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Activities of the department

Teaching

Staff of the department teach in all years of the undergraduate medical course.

The department also has an active post-graduate education programme which includes:

• Master of Public Health degree
• Graduate Diploma in Occupational & Environmental Health
• Graduate Diploma in Clinical Epidemiology
• Graduate Diploma in International Health

and a range of short courses including the Australian Certificate of Civil Aviation Medicine and contributions to the teaching programs of other Monash departments and institutions.

Research

Research covers a range of public health areas including:

• Clinical trials
• Clinical pharmacology
• Drinking water quality
• Environmental health
• Indigenous health
• Infectious disease epidemiology
• Cardiovascular disease prevention
• Occupational epidemiology
• Quality in health care
• Respiratory disease

Consulting

Staff of the department are also active in several professional areas:

• Hospital appointments
• Participation in committees and working parties of professional colleges and associations
• Consultancies for, and advice to, Federal and State Governments
• Grant application reviewing and refereeing of submitted articles to scientific journals, and participation on journal editorial boards
Epidemiology and Biostatistics underpin the department's activities, as demonstrated in the following diagram:

These activities are grouped into several units:

- Biostatistics Unit
- Clinical Epidemiology Unit
- Clinical Pharmacology Unit
- Chronic Diseases and Health Services Research Unit
- Infectious Disease Unit
- Unit of Occupational and Environmental Health
- Unit of Preventive Medicine
From the Head of Department

Professor John McNeil

1997 was an active year for the Department. Several research and teaching initiatives were commenced and major changes were made to our administrative structure. We also dealt with rapid changes occurring in our external environment as universities increasingly compete for resources.

The beginning of the year saw the commencement of a new postgraduate course, the Graduate Diploma in Clinical Epidemiology, and planning began for a Graduate Diploma in International Health to begin in 1998 (to be established jointly with the MacFarlane Burnet Centre). We also established a new "general public health" stream within the Master of Public Health. Enrolments across all of our postgraduate courses now exceed 200 students making us a major provider of continuing education.

Our involvement in postgraduate education has made us aware of some of the difficulties experienced by students who are also working full-time and have substantial distances to travel. As a result we have been involved in a series of initiatives to improve the convenience and accessibility of our courses. During the year we introduced "block mode" delivery for our Graduate Diploma in Occupational and Environmental Health. Under this system the core teaching of a coursework module is provided over a single (full-time) week rather than being spread throughout a semester. Initial feedback has been positive and we will now examine whether this strategy will also be useful for other courses.

Another initiative designed to facilitate distance education has involved the development of computer based course delivery. During the year we were awarded a grant from the Monash Strategic Innovation Fund to produce CD ROMs of our Epidemiology and Biostatistics courses. These are being developed with new software that will enable students to cover the didactic component of these courses at their own pace and free up academic staff time for more interactive teaching.

On the research front, 1997 saw the beginning of several new epidemiological studies, including the water quality study conducted under the auspices of the CRC for Water Quality and Treatment. This study took two years to plan and has involved over 400 families, spread throughout Melbourne's south eastern suburbs. With its successful establishment, it joins a series of other major studies including Healthwise, VECAT and MAVET. Together these studies involve over fifteen thousand subjects.

It is also pleasing to report the Department's success in gaining a series of new research grants. Our staff achieved success with applications to NHMRC, the National Heart Foundation, Shepherd Foundation and the Victorian Department of Community Services. Seven new NHMRC grants were received and some of these were awarded to individuals receiving such funding for the first time.
The growth of our research and teaching activities had placed considerable strain on our infrastructure. A shortage of space was relieved during the year by our acquisition of additional rental space on the fourth floor at 553 St Kilda Road. Excellent work by our honorary interior design consultant (Dr Martha Sinclair) has lead to a very serviceable area fitted out to accommodate 34 people. Our increasing staff numbers and increasing reliability on computers lead to the appointment of our first full-time computer systems officer (Mr Colin Fee) who has amply demonstrated his worth.

Another consequence of the Department's growth has been the increasing complexity of the Department's administrative requirements. During the year we reorganised into a series of units which presently comprise Administration; Infectious Diseases; Occupational and Environmental Health; Clinical Epidemiology; Chronic Diseases and Health Service Research; Clinical Pharmacology; Preventive Medicine; and Biostatistics / Computing. The Department executive (comprising essentially the heads of units) meets weekly and each unit maintains contact with its staff by unit meetings and by our department newsletter edited by Carol Barrie.

Towards the end of 1997 we were involved with a series of new developments including finalising arrangements for the transfer of Professor Kerin O'Dea and her research group into the Department. Kerin is a major figure in Australian public health research and she will add enormously to our activities.

It is also appropriate to thank our many excellent staff who have contributed to our continuing development as a major state resource in Public Health. In particular I would like to acknowledge my gratitude to our outstanding administrative staff who plot a course through the chaos and never fail to deliver and to Associate Professor Michael Abramson who has shouldered my additional responsibilities in his role as Deputy Head of Department.

