", Frank Giorlando, Marc Cohen, Rosalie Woods, Cathryn Wharton, Michael Bailey, Michael Abramson.

- Joe Ibrahim visited Lebanon for two weeks for a national program on hospital accreditation. Joe is Head of our Health Services Research Unit and was invited to Lebanon by a major project funded by the World Bank to provide advice on the quality of care and health services reform in acute general hospitals. A report was then prepared by Joe Ibrahim and Jenny Majoor.

- Dr Craig Hyams, US Navy Physician, presented a seminar in September 2000, "Gulf war veterans: Health risks, research findings and US Government response".
Jenny Majoor and Malcolm Sim were awarded honorary appointments at George Washington University. Malcolm was appointed Adjunct Professor in Health Services Management and Policy, and Jenny was appointed Adjunct Assistant Professor in Health Services Management and Policy.

Paul Martin, a PhD student in the Clinical Pharmacology Unit, was awarded a Ralph Reader Prize for clinical research at the Cardiac Society of Australia and New Zealand Conference in Melbourne.

Professor Alexander Yemelyanov from the Pavlov Medical University, St Petersburg, visited the Department in August.

A report to the Australian Kidney Foundation, "The epidemiology of diseases of the kidney and urinary tract: An Australian perspective" was carried out by Dr Esther Briganti, Prof John McNeil and Prof Robert Atkins. The report is available at www.med.monash.edu.au/epidemiology/akf.akf.htm

A report by DEPM staff was launched by the Hon John Thwaites, Minister for Health at the "Hospital to Home: Achieving effective discharge" conference on 8th December. The report is "Performance Indicators for Effective Discharge" and project personnel were Prof John McNeil, Dr Joe Ibrahim, Dr Jenny Major, Ms Megan Buick.

Dr Philip Stokoe, Resident Advisor and Senior Policy Advisor to the Ministry of Health, Indonesia, visited the Department to teach Indonesian students enrolled in Health Services Management.

Margaret Hellard was awarded the Young Water Scientist of the Year Award by the CRC Water Forum. This award highlighted the key role CRCs play in training young scientists with a unique blend of skills, including quality sciences, good communication skills and an understanding of industry.

Dr Tahereh Samavat and Miss Alieh Hocjatzadeh visited from Iran in December. They are responsible for planning national programs for the prevention and control of cardiovascular disease in Iran and visited the Department to discuss strategies for CVD prevention in Australia.
Research at DEPM

Research in the Department covers a wide range of specialist areas, and the Department is organised into individual research units with their own specialist staff.

These units often work in collaboration, bringing several specialist skills to research projects as they are needed. Research in the Department covers areas such as:

- Applied clinical research
- Cardiovascular disease
- Clinical epidemiology
- Clinical preventive medicine
- Diagnostics
- Drug evaluation
- Drug safety monitoring
- Environmental toxicology
- Epidemiological modelling
- Evidence based medicine
- Health management
- Health promotion
- Health services research
- Infectious disease epidemiology
- Information technology
- Nutrition
- Occupational health
- Outbreak investigation
- Pharmaco-epidemiology
- Pharmaco-economics
- Water quality
Large scale observational studies and interventional trials are increasingly utilised to identify the causes of and effective treatment for human diseases. The capacity to mount such studies in Australia has increased with the establishment of the National Death Register and the integration of data from State Cancer Registries. However, an extensive depth of expertise and resources is required to establish such studies and there are few groups in Australia which combine both the necessary resources and the background of achievement in this area. DEPM, with its strong research environment, has an extensive record of achievement in the establishment of large community based trials, several of which have involved data collection across multiple states and territories.

The Department has extensive capacities in:
- study design and organisation
- design of data collection instruments
- creation and maintenance of data bases
- procedures for secure and ethical handling of health related data
- maintenance of quality control
- statistical analysis, reporting and interpretation

The last few years has seen a steady expansion in the range of diagnostic imaging, tests and procedures available for clinicians. In contrast to therapeutics, advances in diagnostics are generally not evaluated in a systematic fashion and there is often considerable uncertainty about the incremental value of the information they offer. Evaluation of new diagnostic approaches requires sophistication in both study design and statistical analysis in addition to a familiarity with the clinical problem involved.

DEPM is ideally placed for evaluating new diagnostic methodologies because of its expertise in both clinical medicine and clinical measurement. This expertise has been brought together in the Diagnostic Unit under the leadership of A/Prof Flavia Cicuttini. This unit has strong collaborative links with the Diagnostic Unit at the Alfred Hospital.

Increasing knowledge about disease causation has led to a steady increase in opportunities for prevention at both an individual and a community level. DEPM has a national role in teaching and research in applied aspects of disease prevention.

Specific research capabilities include:
- conduct of epidemiological studies to identify risk factors
- community based trials of new interventions
- epidemiological modelling to gauge the effects of new health promotion programs.

This work is facilitated by the Department's unique combination of expertise in both community programs and at an individual clinical level. More recently, the Department has increased its capacity to undertake and evaluate health promotion programs and has established a range of new postgraduate courses designed to assist professionals engaged in health promotion activities. The increasing volume of data generated within the health system has led to much greater requirements for training in data management and statistical analysis, and for research into applied aspects of healthcare delivery, DEPM has developed a major role in these areas assisted by:
- extensive resources and skills in the collection and interpretation of health related data;
- detailed knowledge of the structure and ‘culture’ of health service delivery;
- an ability to draw on expertise from a wide range of health service providers.
The Department has developed particular expertise in:
- development and assessment of ‘quality of care’ indicators
- establishment of ‘disease registries’ and analysis of data derived from them
- methods for monitoring and preventing adverse events in healthcare
- modelling of future service requirements and the likely impact of interventions
- development of clinical decision support systems
- studies of emergency care services

More recently the Department has expanded its educational role in health management with the establishment of its Master and Diploma level training programs in Indonesia and Malaysia.

Human health risk assessment is the science that underpins recommendations about safe exposure to chemical and microbiological agents via food, water, air and soil. It involves the integration of information from toxicology, epidemiology, pathology, clinical medicine, economics, kinetics and statistical modelling.

DEPM has developed a prominent role in human health risk assessment in Australia because of a strong research environment with extensive skills in all areas relevant to human health risk assessment; an extensive record of competitive funding and PhD training in this and related areas. We also have a capacity to undertake major projects involving human subjects; access to high level collaboration in health economics (Monash Health Economics Unit), and analysis (Victorian Institute Forensic Pathology).

The Department's role is also enhanced by the colocation, within DEPM of expertise in key areas of application of risk assessment including:

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<td>Water</td>
<td>Leadership of the Public Health Risk Assessment Program within the CRC for Water Quality &amp; Treatment</td>
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<tr>
<td>Air</td>
<td>An extensive program in air pollutants and respiratory disease</td>
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<td>Food</td>
<td>Site of the FAO Centre of Excellence in Food Safety under the direction of Prof Mark Wahlerqvist;</td>
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<tr>
<td>Soil</td>
<td>Research program into soil contamination</td>
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<tr>
<td>Occupation</td>
<td>Extensive programs of occupational health research in Australia's largest academic occupational health unit;</td>
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<tr>
<td>Pharmaceuticals</td>
<td>An extensive program of research into drug safety issues.</td>
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Industry, government and communities are becoming increasingly concerned about the high human and economic impact of workplace injury and disease and the potential for industry activity to affect the health of the community. Therefore occupational health is an important area of research and the department is well equipped to carry out major research in this area with multidisciplinary expertise in occupational medicine, occupational hygiene, epidemiology and toxicology.
The main areas of occupational health research activities in DEPM are:

- The identification of workplace hazards associated with the development of human disease, such as cancer and respiratory disease;
- Occupational disease surveillance to monitor trends in the onset of such diseases to identify new hazards and to assess the effectiveness of prevention measures from known hazards;
- Exposure assessment to develop better methods of using exposure data in epidemiological studies;
- Industry-based studies investigating links between work factors and work in aluminium production and the petroleum industry;
- Intervention research to assess the effectiveness of prevention programs in workplaces and more global measures, such as workplace exposure standards;
- Veteran health through our study of Australian Gulf War veterans. To assist us in this program of research, we have developed strong collaborative links with other occupational health research groups in the Department of Public Health, University of Western Australia, the Occupational Hygiene Unit at Deakin University, the National Cancer Institute, Washington DC and the Finnish Institute of Occupational Health.

Environmental health is a multidisciplinary area strongly underpinned by epidemiology, toxicology, exposure assessment, clinical medicine and microbiology. It also links strongly with law, economics, politics, and communication sciences. DEPM has an extensive background of activities in environmental health with ongoing research in areas such as water quality, air pollution and soil contamination.

The Department's role in environmental health is strengthened by:

- Colocation in DEPM of the Public Health program coordination for the CRC in Water Quality and Treatment and the FAO Centre for Excellence in Food Quality, Safety and Nutrition;
- A program of research in air contaminants and health under the direction of A/Prof Michael Abramson;
- Extensive expertise in human exposure assessment and modelling;
- Local access to expertise in chemical analysis through the Victorian Institute for Forensic Pathology, and
- our close links with the National Research Centre for Environmental Toxicology.

A recent trend in therapeutic drug use has seen substantial increases in the proportion prescribed for long-term use, either for preventive or for treatment of chronic disease. This trend has led to an increasing need to monitor drugs for long-term safety and to measure their cost effectiveness in various subgroups of the population. It has also lead to an increasing need to target the use of expensive therapies to those most likely to benefit.

Epidemiological techniques are increasingly used to monitor drug safety, investigate specific safety issues and to determine cost effectiveness of drugs in various settings. Such studies commonly require an integration of expertise involving epidemiology, biostatistics, clinical medicine, economics and epidemiological modelling, all of which are strengths within DEPM.

Specific capacities available within the Department include:

- development of strategies for long term safety monitoring of drug therapies
- identification of risk factors for specific adverse events
- identification of target groups with safety and cost-effectiveness ratios
- modelling the likely impact of preventive therapies on community incidence of disease.
Research Units

The Department is organised into several Units, each headed by a senior staff member. Details of the activities of each unit are described on the following pages. Our Research Units often work in collaboration with each other, bringing specialist skills from several areas to the one project.

- Biostatistics Unit
- Diagnostics Unit
- Clinical Epidemiology Unit
- Clinical Measurement Unit (in collaboration with Cabrini Hospital)
- Clinical Pharmacology Unit
- CRC for Water Quality and Treatment
- Epidemiological Modelling Unit (in collaboration with the Department of Human Services)
- Health Services Management Unit
- Health Services Research Unit
- Infectious Disease Epidemiology Unit
- International Health & Development Unit (in collaboration with the Asia Pacific Health & Nutrition Centre, Monash)
- Occupational & Environmental Health Unit
- Preventive Medicine Unit

DEPM values its strong collaborative links with other hospitals, universities and research institutions as many of our senior staff hold medical appointments outside the Department. These collaborations ensure that the latest knowledge in any field is applied to each research project undertaken.
Biostatistics Unit

Head of Unit - A/Prof Andrew Forbes, BSc(Hons), MSc, PhD
Phone 03 9903 30580, email andrew.forbes@med.monash.edu.au

Andrew Forbes heads the Biostatistics Unit which consists of 5 biostatisticians. He received a BSc (Hons) in Statistics from Monash University in 1984, and a PhD in Statistics in 1990 from Cornell University, USA. He worked at Ciba-Geigy Pharmaceuticals USA, as a postdoctoral fellow developing clinical trial methodology prior to joining Monash University. The Biostatistics Unit plays a critical role in the research endeavours of the Department. Staff of the Unit hold chief investigator and/or associate investigator status on many of the Department's research projects and make substantial contributions to the design, data collection, and analysis of these projects. The Unit also contributes to many epidemiological projects of external research groups and institutes. Staff pursue ongoing methodological research, in particular on the analysis of ordinal outcomes, analysis of longitudinal studies, the use of hierarchical regression models applied to institutional ranking, and in statistical computing.