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David Goddard, BMedSc, MBBS, DOH, FAFOM, MFOM
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Rhonda Stuart, MBBS FRACP

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Shari Collison
Stephen Lim
Nathan Pastor
Robert Whitfield

* indicates left during 1997
The Biostatistics Unit underwent a personnel change in 1997 with the departure of Dr Anne Soterbeck from the position as statistical consultant for the Alfred Hospital. Her successor is Mr Michael Bailey, who holds a Masters degree in Statistics and has been working in the department for some years. His appointment is shared between the Biostatistics and Clinical Epidemiology Units.

The vast majority of departmental research projects require significant input from the Biostatistics Unit. Members of the Unit hold coinvestigator and/or associate investigator status on a number of research projects within and external to the department, and also provide regular advice on many statistical issues within other research projects. Further details of research projects and associated publications are listed elsewhere in this report.

The teaching activities of the Unit in 1997 consisted of lectures and tutorials within and external to the Department. Undergraduate medical student teaching consisted of a series of problem-based tutorials in first year, and assistance with tutorials in the second and fourth year of the medical program. Postgraduate teaching included biostatistics and computing subjects for the Master of Public Health and the Graduate Diplomas in Clinical Epidemiology and Occupational and Environmental Health. Other activities included a series of statistics lectures for researchers at the Alfred Hospital and education sessions for the Royal Australasian College of Physicians.
Clinical Epidemiology Unit

Teaching
Medical students are now taught the principles of critical appraisal in fourth year, followed by a successful series of tutorials on evidence based medicine in the final year public health program. Postgraduate teaching includes a clinical epidemiology stream within the Masters of Public Health program. The Diploma of Clinical Epidemiology, which commenced in 1996, has now graduated 16 students. Graduates are able to demonstrate a sound knowledge of the principles of rational decision making in clinical practice and are able to develop small clinical research projects. One group of students have recently published a systematic review of single versus multiple dose antimicrobial prophylaxis for major surgery, which they undertook as an assignment for the Meta-analysis subject.

Research
Much of the Department’s research falls within the scope of Clinical Epidemiology. For example, the randomised clinical trials of Vitamin E currently underway at Caulfield offer the prospect of preventing vascular disease and cataracts. In collaboration with the Department of Respiratory Medicine at the Alfred Hospital, we have established and evaluated asthma education, both for patients attending the Asthma & Allergy Clinic and also for health professionals, such as community health nurses. Other members of the Department have played similar roles in the Clinical Pharmacology, Rheumatology and Microbiology & Infectious Disease Units at the Hospital.

Cochrane Collaboration
The Cochrane Collaboration is a major international effort devoted to conducting and disseminating systematic reviews of medical and other health interventions. Members of the Department have already contributed two reviews to the Collaboration and other reviews are currently underway. I assisted colleagues from John Hunter Hospital in Newcastle in conducting a systematic review of asthma education, which has been accepted for the Cochrane Library. Sally Green and Rachelle Buchbinder have now published their systematic review of interventions for shoulder disorders. Towards the end of 1997, the Victorian Department of Human Services provided funding to appoint training fellows in clinical epidemiology. They also funded a research fellow and part time clinical trial librarian to conduct reviews for the Cochrane Consumers and Communication group. We look forward to a major expansion of our Department’s involvement in the Collaboration.
Clinical epidemiology continued

Asthma management and mortality from asthma.
During 1994-1996, this case-control study included 89 asthma deaths confirmed through the Victorian Registry of Deaths, and recruited 322 patients presenting with acute asthma to hospital Emergency Departments. The South Australian asthma mortality questionnaire was administered to the next of kin of 51 cases and also to 202 controls. Blood drawn from 35 cases and 229 controls was assayed for salbutamol.

The cases were significantly older and more likely to be male than were the controls. Both cases and controls had high levels of asthma morbidity and were reasonably well matched on markers of chronic asthma severity, such as hospital admissions. Cases were significantly less likely than controls to have used a peak flow meter during the preceding 12 months. After adjustment for demographic, psychosocial factors and asthma severity, written action plans were associated with a 4.2 fold reduction in the risk of death.

Although cases were significantly more likely than controls to have been usually taking oral steroids during the preceding month, they were less likely to have used inhaled symptomatic, inhaled preventive or oral steroids only for an attack. The use of oral steroids for an attack reduced the adjusted risk of death 11 fold. Adjusted mean blood salbutamol concentrations were nearly 3 times higher in cases than controls.

This study has shown that written action plans and the use of oral steroids early in the course of an acute attack of asthma can reduce the risk of death. Death could have occurred during some severe asthma attacks in the context of toxic salbutamol levels from unsupervised self administration of escalating doses. More widespread adoption of asthma management plans including less reliance on b agonists and closer medical supervision of severe attacks should further reduce asthma mortality.

A three generation population based study of the genetic epidemiology of asthma and atopy.
The aim of this study was to conduct genetic linkage studies on members of Tasmanian families selected through the 1968 Tasmanian Asthma Survey that contain a high prevalence of asthma. It is envisaged that these studies will contribute to the knowledge of the genetic aetiology of asthma including gene identification and determining the effect of such genes on asthma in the population.

Respiratory questionnaire data, atopic status determined by skin prick tests to common allergens, and blood samples were collected for 352 individuals from 48 families with a strong family history of asthma. Serum has been extracted and stored for analysis of IgE antibody levels. DNA was extracted from whole blood. Samples were genotyped for the high affinity IgE receptor gene and D11S1314, a closely linked marker. Statistical analysis showed some evidence of linkage between ever having asthma and the IgE receptor consistent with our previous findings in an independent sample of Melbourne sibs.

The Asthma management and mortality from asthma study showed that written action plans and the use of oral steroids early in the course of an acute attack of asthma can reduce the risk of death.

Future objectives for this study involve genotyping for other markers reported to be associated with asthma or atopy phenotypes such as markers on 2q33, and conducting further linkage studies using various phenotypes measured in the epidemiological survey such as current asthma, severe asthma, and atopy and asthma combined. A quantitative trait localisation of total serum IgE levels will be undertaken at all markers genotyped.

Immunological responses in the development of adult asthma.
In this study, a cohort of over 750 young adults has now been followed for 6 years. The incidence of adult onset asthma appears to be higher than has been previously reported in Britain. Although some attrition of the cohort has occurred, there is no evidence that this has significantly biased any of the risk estimates. Cumulative indoor mould exposure could be reduced by more frequent ventilation and by the removal of
visible mould and old carpets. We have also found significant relationships between indoor moulds and house dust mites. An investigation of seasonal variation in house dust mite allergen levels has just been completed.

Cross-sectional analysis has not found any significant relationships between current asthma and either allergen levels in house dust or mould spores in air. Longitudinal analysis has found that medical factors appear to be more important than the indoor environment in adult asthma. However it has highlighted the importance of weight loss and smoking cessation in managing asthma. Improved bedroom ventilation and avoidance of pets may also be of benefit. Further prospective followup is necessary to determine the importance of these observations.

**Qualitative study of barriers to therapy adherence by asthmatic adolescents**

Patients aged 10-24 years are recruited through the Centre for Adolescent Health (which incorporates a Teenage Asthma Clinic), the Department of Thoracic Medicine at the Royal Children's Hospital and the Asthma & Allergy Clinic at the Alfred Hospital. At the end of 1997, 103 adolescents had been recruited and 43 interviews conducted. Quantitative data collected included demographic and background data (age, sex, educational level, ethnicity, socioeconomic status), current medication for asthma; asthma severity; respiratory health factors and indicators and knowledge of asthma. Fifty-seven percent have so far agreed to participate and 24 interviews have been conducted.

Analysis of data and refinement of themes is progressing as interviews continue. Because of the duration of the data collection and analysis phase of qualitative research, no publications have been possible at this stage. The activity of the research team in this area was recognised by invitations to 3 investigators to present at the National Asthma Campaign Adherence Workshop in June 1997. This workshop resulted in an adherence session being included in the program for the Annual Scientific Meeting of the Thoracic Society of Australia & New Zealand. Dr S. Sawyer was also invited to speak at an International Respiratory Forum on Compliance in London in February 1998.

**Study of asthma and allergies in tea packers**

During 1997 a cross-sectional study was conducted at a tea packaging plant to look at asthma and allergies in tea packers. Of 232 eligible employees, 192 participants were administered a respiratory questionnaire, 187 performed spirometry before and after a full work shift, 172 underwent skin prick testing for allergies and 179 provided blood for measurement of IgE antibodies against tea extracts.

A participation rate of 83% was obtained. The prevalence of asthma, wheezing and hayfever was similar to the general population. Most symptoms were more commonly reported by operators/blenders and less commonly by administrative workers. Work related nasal symptoms were more commonly reported by blenders and operators. After adjusting for age, smoking and atopy, male blenders were 15 times more likely to report work related rhinitis and other female workers were 18 times more likely to report work related chest tightness.

There were small and clinically unimportant cross-shift improvements in lung function among operators. On the other hand, small declines in lung function were observed among blenders. There were 6 (3.2%) subjects with a cross-shift decline in FEV1 of more than 10%. The prevalence of positive skin reactions to common Aeroallergens was comparable to that found in the general population. Specific IgE antibodies to black or chamomile tea were observed in only 10 (5.6%) employees.

Respiratory and nasal symptoms were related to occupational exposure to tea dust. Cross-shift declines in lung function of 10% or more were not obviously related to work area on the day of testing. As there was little evidence of specific allergic sensitisation to the tea varieties tested, the excess of respiratory and nasal symptoms among operators and blenders probably represents nonspecific irritation.
The importance of arthritis as a major contributor to disability in the aged population was examined in a recently completed community based study of independently-living elderly people. Risk factors for accidents were identified and the role of acls aimed at reversing disability was examined in a randomized controlled trial.

In the area of health services research, we have a program directed at examining quality in healthcare. Quality monitoring is seen as a means of allowing accountability for fund providers and providing a visible means of protecting patients against inappropriate, sub-optimal or harmful care. We have completed work examining the validity and reliability of a number of widely used clinical indicators in the ‘The Pilot Hospital Wide Clinical Indicators Project’.