The unit teaches applied biostatistics to medical and biomedical science undergraduate students, and students enrolled in the various postgraduate courses in health and clinical research in the Department. The Unit is also involved, along with other national centres of biostatistics, in teaching a new Masters in Biostatistics course by distance education.

Clinical Epidemiology Unit

Head of Unit - A/Prof Michael Abramson MBBS(Hons), BMedSc, PhD, FRACP, FAFPHM.
Phone 03 9903 0573, email michael.abramson@med.monash.edu.au

Michael Abramson is also Deputy Head of the Department and a visiting specialist physician in respiratory medicine at the Alfred Hospital in Melbourne. He graduated in Medicine from Monash in 1979 and received his PhD from the University of Newcastle in 1990 for research into occupational asthma. His administrative responsibilities include a Grant Review Panel of the NH&MRC. He has previously held positions in the Thoracic Society of Australia & New Zealand, Asthma Foundation of Victoria and the National Asthma Campaign. He is a member of the Scientific Committee for the International Society for Environmental Epidemiology conference to be held in Perth in 2003. Current research in this Unit covers the epidemiology of asthma and chronic obstructive lung disease, including genetic and environmental risk factors, asthma mortality, patient education and adherence to asthma management plans. This work has been supported by the National Health & Medical Research Council, Department of Human Services, Victorian Health Promotion Foundation, Australian Lung Foundation and the Asthma Foundation of Victoria. The Unit is actively involved in the Cochrane Collaboration - an international effort to review and disseminate evidence of effective treatments. Members have contributed a number of systematic reviews to the Cochrane Library. Members of the Unit currently teach Epidemiology and Evidence Based Medicine to medical students and coordinate the Graduate Diploma and Master of Clinical Epidemiology and Doctor of Public Health at Monash University.
Clinical Measurement Unit

Head of Unit - Dr Rachelle Buchbinder MBBS(Hons), MSc, FRACP
Phone 03 9509 4244, email rachelle.buchbinder@med.monash.edu.au

Rachelle Buchbinder is a rheumatologist and clinical epidemiologist. She graduated in Medicine from Monash University in 1981 and received a Masters of Science in Clinical Epidemiology from the University of Toronto in 1993 for research in the classification of soft tissue disorders of the neck and upper limb. Her current research program covers the management of soft tissue disorders—particularly the shoulder, elbow, knee and heel and she has been involved in clinical trials of innovative new therapies in each of these areas. Rachelle also has interests in risk of malignancy in rheumatic diseases, treatment and prevention of low back pain, magnetic resonance imaging in rheumatoid arthritis, quality of life, patient education, complementary medicine and outcome measurement. Her work has been supported by various local, national and international bodies. Rachelle currently coordinates and teaches the postgraduate courses in Clinical Epidemiology and Measurement. She also supervises BMedSci, MPH and PhD students.

Clinical Pharmacology Unit

Head of Unit - A/Prof Henry Krum MBBS, PhD, FRACP
Phone 03 9903 0042, email henry.krum@med.monash.edu.au

Henry Krum completed his MBBS at the University of Melbourne in 1981, became a Fellow of the Royal Australasian College of Physicians in 1989 and completed a PhD at the University of Melbourne in 1991. As well as head of this unit, Henry is Head of Clinical Pharmacology at the Alfred Hospital, Adjunct Assistant Professor of Medicine, Division of Circulatory Physiology at Columbia University College of Physicians and Surgeons, and consultant physician at the Alfred Heart Failure Centre, the Alfred Baker Medical Unit and the Alfred Healthcare Group. The research activities of the Clinical Pharmacology Unit are focused primarily around new drug development for cardiovascular disease states. Drugs currently undergoing clinical research include endothelin receptor antagonists, cytokine antagonists and drugs that augment endogenous vasodilator systems. The main areas of research interest are those of autonomic dysfunction and endothelial dysfunction in cardiovascular disease. Clinical techniques employed include heart rate variability monitoring, titrated noradrenaline measurement of sympathetic activity, noninvasive assessment of baroreflex sensitivity and invasive and noninvasive forearm blood flow studies using venous inclusion plethysmography. The Unit also conducts basic research in the Department of Medicine's laboratories at the Monash Medical School. This involves animal models of heart failure with assessment of intracardiac haemodynamics, neurohormonal status and gene expression of important regulatory factors, particularly cytokines and growth factors. A number of novel and existing drugs are currently being studied in this manner. The Unit is also interested in cell culture of rat fibroblasts and human mononuclear cells as markers for activity of certain growth factors in man.
CRC for Water Quality & Treatment

Program Coordinator: Prof John McNeil, MBBS, MSc, PhD, FRACP, FAFPHM
Deputy Program Coordinator: A/Prof Christopher Fairley MBBS, PhD, FRACP, FAFPHM

DEPM was a founding participant in the CRC for Water Quality and Treatment on its establishment in 1995, and coordinates one of the CRC’s four major research programs, Public Health Risk Assessment. This program is concerned with investigating and understanding the relationship between water quality and public health outcomes.

The research issues under study encompass the health impacts of a range of microbial and chemical constituents of drinking water, with relevance to both urban and rural communities in Australia. CRC research within DEPM involves staff from both the Infectious Disease Epidemiology and the Occupational & Environmental Health Units, as well as collaboration with other CRC participant organisations. DEPM is also involved in the Education & Training Program and the Technology Transfer Program of the CRC. In addition to specific epidemiological studies on issues such as the health hazards posed by waterborne pathogens, cyanobacterial toxins and disinfection byproducts, research has also focused on improvements in risk assessment methodology, and the development of more sensitive and rapid health surveillance mechanisms.

A major innovation in the work undertaken by DEPM has been the development of methods to measure the effects of water quality on human health. This contrasts with, and complements previous emphasis on the measurement of chemicals and microbes in water. Such research is essential to ensure that changes in water quality regulation in Australia are based on the best possible evidence of public health benefit.

Diagnostics Unit

Head of Unit- A/Prof Flavia Cicuttini MBBS(Hons), PhD, MSc, DLSHTM, FRACP, FAFPHM
Phone 03 9903 0053, email flavia.cicuttini@med.monash.edu.au

Flavia graduated in medicine from Monash University in 1982 and completed a PhD at the University of Melbourne in 1993. She then completed an MSc at the University of London, looking at risk factors for osteoarthritis and completed further study at the London School of Hygiene and Tropical Medicine in 1996. Flavia is a member of the NHMRC Research Fellowships Advisory Panel, Royal Australasian College of Physicians Research Advisory Committee and Jacquot Selection Committee, RACP, and OARSI study group on osteoarthritis of the hand.

Contributions to teaching include coordination and teaching Research Methods in the Master of Public Health, coordination of Epidemiology and Biostatistics by distance mode of delivery, and Medicine and Research for 4th year undergraduate medical students.

Current research in this Unit includes using magnetic resonance imaging to understand factors that affect joint cartilage in healthy and diseased states and economic evaluation of medical diagnostics.
Epidemiological Modelling Unit

**Head of Unit - Dr Theo Vos** MD, MSc
Phone 03 9903 0049, email theo.vos@med.monash.edu.au

Theo Vos qualified as a medical doctor in the Netherlands in 1980. He worked for 9 years in district hospitals and provincial health offices in Lesotho and Zimbabwe performing a combination of clinical and public health duties. After completing a MSc degree in Public Health in Developing Countries at the London School of Hygiene and Tropical Medicine in 1994, he stayed on as a lecturer. His research interests included the use of burden of disease and cost-effectiveness analyses in priority setting and the development of methods to evaluate the quality of maternity and child health services in low-income countries. In 1997, he joined the Department of Human Services (DHS) in Victoria. He has completed a burden of disease study for Victoria adapting the methods developed for the Global Burden of Disease study to the Australian context in close collaboration with Colin Mathers at the Australia Institute of Health and Welfare. Currently, he is undertaking cost-effectiveness analyses in the areas of cancer, cardiovascular disease and mental disorders, building on the models developed for the burden of disease study in partnerships between DHS, academic institutions and health NGOs. This unit aims to develop epidemiological and economic models to inform decisions on resource allocation in health. Research efforts initially focussed on cost-effectiveness analyses of various preventive interventions for coronary heart disease (CHD). In collaboration with the Centre for Health Program Evaluation and the Monash Institute of Public Health, the unit is now undertaking the Assessing Cost Effectiveness (ACE) Heart Disease Project which is funded by the NHMRC.

Health Services Management Unit

**Head of Unit - Dr Jennifer Majoor** MBBS, MHA, FRACMA, PhD
Phone 03 9903 0559, email jenny.majoor@med.monash.edu.au

Jenny Majoor is a medical graduate with specialist qualifications in Medical Administration and Public Health, a PhD in Health Services Research, a Master of Health Administration and a Graduate Certificate in Higher Education. Jenny is also an adjunct Assistant Professor in Health Services Management and Policy at George Washington University, USA. She is a leading educator in the field of Health Services Management and was awarded the Faculty of Medicine Silver Jubilee Teaching Prize for 1999. She is currently the Victorian Chair of the Board of Studies for the Royal Australasian College of Medical Administrators and has had practical experience in health services management, having formerly been Assistant Director of Medical Services at the Alfred Hospital.

The Unit is involved with a number of research projects that focus on the interface between health management and effective and efficient health service organisation and the measurement and improvement of quality in health care.
Health Services Research Unit

Head of Unit - Dr Joseph Ibrahim MBBS, FRACP, MHA, PhD
Phone 03 9903 0585, email joseph.ibrahim@med.monash.edu.au

Joe Ibrahim completed a Doctorate of Philosophy (PhD) in the field of quality of care evaluation and performance indicators. His principal area of expertise is in the assessment of the quality of clinical care and the development of quality indicators and he has made major contributions to Federal and State Health Department projects in this area, including the development of performance measures for effective discharge and evaluation of clinical risk management models in Victoria. Dr Ibrahim has also worked internationally on a World Bank Project developing a system for hospital accreditation in Lebanon and coordinated a course on Health Care Quality in Indonesia. Dr Ibrahim is a Fellow of the Royal Australasian College of Physicians, a Fellow of the Australian Faculty of Public Health Medicine, a council member for the Australian Association for Quality in Health Care and the regional editor for the International Journal for Quality in Health Care. Throughout his career he has maintained a special interest in quality improvement and has been a surveyor with the Australian Council on Healthcare Standards since 2000.

The work of the Health Services Research Unit has been underway since 1995 with a major focus on measuring and improving quality in health care. Performance measurement and quality improvement research provides a mechanism to allow accountability for fund providers and provides a visible means of protecting patients from inappropriate or sub-optimal care. In 2000, Joe Ibrahim was invited to Lebanon by a major project funded by the World Bank to provide advice on quality of care and health services reform in acute general hospitals. Joe visited a range of hospitals in Lebanon and also the Advisor to the Minister of Health and the Lebanese Army Commander of Health Services.

Infectious Disease Epidemiology Unit

Head of Unit in 2000 - A/Prof Christopher Fairley, MBBS, PhD, FRACP, FAFPHM

Christopher Fairley is an infectious disease physician with doctoral qualifications in epidemiology. After completing his medical training and PhD at Monash University, he was awarded an NHMRC Neil Hamilton Fairley Fellowship to study in London at the Colindale Public Health Laboratories. On his return to Australia in 1995, he was appointed to the position of Senior Lecturer and Head of the Infectious Disease Epidemiology Unit at DEPM. He was also Deputy Program Coordinator of the Public Health Risk Assessment Program of the CRC for Water Quality and Treatment.