Despite the importance of measuring quality of healthcare, there is a lack of simple to use, validated clinical indicators. Focus of new work is aimed at examining improved definitions of currently used indicators and towards determining development of novel process indicators, building on the experience gained in the ‘The Pilot Hospital Wide Clinical Indicators Project’.

Although computers are now widely used in hospitals for the collection of administrative data and test results, they have made little impact on clinical practice. Numerous studies have demonstrated that the implementation of clinical decision support tools provide improved medical outcomes, yet little work has been done in developing intelligent medical algorithms. We are currently examining a computer based algorithm in the decision support for management of stroke and other medical conditions.

The impact of human rights on health outcome is of increasing interest both nationally and internationally. A human rights assessment of a randomized controlled trial of screening versus ‘current best practice’ in the prevention of sexually transmitted diseases, in the aboriginal community in the Northern Territory, is currently underway. The feasibility of developing quantitative methods for measuring human rights is being examined.

The chronic diseases and health services research unit is actively involved in course development and teaching in 2nd and 4th as well as contributing to 3rd and 6th year medical student teaching. New postgraduate teaching initiatives include the Graduate Certificate in Pharmacoeconomics to be delivered by distance mode in 1999.
Research activities are focused primarily around new drug development for cardiovascular disease states. Drugs currently undergoing clinical research include endothelin receptor antagonists, angiotensin II receptor antagonists, novel calcium channel blockers and beta-blockers, and drugs that augment endogenous vasodilator systems. As well, the unit is currently examining the benefits of non-pharmacological therapy (e.g., exercise) in the management of cardiovascular disease.

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 of the Monash Medical School. This involves animal models of heart failure and pressure overload left ventricular hypertrophy with assessment of intracardiac haemodynamics, neurohormonal status and gene expression of important regulatory factors. A number of novel and existing drugs are currently being studied in this manner. The unit is also interested in cultured mononuclear cells as being markers for activity of certain growth factors in man. Currently the unit has three PhD students on NHMRC postgraduate scholarship grants, an honours student in pharmacology and a full-time research assistant. The unit also conducts early phase pharmacokinetic and bioequivalence studies and has particular expertise in HPLC analysis and pharmacokinetic profiling.

The Clinical Pharmacology Unit contributes to 4th, 5th and 6th year medical student teaching as well as postgraduate teaching through the Department of Epidemiology and Preventive Medicine's numerous postgraduate programs. In addition, members of the unit are frequently called upon to speak to colleagues at postgraduate meetings external to the university on topics ranging from drug regulation to cardiovascular therapeutics and general issues in drug prescribing.
Infectious Disease Unit
Incorporating the Cooperative Research Centre for Water Quality & Treatment

Several new staff and students joined the CRCWQT group this year. Research Nurses Kimberley Gibson, Joanne Ferguson, Isabel Guise and Fiona Savio began work on the Water Quality Study. Kimberley and Fiona had previously worked on other projects in the department, while Joanne and Isabel came from backgrounds in hospital based clinical research.

Water Quality Study
The Water Quality Study is a randomised double blinded trial to determine whether removal of microorganisms from drinking water results in a decline in the rate of gastroenteritis. Recruitment for the study commenced in February. During the busy recruitment phase the Research Nurses were supported by research assistants Geoff Simmons and Hana Kazda. A pilot study of the first 50 families recruited was undertaken in June and the main study of 600 families commenced in September.

Outbreaks of waterborne gastroenteritis and the effect of chlorination on gastroenteritis.

The Early Detection of Outbreaks of Waterborne Gastroenteritis is a project involving the investigation and documentation of a variety of surveillance systems relating to the detection of gastrointestinal disease in the community, and the assessment of the feasibility of linking these with water quality data. A draft report will be completed and delivered to Melbourne Water in 1998.

Work also commenced on modelling of outbreaks and the effect of chlorination on gastroenteritis. The aim of this project is to assess the impact of chlorination on gastroenteritis in the city of Melbourne by examining morbidity and mortality figures in children for the interval spanning the introduction of chlorination. Preliminary analysis shows chlorination appears to have had no measurable impact on mortality from gastroenteritis.
Case-control study of sporadic cryptosporidiosis.
Brent Robertson, a General Practitioner, has been awarded a CRCWQT PhD scholarship for this project which will assess the importance of risk factors for cryptosporidiosis in the general community. The preliminary stage of the project involving the testing and validation of a water consumption questionnaire has been completed, and preliminary data analysis has been undertaken. The CRCWQT has provided grants for the validation and pilot study and partial funding for the main study.

Fluoridation of water supplies
Hana Kazda worked with Flavia Cicuttini, Martha Sinclair and Kit Fairley on this project, a literature review and critical assessment of the evidence for adverse public health effects of water fluoridation that has become available since 1990 when the NHMRC Working Group produced a report on this issue. Funding for this project was provided by the Department of Human Services. A draft report has been completed. Hana was awarded an APA scholarship to begin PhD studies in the Clinical Pharmacology Unit in 1998.

Margaret Hellard continued with her PhD work on the Water Quality Study and was awarded an NHMRC scholarship at the end of the year. Margaret was also successful in obtaining funding for a cross-sectional study of microorganisms in faecal specimens, which is an additional component of the Water Quality Study.

Health Stream newsletter
The quarterly Health Stream newsletter edited by Martha Sinclair, with assistant editor Pam Lightbody, continued to grow in strength, with circulation increasing to over 400 copies and a diverse readership in the water industry, public health and environmental health fields.

Other studies within the unit.
The unit is also involved in a number of projects which are not connected with the CRCWQT. Kit Fairley and Margaret Hellard are undertaking an NH&MRC case control study of risk factors for Cryptosporidium infection in people with HIV. Kit Fairley also obtained NH&MRC funding for a randomised trial of intensive screening programs to reduce prevalence of STD's in Aboriginal communities. Co-investigators are Dr FJ Bowden, Dr SN Tabrizi and Dr SM Garland.

The Australian Research Council has provided a grant for a project to establish the prevalence of STDs among homeless young people and assess a new method for diagnosis and treatment and Roche Pharmaceuticals has provided a grant to examine risk factors for the development of CMV retinitis in HIV/AIDS patients.

Alex Padiglione, and Jessika Willis continued work in 1997 on a project supervised by Kit Fairley which is being funded by the Department of Human Services Aged Care Division. This was a prospective study of hospitalised patients over 55 years with Pneumococcal pneumonia. Data collection and analysis are complete, with a view to presenting and publishing results in 1998.

Rhonda Stuart continued work on Tuberculosis – Mantoux testing, a major study being undertaken under the direction of Associate Professor Lindsay Grayson. The study aims to assess Mantoux reactivity among health care workers in Melbourne teaching hospitals. Seven hospitals and 4000 employees have been screened. In 1998, the study is extending to another 4 major hospitals, with a final number of approximately 7000 in the study. Analyses for the various risks for having a positive Mantoux will follow. Other studies Rhonda has been working on include: A study of isoniazid toxicity in health care workers during prophylaxis for tuberculosis, evaluation of a new gamma-interferon assay for diagnosis of tuberculosis infection and disease, and retrospective evaluation of the incidence of tuberculosis in health care workers.
Unit of Occupational and Environmental Health

1997 was another busy year for the Occupational & Environmental Health group in both research and teaching. Staffing remained fairly stable during the year, with the exception of the departure of Sally Lindros who had co-ordinated data collection for the Healthwise study and made an excellent contribution to the establishment of the study. Three new members of the unit in 1997 were Jill Ikin, Lorien Barrie and James Chan. Jill joined the group as a Research Fellow to supervise the Healthwise inception cohort and act as study co-ordinator for other projects. Lorien initially joined part-time to help out with the Healthwise and SABRE studies and then joined the Montex study. James is an occupational medicine trainee who joined the department to coordinate the VicLead study.

One of the highlights of the year was the six week visit of Professor Harvey Checkoway. Harvey is an international authority in occupational epidemiology who has been a member of the Healthwise Advisory Board for several years. During his stay, Harvey ran a very successful two day course on exposure assessment in occupational epidemiology, which was attended by about thirty-five participants throughout Australia. This visit also gave us the chance to collaborate on some research projects, in particular the glioma study. Harvey and his family also made most of their time here by seeing some of the rest of Australia and searching out small furry animals. We also had a short visit by two Dutch epidemiology students, Noortje Hamse and Brechje Gosens, who were doing a practicum for their course. Noortje and Brechje worked on a study looking at asthma and allergies in tea packers.

Healthwise
Healthwise is a major study program of employee health which is funded by Alcoa of Australia Limited, Portland Aluminium and KAAL. The study is being conducted in collaboration with the Department of Respiratory Medicine at the University of Western Australia.
Healthwise began in 1994 with 5095 participants recruited into the cross-sectional study during 1995/96.

The Healthwise Inception Cohort study continued to recruit cases, with almost five hundred participants by the end of 1997. There was also good progress in constructing the case exposure matrix for the Healthwise cross-sectional study and we are grateful for the enthusiastic support of industry hygienists in this part of the study.
In the Healthwise cancer study, we completed data collection for the former employee cohort from the Victorian sites and hope to do the first cancer and death registry search early in 1998. The first two papers from Healthwise were accepted for publication.

The unit was also successful in obtaining new research grants during 1997:

**Montex: A study of cancer in textile manufacturing workers.**
Lin Fritschi was awarded a NH&MRC grant for a study of cancer in textile manufacturing workers. This is part of an international collaborative study co-ordinated by the International Agency for Research on Cancer.

**Occupational exposure to solvents and electromagnetic fields and development of brain tumours in adults.**
We also obtained funding from the Shepherd Foundation for this study to investigate occupational causes of cancer, using an expert panel rating method to assess exposure in job histories from a previous case control study of glioma. The main chemicals of interest are chlorinated aliphatic compounds.

**Intervention study of arsenic in drinking water.**
The Department of Human Services continued their support of our arsenic program by funding this intervention study of inorganic arsenic absorption in people randomised to bottled water or their usual tap water containing high levels of arsenic.

**VicLead**
The Department of Human Services also contributed funding for a new study to look at lead absorption in the children of lead workers. This study will aim to identify risk factors for lead absorption in this group.