Infectious Disease Epidemiology includes the study of the prevalence of infections in populations, the identification of risk factors, and the development and evaluation of effective treatment measures and prevention strategies. The research interests of the unit include sexually transmitted diseases and problems in clinical medicine. Research projects on sexually transmitted diseases include measuring the prevalence of STDs in people with poor access to healthcare, and developing and assessing effective and acceptable interventions to prevent and treat these infections. Clinical medicine research covers a range of topics in infectious diseases which represent important problems in clinical practice, including antibiotic resistant microorganisms and the treatment of opportunistic infections in HIV patients. Through its partnership in the CRC for Water Quality and Treatment, the Unit is also a leading centre for research on public health issues relating to drinking water quality.
Mark Wahlqvist is a Professor of Medicine and Associate Dean (International) in the Faculty of Medicine, Nursing and Health Sciences. He is also Director of the Asia Pacific Health and Nutrition Centre, and Director of the FAO Centre of Excellence in Food Quality, Safety and Nutrition. Mark has played a major role in national and international nutrition science, education and policy over the last two decades, with almost 1000 publications, including 400 peer-reviewed scientific papers and books.

This unit includes the Monash University FAO Centre of Excellence in Food Quality, Safety and Nutrition (in collaboration with the Asia Pacific Health & Nutrition Centre of the Monash Asia Institute). The FAO Centre is one of the first of its kind in the world, established to deliver education and training in food quality, safety and nutrition with a special interest in risk health science in the Asia Pacific region. As well as the Monash Asia Institute, the Centre has links with the Australian and New Zealand Food Authority, the Asia Pacific Clinical Nutrition Society, the Federation of Australian Nutrition Organisations, the Food Safety Council of Victoria and the International Union of Nutritional Sciences.

Malcolm Sim's research interests are in human health effects from occupational and environmental chemical exposures, occupational disease surveillance and risk assessment. He is a Fellow of the Australasian Faculties of Public Health Medicine and Occupational Medicine, RCP, and the UK Faculty of Occupational Medicine, RCP. Malcolm is Censor-In-Chief of the Australasian Faculty of Occupational Medicine and on the Editorial Board for the journal "Occupational and Environmental Medicine". He is a project leader in the CRC for Water Quality and Treatment with a special interest in arsenic in drinking water, and is Principal Investigator for the Australian Gulf War Veterans Health Study. He is also on the Scientific Committee for Epidemiology in Occupational Health of the International Commission on Occupational Health. In 2000, Malcolm Sim was invited to be a member of the Task Group writing the Environmental Health Criteria monograph on inorganic arsenic for the International Program on Chemical Safety, which will be published in 2001. Malcolm was also successful in a proposal to hold the 2004 International Symposium on Occupational Epidemiology in Melbourne.

This unit has a very active research and teaching program, primarily concerned with the prevention of human disease from hazards in the workplace and the environment. The Australian Gulf War Veterans' Health study, undertaken in collaboration with Health Services Australia began in 2000. This is a large multicentre study, in which all 1872 Australian Gulf War Veterans are being invited to participate, along with a similar size comparison group of defence force personnel who did not serve in the Gulf War. Data collection for this study will continue throughout 2001, with results available mid 2002. Another major new study last year was the occupational exposure part of the NHMRC funded study on the causes of COAD in older people. Collection of occupational data will continue through 2001.
Preventive Medicine Unit

Head of Unit - Prof John McNeil MBBS, MSc, PhD, FRACP, FAFPHM
Phone 03 9903 0585, email john.mcneil@med.monash.edu.au

John McNeil graduated in medicine from the University of Adelaide in 1971 and undertook his medical specialist training at the Royal Adelaide and Austin Hospitals. He subsequently completed his PhD in clinical pharmacology at the University of Melbourne and an MSc in Epidemiology at the University of London. After spending ten years in Clinical Pharmacology at the Austin Hospital, he was appointed to the Head of Epidemiology & Preventive Medicine in 1986. John McNeil's principal interests include cardiovascular epidemiology, drug safety and toxicology.

This Unit provides the Department with expertise in clinical aspects of preventive medicine and health promotion. The Unit manages an active program of clinical trials and works in close conjunction with the Epidemiological Modelling Unit. During 2000, the Department continued analysis of data from the MAVET study, finalised the VECAT trial and continued the ASFAST trial. A major report of epidemiological and prevention aspects of renal diseases was completed for the Australian Kidney Foundation and the Unit continues to undertake collaborative work on clinical decision support applied to cardiovascular prevention.
Index of research

NHMRC funded research

ASFAST - Randomised trial of high dose folic acid to slow the progression of atheroma in renal failure.
Prof J McNeil, Prof R Atkins (MMC), A/Prof B McGrath (MMC), Prof G Becker (MMC), Dr P Branley, Dr A Peeters, Dr P Kerr, Ms S Rivestevski. NHMRC Project Grant, 1998-2000.

Clinical trial of antioxidants to slow progression of osteoarthritis.
A/Prof F Cicuttini, NHMRC 1998-2000.

Investigation of the natural history of community acquired Hepatitis C.

Is diet responsible for the high asthma prevalence among young adults?
A/Prof M Abramson, Dr R Woods, Dr F Thien, Dr P Ireland, Prof H Walters. NHMRC 1998-2001.

Randomised trial of intensive screening programs to reduce prevalence of STD's in Aboriginal communities.
A/Prof C Fairley, Dr FJ Bowden, Dr SN Tabrizi, NHMRC 1999-2000.

Risk factors for asthma, chronic bronchitis and emphysema in older adults.
A/Prof M Abramson, A/Prof M Sim, Prof H Walters. NHMRC 2000-2002.

The relationship between micronutrients and prevalence of current asthma among young adults.
A/Prof M Abramson, Dr F Thien, Dr P Ireland, Prof H Walters NHMRC

VECAT - Prevention of cataract and age-related macular degeneration with vitamin E in the elderly.
Prof JJ McNeil, Prof HR Taylor, Prof CA Silagy NHMRC Project Grant (extension), 1999-2000.

Other competitive funding

A clinical trial of the Buteyko Technique for asthma.
A/Prof M Abramson, Dr M Cohen, Dr D Johns, Prof EH Walters. Funded by the Alfred Hospital, 2000

An estimation of the impact of trauma triage and transfer guidelines on resources of Ambulance Service Victoria. Dr A Peeters, A/Prof P Cameron, Prof J McNeil, Ms K Smith, Dr A Meyer.
Funded by Dept of Human Services 1999-2000

A system for the early detection of outbreaks of water-related gastroenteritis in Australia.
CRC for Water Quality and Treatment. Dept of Human Services 1998-2001

Carvedilol open label assessment.
A/Prof Henry Krum, Funded by Roche

Case-control study of risk factors for sporadic Cryptosporidiosis in the general population.
Dr Brent Robertson, Funded by CRC for Water Quality and Treatment. Water Services Association of Australia, Melbourne Water, South East Water, City West Water, Yarra Valley Water. 1997-2001

Case-control study of Cryptosporidiosis - Adelaide and Melbourne.

Causes of chronic lung disease in middle aged and older adults.
A/Prof Michael Abramson, A/Prof Malcolm Sim, Prof H Walters. Funded by Shepherd Foundation.
Cost effectiveness of MRI in the management of occult scaphoid fracture.
A/Prof F Cicutti, Dr S Stuckey, Dr D Taylor, Dr V Sundararajan. Funded by Commonwealth of Australia, Consultative Committee on Diagnostic Imaging Research Grant.

Costs and benefits of cardiovascular prevention within strata of age and risk.

Cost of myocardial infarction to the community (COSMIC).

Do dairy products contribute to the high asthma prevalence among young adult Australians?

Does oestrogen replacement therapy prevent knee cartilage loss in post-menopausal women?
A/Prof F Cicutti, Dr A Wluka, A/Prof S Davis, Dr S Stuckey. Funded by Shepherd Foundation, 2000-2001.

Disinfection by-products exposure assessment.
CRC for Water Quality and Treatment. Natural Sciences and Engineering Research Council of Canada.

Drinking water quality management system.

Drinking water quality risk guidance.

Economic evaluation of community gastroenteritis.

Effect of rapid lipid lowering with atorvastatin.
A/Prof Henry Krum, Dr Daniel Ninlo, Prof John McNeil. Funded by Parke Davis/Pfizer CVL Grant, 2000.

Elite II Study - multi-centre, double-blind, randomised, parallel, Captopril-controlled study to evaluate the effects of Losartan on mortality in patients with symptomatic heart failure.
A/Prof H Krum, Funded by Merck Sharp & Dohme (Aust) Pty Ltd.

Endothelin antagonist Bosentan for lowering cardiac events in heart failure (ENABLE-1).
A/Prof H Krum, funded by Actelion Ltd.

Epidemiology of hypertension in Australia.
Prof J McNeil, Dr D Liew, Dr A Haydon, Dr D Maglione. Funded by Bristol-Myers Squibb.

Evaluation of clinical risk management programs
Prof JJ McNeil, Dr K Ogden, Dr E Briganti, Dr J Ibrahim, Dr B Loff, Dr J Majoor. Funded by the Victorian Department of Human Services.

Evaluating EIO exposures under OSHAs 1984 EIO Standard
Dr T La Montagne. Funded by US Centre for Disease Control and the National Institute for Occupational Safety and Health. 2000-2002 (Administered through Harvard School of Public Health).

Evaluating OSH programs in manufacturing and small business

Health study of Australia’s Gulf War veterans
A/Prof M Sim, Prof J McNeil, Dr L Fritschi, Dr H Kelsall, A/Prof A Forbes. Funded by Commonwealth Dept of Veterans Affairs, 2000-2001.

Healthwise: A study of health and work in employees of Alcoa of Australia Limited
Health Watch case control study.
A/Prof M Sim, Dr L Frisch, Dr D Glass, A/Prof C Gray. Funded by Australian Institute of Petroleum Ltd, 1999-2000.

Norwalk-like viruses and drinking water.
CRC for Water Quality and Treatment.

Occupational causes of prostate cancer - development and pilot of a workplace exposure database.
Dr M Sim, Dr L Frisch. Shepherd Foundation

PEARL (PhytoEstrogen, Arterial Reactivity and Lipid) Study 2
Dr H Teede, Dr F Dalais, Ms D Kotsopoulos, Prof McGrath

PEPCA (PhytoEstrogen and Prostate Cancer Study)
Dr A Melalia, Dr F Dalais, A/Prof M Frydenberg, Mr R Snow, Dr J Pedersen, Prof M Wahlqvist

Performance indicators for effective discharge.

Public knowledge cross-sectional study.
Prof John McNeill, Ms Karen Smith. Funded by The Alfred Hospital, 2000-2001

Randomised trial of telephone support for chronic heart failure patients at high risk of rehospitalisation.
Prof A Tonkin, A/Prof H Krum, Prof L Piterman. National Heart Foundation, 2000-2001

Renal disease epidemiology and prevention project.
Prof J McNeil, Prof R Atkkins, Dr E Brignall.

Research into Etanercept: Cytokine antagonism in ventricular dysfunction trial.
A/Prof H Krum, Wyeth-Ayerst

SABRE (Surveillance of Australian workplace Based Respiratory Events).
A/Prof M Sim, Dr David Elder, A/Prof M Abramson. Australian Lung Foundation, 1998-2000

Stocktake of Australian data sources of occupational disease.
A/Prof M Sim, Ms A Shaw, Ms J O'Keefe, Funded by Commonwealth Department of Health

The pain free hospital
Dr J Ibrahim, Dr J Major, A/Prof F Cicuttti, Prof J McNeil, Dr PMyles.
Medical Benefits Fund of Australia Ltd, 1999-2000

Valsartan "Value".
A/Prof H Krum, Funded by Novartis Pharmaceuticals

Victorian State Trauma Registry.
A collaboration between Monash University, the University of Melbourne, the Royal Melbourne Hospital, the Alfred Hospital and the Victorian Department of Human Services. Funded by Department of Human Services.