All three PhD students progressed towards the end of their data collection phases during 1997. Jean Meaklin has finished data collection for the study of fumigant use in farmers, while Andrea Hinwood completed data collection for her arsenic absorption study and is nearing the end of the intervention study. Andrea also completed her cancer ecological study, gave a presentation on this at the International Society for Environmental Epidemiology conference in Taiwan and submitted a paper for publication. Geza Benke is hoping to finalise collection of the occupational hygiene data for his project early in 1998. Geza had one paper published and another accepted for publication.

On the teaching front, Bruce Hocking and David Fish continued to take the main role in the Graduate Diploma in Occupational and Environmental Health. We had our first international graduate in this diploma, Sana Nundol, a doctor from Mauritius. We intend to change the format to block/distance mode for 1998 to increase accessability for interstate students.

The department also ran a successful three day short course in evidence based musculoskeletal medicine for Health Services Australia, the fourth in this annual series. Plans also began to conduct courses in impairment assessment for doctors in 1998.

In undergraduate teaching there was again strong competition for the Envirohealth prize in occupational medicine for the fourth year medical students who are required to do an OSCE in occupational medicine. We are grateful for the support of Dr Kevin McDonald who donates this annual prize.

The Unit of Occupational & Environmental Health is now one of the major research and teaching centres in occupational health in Australia and we are looking forward to an even busier 1998 with several new initiatives on the horizon.
The MAVET and VECAT projects.
Two previously established clinical trials, the Melbourne Atherosclerosis and Vitamin E Trial (MAVET) and a community based clinical trial investigating the role of vitamin E in the prevention of cataract and age-related macular degeneration (VECAT), have continued to progress. Subject retention rates have been much greater than expected at over 90%.

MAVET is a double blind placebo controlled randomized trial of Vitamin E (500 iu/day) established to determine if Vitamin E will retard the progression of atheroma in smokers. It is being conducted jointly with the Vascular Unit at Monash Medical Centre. Recent studies have suggested that the more rapid progress of atherosclerosis in smokers may result from oxidation of the cholesterol particles in blood. Some vitamins, including Vitamin E, are natural antioxidants and can protect cholesterol particles from oxidation. MAVET is measuring the effect of Vitamin E on the rate of progression of this disease.

Since 1994, 409 volunteers have been recruited to join this study, half receiving 500iu of Vitamin E daily, and the other half receiving a placebo. Each participant attends the study centre initially on a semi-annual and thereafter an annual basis. At each visit, an ultrasound is performed on the carotid arteries and these images are digitised and analysed for changes in artery wall thickness. Louise Shiel recently presented some of the work she has been doing on MAVET at the Australian Ultrasound in Medicine conference in Hobart and was awarded a prize for the best poster presentation at the meeting. This prize has enabled her to attend the 17th Scientific Meeting of the International Society of Hypertension in Amsterdam.

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 delays or prevents 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 macular of the eye.
The VECAT study was established in association with Professor Hugh Taylor of the Department of Ophthalmology at the University of Melbourne. It aims to determine whether Vitamin E exerts a useful role in delaying the onset and/or progress of, these conditions. In 1995, 1204 volunteers were recruited to join this 5 year study, half receiving 500iu of natural Vitamin E daily, and half taking an identical placebo capsule. 1997 was another successful year for this study with over 90% of our original participants examined for their 24 month review, and an extremely low drop-out rate.

Results from the VECAT study were presented at several national and international forums to wide acclaim. The VECAT study was well represented at the Australasian Ophthalmic Visual Sciences meeting in Canberra in early December. This meeting is an exciting nexus of vision research in the Australasian region, with presentations encompassing epidemiology, molecular biology and psychopharmacology. Luba Robman, Gabriella Tikellis, Trudy Mal and Sinead Garrett all presented work from the VECAT study. Sinead and Luba were both successful in having their research reports accepted for publication in the Australian and New Zealand Journal of Ophthalmology. Both MAVET and VECAT are expected to continue for at least one more year.

**ASFAST**

Another clinical trial, ASFAST, commenced after receiving NH&MRC funding for three years. This trial is a joint initiative between this department, the Renal Unit at Monash Medical Centre, the Royal Melbourne Hospital and the Vascular Unit of Monash Medical Centre. It 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 ten fold increase in the risk of stroke and coronary heart disease which is not substantially reversed by the control of conventional vascular risk factors. Recent evidence suggests that over 85% of patients with CRF have elevated homocysteine levels, linked in other studies to an elevated risk of coronary and cardiovascular disease. However there is no evidence yet that reducing such levels will benefit these patients.

Three hundred and fifty patients with CRF will be recruited from the renal units at Monash Medical Centre and the Royal Melbourne Hospital. The actively treated group will receive 15 mg of folic acid daily and the controls will receive a matching placebo, or low dose folic acid supplementation (less than 2 mg/week), only if plasma folate levels are found to be subnormal. Progression of atheroma will be measured yearly for three years using carotid duplex ultrasound measurement of the intima-media thickness of the carotid artery. This technology is well established within the department in other collaborative studies between John McNeil and Barry McGrath.

**Take Heart**

While much is known about cardiovascular disease, it is still one of the major causes of death in Australia. One reason for this is the difficulty in identifying individuals whose risk comes from a combination of mildly elevated risk factors and then in effectively communicating this risk. A computer program, Take Heart, has been designed by the unit. Take Heart uses results from the MRFIT studies, adapted to Australian data, to enable determination of an Australian individual's risk of cardiovascular events based on the individual's gender, age and levels of smoking, serum cholesterol and diastolic blood pressure. Take Heart is an interactive program, allowing the client to manipulate risk factors and view the subsequent effect(s) on their cardiovascular risk and is being developed both as an aid for BP Australia's health promotion consultations and as an aid for general practitioners.

**Information technology based teaching to facilitate distance education in public health**

Aside from PhD training, public health education is the most extensive postgraduate activity undertaken by the Monash Faculty of Medicine. While there has been increasing interest in these courses from interstate and overseas students, the present attendance requirements have not been suitable for these and fully-employed local students. To address this, the Department is developing the delivery of core postgraduate subjects, epidemiology and basic biostatistics, using multimedia presentation delivered by CD-rom.

**First responder pilot analysis**

In 1997, a ministerial steering group recommended that a six month pilot program be conducted to determine whether the simultaneous dispatch of both Metropolitan Fire Brigades Board and Metropolitan Ambulance Service resources to cases of suspected cardiac arrest will lead to more rapid application of defibrillation. The Unit of Preventive Medicine is to carry out the data analysis of this project between June and December 1998.
New and continuing grants

NH&MRC Funded

Continuing

A three generation population based study of the genetic epidemiology of asthma and atopy.
Dr MJ Abramson, Prof G Bowes, Dr S Harrap, Dr J Hopper
NH&MRC Project Grant, 1995-1997, $126,971.00.

Case control study of cerebral glioma and prevention of cerebrovascular disease.
Dr A Thiritt
NH&MRC PHRDC Postdoctoral Fellowship, 1996-1998, $251,972.00.

MAVET: A randomised trial of an antioxidant to prevent atheroma progression in smokers.
Prof JJ McNeil, A/Prof BJ McGrath,
NH&MRC Project Grant, 1994-1998, $326,913.00.

VECAT: Prevention of cataract in the elderly with low dose aspirin and vitamin E.
Prof JJ McNeil, Prof H Taylor, Prof C Silsby,
NH&MRC PHRDC Development Program Grant, 1994-1998, $1,031,203.00.

New

A randomised trial of high dose folic acid to slow the progression of atheroma in renal failure.
Prof R Atkins, A/Prof BP McGrath, Dr PG Kerr,
NH&MRC Project Grant, 1998-2000, $366,054.00.

Cancer in textile manufacturing workers.
Dr L Frittschi

Case-control study of risk factors for cryptosporidium infection in people with HIV.
A/Prof CK Fairley, Dr ME Hellard, Dr GJ Dore

Clinical trial of antioxidants to slow progression of osteoarthritis.
Dr FM Cicutini
NH&MRC Project Grant, 1998-2000, $110,865.00.

Diet and obesity: Does the type of dietary fat influence body fat deposition?
Dr S Piers, Prof K O'Dea, Dr MJ Soares, Dr KZ Walker
NH&MRC Project Grant, 1998-2000, $209,345.00.

Diabetes and cardiovascular disease: the Greek migrant paradox.
Prof K O'Dea, Dr C Iliopoulos, A/Prof JD Best, Dr PD Ireland
NH&MRC PHRDC Grant, 1998-1999, $120,291.00.

Effects of hydraulic weight training in patients with chronic heart failure.
A/Prof H Krum, Dr SE Sellig, Dr DL Hale, A/Prof MF Carey
NH&MRC Project Grant, 1998-1999, $121,243.00.

Is diet responsible for the high asthma prevalence among young adults?
Dr R Woods
NH&MRC PHRDC Postdoctoral Fellowship, 1998-2000, $203,873.00.

Nutritional indicators and cardiovascular risk in Aborigines and Torres Strait Islanders.
Prof K O'Dea, A/Prof JD Best, Ms D Leonard
NH&MRC Project Grant, 1998-2000, $132,126.00.

Nutritional markers and coronary risk in Aboriginals and Torres Strait Islanders.
Dr K Rowley

Obesity, diabetes and cardiovascular disease in Aboriginals and Torres Strait Islanders.
Prof K O'Dea, A/Prof JD Best, Dr P Mills, Dr C Guest
NH&MRC PHRDC Program Grant, 1998-1999, $412,906.00.

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
Red meat and colon cancer: can resistant starch and dietary fibre minimise the risk?
Dr J Muir, Dr FA Macrae, Prof K O'Dea
NH&MRC Project Grant, 1998-2000, $220,982.00.

Relationship between micronutrients and the prevalence of current asthma among young adults.
A/Prof M Abramson, Dr FCK Thien, Dr PD Ireland, Prof EH Walters
NH&MRC Project Grant, 1998-2000, $257,760.00.