Water Quality Study.
CRC for Water Quality and Treatment, Water Services Association of Australia, Melbourne Water Corporation, City West Water, South East Water, Yarra Valley Water, Dept of Human Services.

Major Collaborative Grant

Incidence, outcome and costs of stroke. A population based-study
Research

- A clinical trial of the Buteyko Technique for asthma.
  A/Prof M Abramson, Dr M Cohen, Dr D Johns, Prof EH Walters. Alfred Hospital, 2000.
  This trial will aid in the current level of understanding of the Buteyko Breathing Technique as an effective management tool for asthma. It will also extend work already completed by us that demonstrated an improvement in asthma-related quality of life and reliever medication use after teaching BBT with an instructional video.

- An estimation of the impact of trauma triage and transfer guidelines on the resources of Ambulance Service Victoria.
  Dr A Peeters, A/Prof P Cameron, Prof J McNeil, Ms K Smith, Dr A Meyer. Dept of Human Services, 1999-2000.
  Major trauma in Victoria is a leading cause of morbidity and mortality. A major cause of death is due to the leading cause of death in people between the ages of 1 and 44 years. It is estimated that there are between 1000 and 1200 major trauma cases annually within the Victorian definition of major trauma. In 1997, the Victorian Government initiated a review of trauma and emergency services in Victoria. Implementation of the proposed guidelines of the Major Trauma Review has a number of implications for the State's emergency service providers. One major change which is indicated is that of hospital by-pass. Currently major trauma cases are transported to the closest hospital. However, under the proposed guidelines, a hospital will be by-passed if a higher level trauma service exists within 30 minutes from the accident site. The major impact of these changes will be three-fold. Firstly, the distribution of major trauma cases amongst hospitals will alter, with a large increase in the number of trauma cases attending the Alfred Hospital, Royal Children's Hospital and Royal Melbourne Hospital. Secondly, the Victorian ambulance service will have to travel further in a proportion of major trauma cases to deliver them to a higher level of trauma care than the nearest hospital offers. Thirdly, the number of inter-hospital transports to the major trauma services will increase in order to ensure that all major trauma cases attend such a service. This study examined the impact of the Review's recommendations on the state's ambulance service and a report was submitted to the Department of Human Services, Victoria.

- ASFAST. A randomised controlled trial of high dose folic acid to slow the progression of atheroma in chronic renal failure.
  Prof J McNeil, Prof R Atkins (MMC), A/Prof B McGrath (MMC), Prof G Becker (MMC), Dr P Branley, Dr A Peeters, Dr P Kerr, Ms S Rivestevski. NH&MRC Project Grant, 1998-2000.
  ASFAST is a randomised double blind clinical trial designed to examine whether high dose folic acid supplementation reduces the rate of progression of atherosclerosis amongst patients with chronic renal failure (CRF). It is known that individuals with CRF experience an approximately 10 fold increase in the risk of stroke and coronary heart disease which is not substantially reversed by the control of conventional vascular risk factors. Additionally, recent evidence suggests that over 85% of patients with CRF have elevated homocysteine levels, which has been linked in other studies to an elevated risk of coronary and cardiovascular disease. However, there is no evidence yet that reducing these levels will benefit these patients. All recruitment for the ASFAST study ceased in December 2000. The total study number reached was 316. Progression of atheroma will be measured yearly for three years using carotid duplex ultrasound measurement of the intima-medial thickness of the carotid artery. This technology is well established within the Department in other collaborative studies with Monash Medical Centre.

- A system for the early detection of outbreaks of water-related gastroenteritis in Australia
  This project extends work carried out in an earlier feasibility study by developing a system using existing data sources and artificial neural networks to enhance the sensitivity and speed of surveillance for waterborne outbreaks of gastroenteritis.

- Carvedilol Open Label Assessment (COLA)
  A/Prof H Krum, D Ninio, P MacDonald, funded by Roche
  This study aims to determine baseline predictors of tolerance to carvedilol in every day clinical practice.
Research

- Case-control study of risk factors for sporadic Cryptosporidiosis in the general population.
  Dr Brent Robertson. CRC for Water Quality and Treatment. Water Services Association of Australia, Melbourne Water, South East Water, City West Water, Yarra Valley Water. 1997-2001. This study is assessing the importance of risk factors for cryptosporidiosis in the general community. The preliminary stage of the project involved the testing and validation of a water consumption questionnaire.

- Case-control study of Cryptosporidiosis - Adelaide and Melbourne.
  CRC for Water Quality and Treatment. Water Services Association of Australia, Melbourne Water, South East Water, City West Water, Yarra Valley Water. 1997-2001. Cryptosporidium parvum has been recognised as a significant cause of gastroenteritis. Some outbreaks of infection have been associated with contaminated water supplies, but little is known about risk factors for sporadic cases which probably number more in total than recognised outbreaks. These projects are assessing the importance of risk factors for cryptosporidiosis in Melbourne and Adelaide by comparing cases (people with laboratory diagnosed infection) and controls (healthy people selected at random from the general population). This project will indicate whether drinking water plays a significant role in Cryptosporidium gastroenteritis and will guide water authorities in water treatment decisions.

- Causes of chronic lung disease in middle aged and older adults
  A/Prof Michael Abramson, A/Prof Malcolm Sim, Prof H Walters. Shepherd Foundation. Chronic obstructive pulmonary disease is a major public health problem, particularly in adults over the age of 45. COPD arises from an interaction between genetic susceptibility and environmental agents. The best known environmental risk factor is cigarette smoking. Whilst dusty occupations have long been associated with COPD, the role of other occupational exposures to gases, vapours and fumes is not clear. Indoor exposures to products of combustion particularly from unvented gas appliances may also be important. Stage one of the study will involve a postal survey using a validated respiratory screening questionnaire to a random sample of adults aged between 45 and 70 years drawn from the electoral roll. A random sample of the respondents will then be invited to the laboratory to complete a detailed respiratory questionnaire, food frequency questionnaire, methacholine challenge test to measure bronchial hyperreactivity, transfer factor by the single breath carbon monoxide method, skin prick tests for atopy and have blood taken for measurement of plasma fatty acid levels.

- Clinical trial of antioxidants to slow the progression of osteoarthritis.
  A/Prof F Cicuttini, NHMRC, 1998-2000.
  A randomized placebo controlled trial to determine whether vitamin E slows the progression of osteoarthritis. Osteoarthritis is a common cause of disability in people aged over 65 in Australia and the prevalence of radiological OA of the knee in this group is approximately 30%, with one third to one half having symptoms. Vitamin E, a safe and well-tolerated naturally-occurring compound, may have a role in a number of diseases associated with aging, including cataract formation and cardiovascular disease. A body of data from in vitro, animal and clinical studies in humans suggests that vitamin E may also have a role in osteoarthritis.

- Cost effectiveness of MRI in the management of occult scaphoid fractures
  A/Prof F Cicuttini, Dr S Stuckey, Dr D Taylor, Dr V Sundararajan. Commonwealth of Australia, Consultative Committee on Diagnostic Imaging Research Grant.
  Fracture of the scaphoid bone is a common injury occurring predominantly in young people. In up to 25% of cases the fracture is not visible on the initial X-ray. Because failure to immobilize the injury in the early stages can result in complications, including avascular necrosis and arthritis in the longer term, if the injury is suspected a cast is applied. Recently MRI has been shown to be an accurate method of diagnosing scaphoid fractures in the early stages. In this randomised controlled trial we are looking at whether an MRI performed 2 to 5 days after injury is cost-effective and improves patient outcome.

- Cost of myocardial infarction to the community (COSMIC)
  Prof. John McNeil, Prof G Donnan. Bristol-Myers Squibb. 2000. This is a collaborative study between DEPM and the National Stroke Research Institute. The aim of this project is to determine the costs and quality of life associated with myocardial infarction (heart attack) and heart failure to the Australian community. This is a prospective multi-center cohort study recruiting 140 first-time in a lifetime myocardial infarction patients and 160 heart failure patients from 11 hospitals in metropolitan Melbourne. The study aims to collect not only direct costs associated with the treatment of the patient, but also indirect costs associated with their disease, eg loss of patient income. Furthermore, this project will assess not only costs associated with a patient's acute admission to hospital, but also the downstream (12 months) costs associated with their disease. Research from this project feeds into the CHD Prevention model by allowing the determination of the potential cost and quality of life savings from preventing myocardial infarction and heart failure.
Research

- **Costs and benefits of cardiovascular prevention within strata of age and risk.**
  
  Prof J McNeil, Dr A Peeters. VicHealth, 2000
  
  Although there are a number of highly effective therapies for cardiovascular disease (CVD) risk reduction, appropriate strategies for primary prevention therapy in the Australian population are unclear. Appropriateness of therapy is dependent on the absolute risk of a population, effectiveness of therapy, overall morbidity and mortality gains and total cost of therapy. It is necessary to target primary CVD prevention to those subgroups who are most at risk and in whom therapy is the most cost-effective. We propose a model to simulate the effects of lipid-lowering therapy and aspirin in the Australian population. This project will determine the cost-effectiveness of various primary prevention strategies in different population sub-groups. Focus will be on therapy within different age groups, particularly those aged between 75 and 85, and within groups with different CVD risk. The model calculates the changes in morbidity and mortality due to therapy based on the initial risk of the population sub-group and the expected effectiveness of therapy. Such analysis is an essential addition to the debate regarding use of lipid-lowering therapy in the Australian population.

- **Does oestrogen replacement therapy prevent knee cartilage loss in post-menopausal women?**
  
  A/Prof F Cicuttini, Dr A Wluka, A/Prof S Davis, Dr S Stuckey. Shepheard Foundation, 2000-2001. A cross-sectional study to determine whether oestrogen replacement therapy slows progression of osteoarthritis of the knee. There is no treatment available that effects progression of OA. Oestrogen replacement therapy has already been shown to be important in reducing the risk of cardiovascular disease and fracture rate in women. If hormone replacement therapy protects against loss of joint cartilage, this would be a potentially important preventive treatment for OA which is a very disabling condition that affects about 30% of women aged over 65 years. The aim of this study is to determine whether oestrogen replacement therapy protects against loss of knee joint cartilage in normal women using a novel, non-invasive method for measuring cartilage volume.

- **Disinfection by-product exposure assessment**
  
  CRC for Water Quality and Treatment. Natural Sciences and Engineering Research Council of Canada. 1999-2001 Chlorination and chloramination remain the most widely practised methods of drinking water disinfection because of their relatively low cost, simplicity and proven effectiveness against common microbial pathogens. However a number of concerns have been raised about the possible health effects of disinfection by-products which are formed from natural organic matter in the water. This project aims to develop more reliable and accurate methods to measure the exposure of individual people to disinfection by-products in drinking water, in order to facilitate improved epidemiological studies of health effects.

- **Drinking Water Quality Management System**
  
  CRC for Water Quality and Treatment. 1999-2001. This is being carried out under the auspices of the NHMRC/ARMCanz Australian Drinking Water Review Coordinating Committee. The aim is to restructure the Australian Drinking Water Guidelines to provide increased awareness and guidance on a comprehensive preventive strategy for drinking water quality management.

- **Drinking Water Quality Risk Guidance**
  
  CRC for Water Quality and Treatment. 2000-2001. Most of the elements of the system being developed in the above project are based on common risk management principles, however the areas of systematic risk assessment and review of management controls are complex and highly technical. The aim of this project is to provide a reference document to guide and assist water authorities with the practical implementation of the Drinking Water Quality Management System.
Research

- Economic evaluation of community gastroenteritis
  CRC for Water Quality and Treatment 2000-2001. This project will use information collected in The Water Quality Study to assess the economic impact of community gastroenteritis, the degree to which drinking water contributes to illness, and the possible costs and benefits of strategies to reduce the incidence of disease.

- Effect of rapid lipid lowering with atorvastatin on autonomic parameters in normal subjects and hyperlipidaemic patients with coronary artery disease.
  A/Prof Henry Krum, Dr Daniel Ninio, Prof John McNeill, Patke Davis/Pfizer CVL Grant, 2000. This project aims to assess the effect of cholesterol lowering on nerve function to the heart. Activity of these nerves is very important for the electrical activity of the heart. If cholesterol lowering can be shown to be associated with improvements in nerve function, this may explain the mechanism behind some of the benefits observed with these drugs. The aim of the present study is to examine the effects of rapid cholesterol lowering with atorvastatin on autonomic nerve function in normal subjects and in patients with coronary artery disease. The aim of the present study is to lower cholesterol levels in the short-term, without changing body weight, blood pressure and glucose tolerance. The hypothesis to be tested is that rapid cholesterol lowering can increase nerve function to the heart in these groups.

- Elite II Study.
  A/Prof Henry Krum, funded by Merck Sharp & Dohme (Aust) Pty Ltd. The aim of this study is to evaluate losartan compared to Captopril in the reduction of all-cause mortality in patients with symptomatic heart failure.

- Endothelin Antagonist Bosentan for Lowering Cardiac Events in heart failure (ENABLE-1)
  A/Prof Henry Krum, Actelion Ltd. This is a multicentre, double blind, randomised placebo controlled study to assess the effects of Bosentan on the morbidity and mortality of patients with chronic heart failure.

- Epidemiology of hypertension in Australia
  Prof J McNeil, Dr D Liew, Dr A Haydon, Dr D Maglino. Bristol-Myers Squibb. This study is currently underway into the epidemiology of hypertension in Australia. Using cross-sectional data, the distribution and types of hypertension and associated treatment will be examined. Associations between treatment coverage and other variables may elucidate risk factors for inadequate management of hypertension. Lifestyle and dietary factors and their associations with blood pressure will also be explored. These data will subsequently be used to model the long term effects of hypertension in Australia, such as stroke, cardiac and renal disease, and how these may be minimised via appropriate interventional strategies.

- Evaluation of Clinical Risk Management Programs
  Prof JJ McNeil, Dr K Ogden, Dr E Briganti, Dr J Ibrahim, Dr B Loff, Dr J Major, Victorian Department of Human Services. This project evaluated current clinical risk management programs in Victorian public hospitals. Recommendations from the project are currently undergoing review by the Victorian Department of Human Services and the first two recommendations are being implemented as of 2001. The final report is available on the Department of Human Services (Victoria) web site at www.dhs.vic.gov.au/ahs qualidade/clinrisk.htm

- Evaluating EIO exposures under OSHAs 1984 EIO Standard.
  Dr T La Montagne. US Centre for Disease Control and the National Institute for Occupational Safety and Health. 2000-2002 (Administrated through Harvard School of Public Health). This project is a historical evaluation of worker exposures under OSHA’s 1984 ethylene oxide (EIO) standard. The specific aims are to (1) characterize EIO exposures, (2) identify potential determinants of EIO overexposure, and (3) assess compliance with the EIO standard.

- Evaluating OSH Programs in manufacturing and small business.
  Dr T La Montagne. US National Institute for Occupational Safety and Health, 2000-2002. (Administrated through Dana-Farber Cancer Institute). This US-based project investigates occupational safety and health programs or management systems in manufacturing worksites. OSH programs are characterized at the organizational level using quantitative and qualitative assessment methods. Cross-sectionally, OSH program measures will be compared to individual employee reports of OSH conditions as well as to environmental level assessments of hazardous substance exposures. These analyses will contribute needed insights into the relevance of OSH program measures for occupational health and disease outcomes (versus occupational safety and injury, for which there is considerably more knowledge). Finally, this study complements two randomized, controlled intervention trials. Accordingly, the impacts of multi-level (individual, organizational, and physical environmental) interventions on OSH program measures will be assessed. This project promises to contribute significantly to the evidence basis of an emerging international emphasis on OSH programs or management systems for addressing hazardous working conditions.
Research

■ Health study of Australia’s Gulf War veterans.
A/Prof M Sim, Prof J McNeil, Dr L Fritschi, Dr H Kelsall, A/Prof A Forbes. Commonwealth Dept of Veterans Affairs, 2000-2001
This study is being conducted in collaboration with Health Services Australia and the Commonwealth Departments of Veterans Affairs and Defence. The study is designed to investigate whether Australian service personnel who served in the Gulf War, have a higher than expected prevalence of medical conditions, psychological problems, respiratory conditions, immunological abnormalities or symptom clusters, and, if so, whether these adverse health outcomes are associated with exposures and/or stressors experienced in the Gulf War. All 1872 Australian Gulf War Veterans are being invited to participate, along with a similar size comparison group of defence force personnel who did not serve in the Gulf War. Data collection for this study will continue throughout 2001, with results available mid 2002.

Dr M Sim, Dr L Fritschi, Prof AW Musk, Prof JJ McNeil. Alcoa of Australia Ltd, 1994-2001. Healthwise is one of the largest and most comprehensive occupational epidemiological studies ever carried out in Australia. Locations taking part in the study are smelters at Portland and Point Henry, the KAAL Rolling Mill at Point Henry, the Anglesea power station, refineries at Kwinana, Pinjarra and Wagerup, the Bunbury shipping terminal and bauxite mines at Jarrahdale, Henty and Willowdale. Healthwise consists of three major studies, a cross-sectional study of respiratory health, a new starters study and a cancer incidence and mortality study.

■ Health Watch case control study (in collaboration with Deakin University).
A/Prof M Sim, Dr L Fritschi, Dr D Glass, A/Prof C Gray. Australian Institute of Petroleum Ltd, 1989-2000. This case-control study aims to establish whether there is an association between exposure to benzene and lympho-haematopoetic (LH) cancers among workers in the Australian petroleum industry. The study, which was established due to the finding of an excess of LH cancer in the main cohort study, is potentially of great importance to the epidemiology and risk assessment of LH cancer and benzene as it may provide a better understanding of the low-dose risk than is currently available from any previous studies.

■ Investigation of the natural history of community acquired Hepatitis C in a cohort of participants with an average of 25 years of being infected with Hepatitis C.
Dr M Hellard. NHMRC Australian Clinical Research Fellowship 2000-2004. This study will look at the morbidity and mortality of individuals with chronic Hepatitis C using biochemical markers, liver biopsies and clinical data of study participants. We will seek to confirm the reduced prevalence of cirrhotic liver in individuals with community acquired HCV compared to those who acquire infection through transfusion of contaminated blood products. The study will examine the impact of Hepatitis C on the individual and their family, in particular examining the extent to which perceptions of health and well being change as a function of diagnosis and how HCV is experienced. The results of this study will answer a number of important questions for people with Hepatitis C, for clinicians and others counselling those with HCV and also for health service planners in their attempt to plan for the sequelae of HCV. It will provide insight into appropriate management strategies to assist the process of diagnosis in a way that improves rather than reduces quality of life.

■ Is diet responsible for the high asthma prevalence amongst adult Australians?
A/Prof M Abramson, Dr R Woods, Dr F Thien, Dr P Ireland, Prof H Waiters. NHMRC, 1998-2001. This study commenced in 1998 and was designed to look at the prevalence and risk factors, particularly dietary factors, associated with respiratory health in young adults. A total of 3194 brief respiratory questionnaires were returned by 4456 adults aged between 20 and 44 years who were randomly selected from the electoral roles. Thus a response rate of 72% was achieved. The results have shown that the prevalence of having asthma ever, doctor-diagnosed asthma and currently using asthma medications has increased significantly since 1990. The second phase of the study, which involved participants coming to our laboratory for some simple breathing and allergy tests and giving information on their usual diet has now been completed. A total of 1601 completed the respiratory questionnaire, 1469 completed the food frequency questionnaire, 1141 completed skin prick and lung function testing and 1075 completed the methacholine challenge for non-specific bronchial hyperventilatory response. We are now in the process of analyzing these results which will become available over the next 12 months.
Research

■ Norwalk-like viruses and drinking water.
CRC for Water Quality and Treatment.
Norwalk-like viruses are a common cause of gastroenteritis in the community. This project involves additional laboratory analysis of faecal specimens collected from people with gastroenteritis in The Water Quality Study to detect and characterise Norwalk-like viruses. The importance of drinking water as a possible source of infection will be assessed in relation to other risk factors.

■ Occupational causes of prostate cancer — development and pilot of a workplace exposure database
Dr M Slim, Dr L Fritschi. Funded by Shepherd Foundation, 1998-2000. Workplace hazard exposures and their effects on health are commonly investigated in epidemiological studies. In these studies it is important to collect job history and workplace exposure information, which is difficult to do using paper-based questionnaires because of the hierarchical and branching nature of these data. Computer-based questionnaires have been developed for use in many overseas countries. In this methodological study, we are liaising with the National Cancer Institute in the USA to use their job specific computer modules to develop computer-based work histories for use in epidemiological studies in Australia. This study is also aiming to collate available workplace exposure information from Victorian workplaces to assist expert occupational hygiene panels to better assess work history data when deciding on workplace exposures in community-based case-control studies.

■ Performance Indicators for effective discharge
This project developed a set of effective discharge performance indicators for public hospitals. These indicators are currently in an implementation phase. The results of this project have been presented and cited as follows:
The discussion document and final report were delivered to every public health care organisation in Victoria, Australia and made available on the Department of Human Services (Victoria) web site. The final report was the centre piece of the conference, ‘Hospital to Home: Achieving Effective Discharge’ Australian Resource Centre for Hospital Innovations Seminar, 8th December 2000 Melbourne, Australia. Invited sponsored oral presentation and launched by the Hon John Thwaites MP, Deputy Premier, Minister for Health and Minister for Planning Victoria, 8th December 2000 Melbourne.

■ Prevention of cataract and age-related macular degeneration with vitamin E in the elderly (VECAT)
Prof JJ McNeil, Prof HR Taylor, Prof CA Silagyi. NH&MRC Project Grant (extension), 1999-2000.
The VECAT Study is a community based clinical trial investigating the role of Vitamin E in the prevention of cataract and age-related macular degeneration. Cataract occurs when the lens inside the eye becomes opaque leading to an interference with normal vision. Although cataract surgery has a high success rate, an intervention which delayed or prevented the development of lens opacities would greatly reduce the social and economic burden of cataract in our society. Age-related macular degeneration results from damage to cells at the back of the eye and is another common cause of visual impairment in the community. Unlike cataract, there is no effective treatment for this disease. A variety of evidence now suggests that both of these conditions may result from abnormal oxidation taking place within the lens or macula of the eye. The VECAT study was established to determine whether Vitamin E (which is known to be capable of inhibiting oxidation) exerts a useful role in delaying the onset and/or progress of these conditions. 1204 volunteers were recruited and each participant attended the Study Centre once a year for an examination that included photography of the lens inside the eye. Results from the VECAT study have been presented at several national and international forums to wide acclaim.

■ PEARL (PhytoEstrogen, Arterial Reactivity and Lipid) Study 2
Dr H Teede, Dr F Dalais, Ms D Koisopoulos, Prof B McGrath
As a follow-up to the PEARL study which demonstrated that a diet high in soy protein containing phytoestrogens favourably altered lipids and blood pressure in healthy individuals, the PEARL 2 study is assessing the same end points in hypertensive individuals. This study is being carried out by Prof Barry McGrath and Dr Helena Teede at the Vascular Medicine Unit at Dandenong Hospital.

■ The PEPCA (PhytoEstrogen and Prostate CANcer Study)
Dr A Meilala, Dr F Dalais, A/Prof M Frydenberg, Mr R Snow, Dr J Pedersen, Prof M Wahlgqvist
The aim of this commercially funded trial is to examine the effects of a diet high in phytoestrogens in men with diagnosed prostate cancer. Men diagnosed with prostate cancer and scheduled to undergo surgery will be randomised to a control diet, and two different high phytoestrogen diets. The end points include various hormone levels as well as cancer cell proliferation markers.
Research

**Performance indicators for effective discharge**
Dr J Ibrahim, Dr J Major, Prof John McNeill. Funded by The Department of Human Services. This project developed a set of effective discharge performance indicators for public hospitals. These indicators are currently in an implementation phase. The results of this project have been presented and cited as follows:

The discussion document and final report were delivered to every public health care organisation in Victoria, Australia and made available on the Department of Human Services (Vic) website at www.dhs.vic.gov.au/ahs/quality/contin.htm. The final report was the centre piece of the conference "Hospital to Home: Achieving effective discharge", Australian Resource Centre for Hospital Innovations Seminar, 8th December 2000, Melbourne, Australia, launched by the Hon John Thwaites MP, Deputy Premier, Minister for Health and Minister for Planning, Victoria.

**Public knowledge cross-sectional study**
Prof John McNeill, Ms Karen Smith. Funded by The Alfred Hospital, 2000-2001. This study is a cross-sectional phone survey which involves a random sample of rural and urban Victorians. Participants are administered a questionnaire over the phone by a researcher. Survival from out-of-hospital cardiac arrest in Melbourne is as low as 4%. One explanation for this is the lack of appropriate action by bystanders at the scene of an arrest. This study will determine how people in metropolitan Melbourne and rural Victoria believe they would act when faced with a cardiac emergency. We wish to determine the level of knowledge of cardiopulmonary resuscitation (CPR) within the community, the level of knowledge of heart attack symptoms and potential inhibitions to performing CPR. Evaluation of base-line knowledge within the community is essential if interventions are to be designed and specific groups are to be targeted.

**Randomised trial of telephone support for chronic heart failure patients at high risk of rehospitalisation.**
Prof A Tonkin, A/Prof H Krum, Prof L Piferman. Funded by National Heart Foundation, 2000-2001. Patients with heart failure have poor quality of life and are frequently hospitalised and rehospitalised because of their chronic heart failure. This project seeks to implement a national trial of telephone support by trained nurses to enable patients and their families to maintain their health in a stable manner as possible in their homes. It is particularly important to develop support for people who live in rural and remote areas and for patients who speak a language other than English and this will be accomplished in this project for the trial population. Positive outcomes from the project in terms of reduced rehospitalisation, and improved quality of life for participants will enable the telephone support program to be implemented on a national basis for people with severe heart failure.

**Randomised trial of intensive screening program to reduce prevalence of STD’s in Aboriginal communities.**
A/Prof CK Fairley, Dr FJ Bowden, Dr SN Tabrizi, Dr SM Garland. NHMRC HIV/AIDS Grant, 1998-2000. The aim of this study is to assess the effectiveness of an intensive screening and treatment program for the reduction of sexually transmitted diseases.

**Renal Disease Epidemiology and Prevention Project.**
Prof. J.J. McNeil, Prof. R. Atkins (Monash Medical Centre), Dr E Briganti (Monash University). This Survey of Diseases of the Kidney and Urinary Tract in Australia was undertaken in collaboration with the Department of Nephrology, Monash Medical Centre and the Australian Kidney Foundation. The purpose of the study was to compile all available data regarding the frequency and distribution of renal and urinary tract disease in Australia. The outcome is a comprehensive report on the trends in incidence and prevalence, likely economic impact and prevention opportunities related to renal and urinary tract disease in Australia. The report is available at www.kidney.org.au/survey/frames.htm

**Research into Elkanecept: Cytokine antagonism in Ventricular dysfunction trial (RECOVER)**
A/Prof H Krum. Funded by Wyeth-Ayerst. The purpose of this study is to evaluate the effectiveness and safety of a new medication in heart failure patients.

**Risk factors for asthma, chronic bronchitis and emphysema in older adults.**
A/Prof M Abramson, A/Prof M Sim, Prof H Walters. NHMRC, 2000-2002. Chronic obstructive pulmonary disease is a major public health problem in Australia. The main known cause is cigarette smoking which peaked among Australian men shortly after the second world war. Now that the consequences of the epidemic of smoking are passing, more attention needs to be paid to other causes of the condition. The study will focus on occupational and domestic exposures and dietary factors in older people. Dusty jobs have long been associated with COPD. However it is not known to what extent other occupational exposures to fumes and vapours are also responsible. Identifying such jobs would lead to better workplace conditions and prevention of further cases. Workers who have already developed COPD could be more fairly compensated. Similarly if indoor exposures to tobacco smoke and unvented gas appliances were found to play a role, further controls on smoking, flues and improved ventilation could also prevent cases of COPD. It is generally thought that emphysema develops from an imbalance between the oxidative stress on the lungs and protective enzymes. A diet high in antioxidant vitamins and fish may
Research

protect against the development of COPD. If confirmed by this study, it would then be possible to conduct clinical trials of supplementation in smokers at risk of developing COPD. Public nutritional education could reduce the incidence of the condition in the future. A postal survey of 5000 adults aged between 45 and 70 years has now been completed. We are currently inviting a sample of participants to the laboratory for detailed lung function testing. Telephone interviews will be conducted to assess occupational exposures.

§SABRE (Surveillance of Australian workplace Based Respiratory Events) - a pilot study.
A/Prof M Sim, Dr David Elder, A/Prof M Abramson. Funded by the Australian Lung Foundation, 1998-2000. SABRE is a surveillance scheme providing the first comprehensive data on occupational respiratory disease in Victoria and Tasmania and has links to a similar scheme in New Zealand. We have also been involved in assisting a similar scheme to be set up in NSW. Registers exist in several overseas countries, for example, the Surveillance of Work-related Occupational Respiratory Disease program (SWORD) in the UK which has been reporting data since 1989. Occupational lung disease due to respiratory toxins and inhalational injury can cause morbidity, disability and death. There are many known respiratory toxins to which the Australian workforce is exposed. This list is likely to increase with the introduction of new processes and agents. We have identified one agent not previously reported in the literature. At present the incidence of such diseases is unknown in Australia. The data sources which do exist, eg worker's compensation records, disease registers, hospital discharge data and workplace records, all have serious deficiencies. Respiratory and occupational physicians regularly report to SABRE whether or not they have seen cases of occupational respiratory disease and almost 550 cases of occupational respiratory disease have been reported.

§Stocktake of Australian Data sources of Occupational Disease.
A/Prof M Sim, Ms A Shaw, Ms J O'Keefe, Funded by the Commonwealth Department of Health. This stocktake of occupational disease data sources in Australia identified and reviewed the current occupational disease data sources in Australia and assessed their coverage, quality and availability for supporting research into the impact of work factors on such diseases. We have made recommendations to the Commonwealth Department of Health and Aged Care on ways to improve these data sources and therefore develop a more comprehensive and effective national occupational disease information infrastructure.

§The relationship between micronutrients and the prevalence of current asthma among young adults
A/Prof M Abramson, Dr F Thien, Dr P Ireland, Prof H Walters. NH&MRC. Asthma is a major public health problem in Australia. It has been suggested that eating fresh oily fish and foods rich in Vitamin E can reduce the risk of asthma. On the other hand, some previous studies have found that eating a lot of salt makes the lungs more irritable. This research project involves a survey of 3000 young adults who live in the South East of Melbourne. We will invite 750 of them to our laboratory to fill in a detailed questionnaire, to have breathing tests and allergy tests. By comparing our results with other centres in Europe, it will be possible to work out whether differences in diet explain the differences in asthma.

§The pain free hospital
Dr J Ibrahim, Dr J Majoor, A/Prof F Cicutinni, Prof J McNeil, Dr P Myles. Medical Benefits Fund of Australia Ltd, 1999-2000
Through a randomised control trial, this project is examining the effectiveness of a simple change procedure on the pain levels of post-operative surgical patients in a public hospital setting. The project is being performed in collaboration with Associate Professor Mari Botti of the Alfred Hospital and has been funded by the Medical Benefits Fund.

§Valsartan
A/Prof Henry Krum, funded by Novartis Pharmaceuticals
This study is to determine whether a new angiotensin II receptor antagonist is effective in long-term treatment of patients with high blood pressure, compared to standard treatment.

§VECAT: Prevention of cataract in the elderly with low dose aspirin and Vitamin E
Prof J McNeil, Prof H Taylor, Prof C Silagy, NHMRC Project Grant, 1994-2000. The VECAT Study is a community based clinical trial investigating the role of Vitamin E in the prevention of cataract and age-related macular degeneration. Cataract occurs when the lens inside the eye becomes opaque leading to an interference with normal vision. Although cataract surgery has a high success rate, an intervention which delayed or prevented the development of lens opacities would greatly reduce the social and economic burden of cataract in our society. Age-related macular degeneration results from damage to cells at the back of the eye and is another common cause of visual impairment in the community. Unlike cataract, there is no effective treatment for this disease. A variety of evidence now suggests that both of these conditions may result from abnormal oxidation taking place within the lens or macula of the eye. The VECAT study was established to determine
whether Vitamin E (which is known to be capable of inhibiting oxidation) exerts a useful role in delaying the onset and/or progress of, these conditions.

**Victorian State Trauma Registry**

A collaboration between Monash University, the University of Melbourne, the Royal Melbourne Hospital, the Alfred Hospital and the Victorian Department of Human Services. Funded by Department of Human Services. Steering Committee: Prof John McNeill (Monash University), Prof Peter Cameron (Royal Melbourne Hospital), Prof Joan O'zanne-Smith (Monash University Accident Research Centre), A/Prof Don Campbell (Royal Melbourne Hospital), A/Prof Peter Danne (Royal Melbourne Hospital), Mr Chris Atkin (Alfred Hospital), Dr David Taylor (Royal Melbourne Hospital), Ms Karen Smith (Monash University). Based on recommendations from the Ministerial Taskforce on Trauma and Emergency Services, a new system of trauma care is currently being implemented in Victoria. In order to ascertain the effectiveness of this system and to provide ongoing monitoring of major trauma patients, a Statewide Trauma Registry is currently being established. This registry, the Victorian State Trauma Registry (VSTR), is coordinated by the Victorian State Trauma Outcome Registry and Monitoring group (VSTORM) which is comprised of experts in trauma care and trauma epidemiology. The registry is chaired by Professor John McNeil and is based in this Department. The Victorian State Registry was established to collect standard trauma data from each hospital in Victoria to develop and maintain a trauma reporting and analysis system. This will enable identification of major trauma patients within each health care entity and to monitor trauma patient care within the state.

The Victorian State Trauma Registry and Monitoring Group will:

- Use the Victorian Major Trauma Registry and International experience to develop new models for evaluating the Victorian State Trauma System.
- Undertake regular monitoring of the Victorian State Trauma System through the analysis of data in the Victorian Major Trauma Registry.
- Undertake statistical analyses of the effectiveness of the Victorian State Trauma System in reducing preventable death and permanent disability.
- Evaluate and advise upon the processes for the identification of current deficiencies and opportunities for improvement in trauma care so as to improve treatment outcomes for severely injured patients.
- Assist the Major Trauma Services and Regional Trauma Services to undertake continuous improvement through the provision of hospital specific quality assurance data

... and hospital/system performance reports, and
- Integrate available electronic databases to provide maximum benefit in evaluating the Victorian State Trauma System.
- Review of Trauma and Emergency Services - Victoria, Final report of the Ministerial Taskforce on Trauma and Emergency Services and the Department Working Party on Emergency and Trauma Services, 1999.

**Water Quality Study**

CRC for Water Quality and Treatment, Water Services Association of Australia, Melbourne Water Corporation, City West Water, South East Water, Yarra Valley Water, Dept of Human Services.

There is an international trend towards increasingly stringent guidelines and standards for drinking water quality, but little evidence that these changes result in improved public health. This study is seeking to measure whether microorganisms in drinking water are contributing to gastrointestinal illness in the community. Rates of gastrointestinal illness are being compared in two groups of 300 families randomly assigned to receive either a functional water treatment unit or a sham unit. The study is being carried out in Melbourne.
New research beginning in 2001

Factors influence knee cartilage volume in healthy males.
A/Prof F Cicuttini. Funded by the Arthritis Foundation of Australia.

Improving the cost effectiveness of health services for the prevention and treatment of coronary heart disease.
Dr Theo Vos, Prof J McNeil, A/Prof R Carter, A/Prof J Anderson, Prof J Richardson, Prof C Silagy. NHMRC Strategic Research and Development Committee Grant.

Role of Urotensin II, a novel vasoconstrictor factor in cardiovascular disease.
A/Prof H Krum, Dr R Hannan. Funded by NHMRC 2001-2003.

Risk factors for asthma, chronic bronchitis and emphysema in middle aged and older adults.
A/Prof M Abramson, A/Prof M Sim.
Funded by the Victorian Tuberculosis & Lung Association and the Windermere Foundation.

The incidence and aetiology of diseases and disability in post-retirement Australians.
Prof J McNeil, Dr V Sundararajan, Dr D Maglianno, Dr D Liew, Funded by a Strategic Monash University Research Fund II grant.
Professor & Head of Department
Head of Unit, Preventive Medicine
John McNeill, Professor MBBS, MSc, PhD, FRACP, FAFPHM

Academic Staff
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Killalea, Sheila, MB ChB, BAO, MD, MRCPI
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Rizak, Samantha, BA, BSc, MSc

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Fee, Colin

Software Resources Officer
Doherty, Nicole, BComputing (InfoSyst)

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Alex Van Marle
Hugo Sondermeijer, Leiden University in The Netherlands

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Barrie, Carolyn, Administrator, Vic Consortium of Public Health
Blach, Rhonda, BEd, Postgraduate Courses Administrator
Cherry, Sandra, Personal Assistant to HOD
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McKeown, Sonya, BA(Hons) Resources Manager
O'Keefe, Maida, Postgraduate Courses
Patchett, Annette, Office Assistant
Topranlasis, Phyllis, Admin Secretary

Postgraduate scholars
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Prentice, Louise MBBS, FRACP
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Stephenson, Hugo, BSc, MBBS
Stuart, Rhonda, MBBS FRACP
Wluka, Anita, MBBS, Dip Int Med, FRACP

BMedSc and Honours students
Chow, Yvonne (BMedSc)
Fineberg, Daniel (BMedSc)
Giorlando, Frank (BMedSc)
Iacono, George (BMedSc)
See, Fiona (BSc Hons)
Ting, Jason (BMedSc)
Urban, Damien (BMedSc)
DEPM has a strong record of achievement in PhD training with many graduates obtaining prestigious post-doctoral awards and securing senior positions in Australia and overseas. The Department provides high quality research training for graduates from a wide range of medical and non-medical backgrounds.

The progress of PhD students within the department is facilitated by a strong research environment with an extensive program of NHMRC funded research; access to extensive infrastructure support including assistance in biostatistics, data management, computing and support from experienced staff and a large student body.

Why study epidemiology?

A PhD in epidemiology provides a unique way to value add to clinical knowledge and skills. It provides advanced skills in clinical and/or public health research.

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- Public health
- Applied clinical research and clinical trials
- Preventive medicine and health promotion
- Health services research
- Quality assurance and outcome measurement in healthcare
- Health economics
- Health policy development
- Occupational and environmental health
- Health risk assessment

We welcome enquiries from anyone considering undertaking a PhD. Graduates considering enrolling for a PhD in the department should contact the PhD Coordinator, A/Prof Michael Abramson, michael.abramson@med.monash.edu.au.

Candidature for suitable applicants can commence at any time of the year, however the closing date for the main scholarships is in October each year. Further information about scholarships and candidature can be obtained by contacting Sandra Cherry at sandra.cherry@med.monash.edu.au.

More information is available on our Department web page at http://www.med.monash.edu.au/epidemiology/teaching/phdprog.htm
PhD students

Congratulations to Margaret Hellard, Sally Green and Geza Benke who were awarded PhD’s in 2000.

Our current PhD students come from a wide range of backgrounds, including clinical medicine, medical administration, biological sciences, environmental health, occupational health, physiotherapy and law. They are researching an equally wide range of topics and enjoy taking an active role in the academic life of the Department.

Zahid Ansari
Proposal to develop a system to monitor aspects of the quality and performance of the Victorian healthcare system using routine data sources. Supervisors - A/Prof Flavia Cicuttini, Dr M Ackland

Geza Benke
Retrospective assessment of occupational exposures by job exposure matrices and expert evaluation. Supervisors - A/Prof Malcolm Sim, A/Prof Michael Abramson

James Black
The early detection of outbreaks of waterborne gastroenteritis in Melbourne: the use of artificial neural networks to identify outbreaks in proxy data representing day-to-day variation in diarrhoea incidence. Supervisors - A/Prof Christopher Fairley

Pauline Branley
A model of future needs and associated costs for renal replacement services in Australia to predict the impact of altering the organ donation rate. Supervisors - Prof John McNeil, A/ Prof Henry Krum

Michael Glisson
Quantifying the influence of osteo-arthritis by measuring changes in cartilage in the hip and knee. Supervisors - A/Prof Flavia Cicuttini, Dr CF Osborn

Anthony Kwok
Systematic review of the physiotherapy management of lower back pain.
Supervisors - Flavia Cicuttini, Michael Abramson

Danny Liew
Epidemiological modelling of ischaemic heart disease in Australia.
Supervisor - Prof John McNeil

Stephen Lim
Cost effectiveness of interventions for cardiovascular disease in Australia. Supervisor - A/ Prof Henry Krum, Dr Theo Vos

Bebe Loff
Health and human rights.
Supervisors - A/Prof Flavia Cicuttini, Dr R Short
Caroline Marshall
Development of a method for subtyping methicillin-resistant Staphylococcus aureus (MRSA) and its use in the understanding of the epidemiology and transmission dynamics of MRSA and their implications for hospital infection. Supervisors: A/Prof Christopher Fairley, Dr D Spelman.

Paul Martin
Effect of endothelin converting enzyme inhibition on ventricular remodelling assessed by echocardiography, hemodynamics, cardiac gene expression, myocyte cell death and cardiac fibrosis. Supervisors - A/Prof Henry Krum, Dr A Stein-Oakley

Alexander Padiglione
Epidemiology of Vancomycin resistant bacteria in Melbourne. Supervisors - Prof John McNeil, Prof L Grayson

Alastair Meye
Pre-hospital emergency care. Supervisor - Prof John McNeil

Mark Nelson
Predictors of success of the maintenance of normotension after withdrawal of antihypertensive drugs in the Second Australian National Blood Pressure Study. Supervisors - Dr Chris Reid, Prof John McNeil.

Anne-Marie Pellizzer
The effect of pharmacological and non-pharmacological therapy on autonomic function in cardiovascular disease. Supervisors - A/Prof Henry Krum, Prof John McNeil

Brent Robertson
Case-control study of sporadic cryptosporidiosis. Supervisors - Prof John McNeil, A/Prof C Fairley

Karen Smith
Out of hospital cardiac arrest - investigating Melbourne's "Chain of survival". Supervisors - Prof John McNeil, Prof Peter Cameron
NHMRC Public Health Scholarship

Hugo Stephenson
Development of a reusable computerised decision support tool. Supervisor - Prof John McNeil

Rhonda Stuart
Nosocomial tuberculosis infection: Assessing the risk amongst health care workers. Supervisors Prof L Grayson, Prof John McNeil

Anita Wluka
The determinants of knee cartilage volume in health and disease. A/Prof Flavia Cicuttini, Prof Peter Ryan
Postgraduate teaching

Postgraduate education at DEPM in 2000 continued to expand. Our postgraduate program is headed by A/Prof Malcolm Sim who is also Associate Dean for postgraduate coursework degrees for the Faculty of Medicine.

Greater course selection and more flexible delivery contributed to an increase in postgraduate students to over 250 in 2000.

In February the Department welcomed thirty students from the Indonesian Ministry of Health who began a Master of Health Services Management. This program is funded by the Asian Development Bank and Dr Jenny Majoor is coordinator of the program. The Health Services Management courses are also popular with local students and DEPM now offer a Graduate Certificate, Graduate Diploma and Masters. This stream teaches the essentials of management theory and practice from a clinical perspective and focuses on the human resource, financial, medico-legal, political, cultural, economic, industrial, technological and psycho-social issues which impact on health care systems. It is targeted to meet the needs of health care personnel who are currently in, or seeking to be in, middle to senior health management positions.

DEPM continues to be a partner in the Victorian Consortium for Public Health along with Deakin University, La Trobe University and The University of Melbourne, and the Master of Public Health continues to be a very popular course. Part 1 of the MPH is taught by the four universities, each teaching two units from their own specialty areas. In Part 2, students study with the university of their enrolment in a specialist field. Changes are planned for 2001 to improve the flexibility of the MPH at Monash, including a 12 unit degree instead of 16, and new specialist areas of study.

The MPH degree Occupational & Environmental Health Stream meets the requirements of the Australasian Faculty of Occupational Medicine (AFOM) of the Royal Australasian College of Physicians as approved coursework for progression to the Fellowship examination. Several subjects are also accredited for CME points for Fellows of the Royal Australian 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.

Just over one hundred postgraduate students completed their courses with DEPM in 2000 and we congratulate them all (see list on page 44).

Plans for 2001 include a Doctor of Public Health and a Graduate Certificate in Clinical Research Methods.

More details on our postgraduate courses are over the page.
Postgraduate courses

Clinical Epidemiology

- Graduate Certificate in Clinical Trials
- Graduate Diploma in Clinical Epidemiology
- Master of Clinical Epidemiology

Coordinator - Associate Professor Michael Abramson

Student enrolments in the Graduate Diploma of Clinical Epidemiology (8 units) increased by 35% in 2000 with 26 new enrolments. Seven students enrolled in the new Graduate Certificate in Clinical Trials (4 units) and 2 enrolled in the new Master in Clinical Epidemiology (12 units). The Graduate Certificate aims to provide students with core competencies in epidemiology and biostatistics, and clinical trial design and evaluation. The Master degree expands the research emphasis from the Graduate Diploma program.

Health Services Management

- Graduate Certificate in Health Services Management
- Graduate Diploma in Health Services Management
- Master of Health Services Management

Co-ordinator: Dr Jenny Majoor

The Health Services Management Program commenced in 1999 and our first cohort of Masters students are in the process of completing their studies. In 2000, 14 students enrolled in the Graduate Diploma, a 40% increase from 1999. Twenty-eight students enrolled in the Masters degree in 2000, 24 of these international students, and these figures increased with a mid year intake of new international students. By the end of 2000, there were approximately 70 students enrolled in the Health Services Management courses. The course teaches the essentials of management theory and practice from a clinical health perspective and is designed to meet the needs of health care personnel currently in, or seeking to move into, middle to senior health services management positions. The program has been converted to distance education to allow greater timetable flexibility and program options.

Indonesian students studying Health Services Management with Prof John McNeil (at back)
International Health

- Graduate Diploma in International Health

Co-ordinator: A/Prof. Mike Toole (International Health Unit, Macfarlane Burnett Centre)

Enrolments continued to increase in 2000 with a number of international students participating in specific subjects. The introduction of the new subject Nutrition in Developing Countries proved to be very successful, attracting 15 students and receiving positive evaluation comments. The Aboriginal Health subject was again popular, with a full quota of students enrolled and a waiting list for 2001. A significant number of students who complete the Graduate Diploma are motivated to continue with their studies and stay on to complete the Master of Public Health. International health continues to be a very popular and important part of the MPH and as a Graduate Diploma program. The Graduate Diploma (8 units) aims to provide health and development professionals with the skills to design, implement and evaluate health projects in developing countries.

Occupational & Environmental Health

- Graduate Certificate in Occupational Health
- Graduate Diploma in Occupational and Environmental Health
- Master of Occupational and Environmental Health

Coordinator - Associate Professor Malcolm Sim

Course developments in 2000 allowed greater timetable flexibility and program options, including offering all subjects in a distance education format with reduced block attendance, a Graduate Certificate in Occupational Health (4 units) and a revised Master of Occupational and Environmental Health (12 units). The Graduate Certificate aims to provide students with basic knowledge in legal OH&S requirements and competencies in assessing and controlling workplace hazards.

Public Health

- Master of Public Health

Coordinator - Associate Professor Malcolm Sim

DEPM continues to be a partner in the Victorian Consortium for Public Health along with Deakin University, La Trobe University and The University of Melbourne, and the Master of Public Health continues to be a very popular course. Congratulations to the 51 students who completed the MPH through DEPM in 2000 (a list of these is on page 1). Part 1 of the MPH is taught by the four universities, each teaching two units from their own specialty areas. In 2000, 36 new students enrolled through Monash University, a 33% increase from 1999 enrolments. In Part 2, students study with the university of their enrolment in a specialist field. Changes are planned for 2001 to improve the flexibility of the MPH at Monash, including a 12 unit degree instead of 16, and new specialist areas of study. Part 2 streams at Monash include Clinical Epidemiology, Environmental Health, Health Economics, Health Services Management, International Health, Occupational Health, Preventive Medicine, and a General or Research stream. More information about the MPH is available at www.publichealth.vic.edu.au or email pgradenq@med.monash.edu.au.

- Doctor of Public Health

Coordinator - Associate Professor Michael Abramson

Students who have graduated with a Master of Public Health can enrol in this new doctorate program, designed to provide health professionals with balanced training in the theory and practice of public health, equipping them to enter a wide range of careers in epidemiology, public health practice and research.
Congratulations to these students who successfully completed a postgraduate course in DEPM during 2000.

MASTER OF PUBLIC HEALTH
Said Aden
Joanne Booth
Maria Cendana-Paiva
Heather Dawson
Priyanti Fernando
Effie Fotopoulos-Mandritis
Jane Fyfield
Jane Gerrard
Edelma Go
Jane Goller
Robyn Grant
Anjali Haikerwal
Derrick Harrison
Kerry Haynes
Julian Hodder
David Jacka
Khooi Khoo
Naomi Komadina
Choi Lau
Mikayla Law
Peter Linton
Simon Madin
Rhea Martin
Jane Martin
Elizabeth Moore
Beverley Munro
Catherine Nagle
Lisa Natoli
Kath Ogden
Nicolino Paolelli
Karen Peters
Heike Raunow
Lisa Rodgers
Virginia Routley
Maria Serner
Rodney Smyth
Margaret Stebbing
Roslyn Stewart
Lien Tam
Claudia Trasancos
Sophie Treleaven
Catherine Vaughan
Bernard Vicary
Rowland Watson
Melanie Wohlgenernnt
Mary Wyatt
Carolyn Youngman

MASTER OF HEALTH SERVICES MANAGEMENT
Asnawi Abdullah
Mimi Defrina
Hardaningsih
Haryani
Anggia Ismaini
Mardania
Dini Rahmadian Dewi Rahayu
Yasmin Rizal
Jaclyn Rouvray
Riskomara Supriyadi

GRAD DIP IN HEALTH SERVICES MANAGEMENT
Soelyanti Utarningsih
Christine Bessell
Maria Triantafillou
Jigi Lucas
Anna Paikina

GRAD CERT IN CLINICAL TRIALS
Janet Bray
Natalie Boquest
Jennifer Mitchell
Sharon Van Doornum
Meabhi Ni Bhuinneain

GRAD DIP IN INTERNATIONAL HEALTH
Clare Stansby
Lynette Lowndes
Carolyn Macleannan
Frances Hoy

GRAD DIP IN CLINICAL EPIDEMIOLOGY
Sandra Brown
Lara Kimmel
Kimberley Gibson
Melissa Knight
Marianna Silk
Allen Cheuk Seng Cheng
Maria Potiriadis
Robyn Craven

GRAD DIP IN OCCUPATIONAL & ENVIRONMENTAL HEALTH
Steven Overmeire
David Chan
Erika Coomber
Leanne Devries
Andelka Obradovic
Leslia Roche
Maryanne Dawson
Irvan Afriandi
Ian Cheng
Undergraduate teaching

In 2000, the Department continued its undergraduate teaching in all six years of the MBBS course, and the core subject in the new Bachelor of Biomedical Science degree.

First year
Health, Illness and Human Behaviour II (MED1042)
This second semester subject includes an introductory biostatistics component coordinated by Dr Andrew Forbes.

Second Year
Introduction to Statistics and Epidemiology (MED2021)
Coordinated by Karen Smith of DEPM.

Third Year
Health Promotion (MED 3072)
Anthony La Montagne is involved in project work and assessments.

Fourth Year
Clinical Pharmacology (MED4003)
Lectures in this second semester subject were given by Prof John McNeil and A/Prof Henry Krum.
Coordinated by DEPM.
Epidemiology and Preventive Medicine (MED4010)
This subject includes components on Critical Appraisal, and Medicine and Research coordinated by A/Prof Flavia Cicuttini, and Occupational Medicine coordinated by Dr David Elder.

Fifth Year
Medicine (MED 5001)
DEPM conducts tutorials in Clinical Pharmacology.

Sixth Year
Combined clinical and community health studies (MED6003)
Overall coordination of this composite subject is done by Dr David Goddard.
Public Health and Forensic Medicine (MED6005)
The Evidence-based Medicine component is coordinated by Dr Shyamali Dharmage, and the Public Health component by Dr David Goddard of DEPM.
Therapeutics (MED6006)
Coordinated by A/Prof Henry Krum of DEPM.

In the Occupational Medicine component of 4th Year Epidemiology and Preventive Medicine, students are eligible to apply for the Envirohealth prize, an annual gift of $1000 from Dr Kevin Macdonald, a Monash medical graduate who has for many years been a strong supporter of the teaching of occupational medicine in our course. From twenty-six candidates, the prize winners in 1999 were Tim Rutherford (first prize), Jill Spencer (second prize), and Lucy Hennington (third prize).
Short courses

DEPM continues to run very successful short courses each year, including the Australian Certificate of Civil Aviation Medicine, and Impairment Assessment Training. These two courses may be credited as a unit toward postgraduate courses if requirements are met. We also regularly run courses in Good Clinical Research Practice and several other topics. Many of our postgraduate subjects can also be done as stand alone single courses.

Impairment Assessment Training using the AMA Guides 4th Edition

This course was developed following legislative changes to Victorian Workcover Authority (VWA) and Transport Accident Commission (TAC) regarding the way impairment is assessed, particularly the use of AMA 4th edition in place of 2nd edition in relevant cases and the requirement that assessors have certified competence in the use of the 4th edition. The course is conducted by a Consortium comprising this Department and the Department of Rehabilitation Medicine at the University of Melbourne. The aims of this training are to introduce doctors to the skills necessary to apply those aspects of the 4th Edition of the Guides in their specialty area(s), and specified methods for psychiatry and hearing loss, ensure that doctors understand the requirements of VWA and TAC in these assessments, and reduce variability in medical reports.

Australian Certificate of Civil Aviation Medicine

DEPM has run this course for several years now, and it is a prerequisite for medical practitioners wishing to become Designated Aviation Medical Examiners. Medical practitioners who complete the course are qualified to perform medical examinations on pilot licence holders, give relevant advice to air crews and air traffic service officers, and make appropriate decisions on air crew medical fitness for flying status. The course runs for two weeks, usually twice per year.

In 2000, DEPM was gained the skills of Dr David Newman who is now coordinating and further develop the ACCAM Course. David has spent over 12 years in the RAAF as a medical officer and aviation medicine specialist and completed aviation medicine courses in the US and UK, including the Diploma of Aviation Medicine through the Royal College of Physicians of London. He has previously taught aviation medicine in the UK, and in Australia as Chief Instructor at the RAAF Institute of Aviation Medicine. David has a PhD in physiology and has published more than 30 papers on aviation medicine topics. He is a member of the Aerospace Medical Association and received the Arnold D Tuttle Award for the most significant contribution to aerospace medicine research. He was recently elected to be Chairman of the 2001 International Acceleration Research Workshop held in the US in May and is an active private pilot. During his military career he flew in a wide variety of aircraft, including some 150 hours in high performance fighter aircraft such as the F/A-18 and Harrier.

We welcome enquiries from prospective students, email - shortcrs@med.monash.edu.au or phone 9903 0588

Students at an Aviation Medicine course in the control tower at Tullamarine Airport (left) and about to enter the flight simulator (right).
Honorary staff

During 2000 we welcomed several new Honorary staff members to the Department including Dr Philip Stokoe, the Resident Advisor and Senior Policy Advisor to the Indonesian Ministry of Health; Professor Mark Elwood, Director of the National Cancer Control Initiative in Melbourne, Professor Andrew Tonkin, Director of Health, Medical and Scientific Affairs for the National Heart Foundation and A/Prof Paul Myles, Head of Research in the Department of Anaesthesia and Pain Management at The Alfred Hospital. We thank all our Honorary staff, who are listed below, for their valuable contributions to the Department.

Honorary Professors, A/Professors, Clinical A/Professors

Dr M Aockland  Dr TF Baumgartner  Prof M Elwood  Dr SM Garland
Dr GG Giles  A/Prof CN Gray  Prof ML Grayson  Mr GD Johnstone
Dr S Leggat  Dr PS Myles  Prof EJ Ozanne-Smith  Dr A Proudfoot
Dr GJ Rouch  Dr HJ Smith  Prof R Southby  A/Prof P Stokoe
Prof A Tonkin  A/Prof MJ Toole  Dr M Walsh

Honorary Senior Lecturers

Dr MZ Ansari  Ms K Antioch  Dr DG Barton  Dr RJ Bell
Dr RM Borland  Dr RJ Burns  Dr JN Crofts  Dr P Deutschmann
Dr S Devanesan  Dr W Holmes  Dr EW Knight  Dr VK Lin
Dr KJ MacDonald  Dr AM Pellizzer  Dr T Ruff  Dr SC Thompson
Dr MJ Toole  Ms H Wellington  Dr S Whorlow

Honorary Lecturers

Dr T Aboagye-Kwarteng  Mr S Begg  Mr S Choo  Dr N Cranswick
Dr M Curran  Dr FMPJ De Courten  Dr D Dunstan  Dr R Horsley
Dr MKainer  Dr PW Kamen  Dr S Killalea  Dr D Kong
Dr D Kotzman  Dr DJ McCarty  Dr DW Morgan  Dr CM Reid
Ms P Robinson  Dr H Sutcliffe  Ms L Vaughan  Dr S Whorlow
Dr J Williams
Income from external sources (grants and contracts) 2000

Year


$ Millions

0 0.5 1 1.5 2 2.5 3 3.5
Publications in 2000


Ibrahim, J. (2000). Translating quality into research: Do we need more research into quality or should quality activities be conducted using the principles and methodological rigour of scientific research? *Journal of Quality in Clinical Practice* 20(2/3): 63-64.


Publications in 2000


Publications in 2000