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Other competitive funding

Continuing
Disability in activities of daily living in independently living aged people who are at risk of accidents: a cost benefit analysis of screening and provision of aids.
Dr F Cicuttini, Ms V Mead

Immunological responses in the development of adult asthma.
Dr MJ Abramson, Dr J Rolland, A/Prof EH Walters

Preventive medicine and occupational health training videos for use in medical undergraduate teaching.
Dr F Cicuttini, Dr M Sim

Preventive medicine and occupational health training videos for use in medical undergraduate teaching.
C Finocchiaro
Shepherd Foundation, 1996-1997, $13,100.00.

New
Information technology based teaching to facilitate distance education in public health.
Prof JJ McNeil

Modified diet for the treatment of gestational diabetes?
Prof K O'Dea, Dr KZ Walker, Dr A Nankervis
Diabetes Australia Research Trust, 1998, $21,255.00.

Occupational exposure to solvents and electromagnetic fields and development of brain tumours in adults.
Dr M Sim, Dr L Fritschl
Shepherd Foundation, 1997-1998, $18,360.00.

Role of endothelin in the progression of chronic heart failure.
A/Prof H Krum

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Industry/government funding

Continuing
Arsenic exposure and human absorption.
Dr M Sim, Prof JJ McNeil, Ms A Hinwood
Health and Community Services, 1996-1997, $109,710.00.

Dr M Sim, Dr L Fritschl, Prof AW Musk, Prof JJ McNeil

Reliability, validity and risk adjustment study of a pilot set of hospital wide clinical indicators.
A/Prof N Boyce, Dr J Ibrahim, DR J Majoor, Prof JJ McNeil
Commonwealth Dept Health & Family Services, 1995-1997, $420,000.00.
New

**Asthma and allergies in tea packers.**
A/Prof MJ Abramson, Dr L Fritschi, Dr J Rolland, Dr MR Sim
Industry funded, 1997, $36,629.00.

**Computer aided presentation of cardiovascular risk - Take Heart.**
Prof JJ McNeil
Department of Human Services, 1998, $145,000.00.

**Case crossover study of air pollution and asthma.**
A/Prof MJ Abramson, Dr A Forbes
Department of Human Services, 1998, $9000.00.

**First responder pilot project.**
Prof JJ McNeil

**Home environment, allergies and asthma.**
A/Prof MJ Abramson, Dr D Guest, Prof EH Walters

**VicLead: A study of lead absorption in the children of lead workers.**
Dr M Sim
State Chemistry Laboratories, 1998, $90,000.00.

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**Collaborative Research Centre for Water Quality and Treatment**

Continuing

**Cross-sectional study to identify microorganisms in faecal samples of individuals without gastroenteritis.**

**Health Stream newsletter.**
Dr M Sinclair
Co-operative Research Centre for Water Quality and Treatment, 1995-2000, $173,692.00.

**The early detection of outbreaks of waterborne gastroenteritis.**
Dr CK Fairley

**Water Quality Study.**
A/Prof CK Fairley, Dr M Sim, Dr M Sinclair, DR M Hellard
Co-operative Research Centre for Water Quality and Treatment, 1996-1999, $2,130,000.00.

New

**A case-control study of cryptosporidiosis.**
A/Prof CK Fairley, Dr B Robertson, Dr M Sinclair, Dr M Hellard, Mr M Veitch, Dr L Pilotto, Dr M Kirk
Co-operative Research Centre for Water Quality and Treatment, 1997-1998, $54,143.00.

**Water fluoridation.**
Dr F Cicuttini, A/Prof CK Fairley, Dr M Sinclair
Department of Human Services, 1997, $24,407.00.

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**Major Collaborative Grants**

**Incidence, outcome and costs of stroke. A population based-study.**
GA Donnan, JJ McNeil, RAL Macdonell, AG Thrift, RC Carter

**Stroke subtypes: a population based study.**
GA Donnan, AG Thrift, JJ McNeil, HM Dewey
Undergraduate teaching

The Department now teaches medical students in all 6 years of the undergraduate (MBBS) course. There is a vertically integrated progression from biostatistics (first year), epidemiology (second year), health promotion (third year), preventive medicine, critical appraisal and occupational health (fourth year), clinical pharmacology (fourth, fifth and sixth years) to public health (sixth year). There are major contributions to the undergraduate teaching program by A/Prof Michael Abramson, Dr Flavia Cicuttini, Dr Andrew Forbes, Dr David Goddard, A/Prof Henry Krum and Professor John McNeil.

FIRST YEAR

Health, Illness & Human Behaviour
Biostatistics in 1997 was again taught as an 8 hour unit within this larger subject. This unit enables students to demonstrate an understanding of basic concepts and methods of biostatistics in medical research; interpret statistical information presented in medical research publications, and to appreciate the relevance of statistical information in medical research publications to patient management in medical practice.

As in previous years, the unit consisted of one lecture and seven small group tutorials. Each tutorial exercise began with a clinical scenario which involved a consultation with a patient, then introduced the statistical methods as required, and applied the methods to the individual patient's concerns. The latter tutorials also involved the reading of a medical research article. The tutorials were designed not to cover the mathematics or computational details of the statistical methods, but instead to concentrate on the clinical use and interpretation of the methods.

Assessment consisted of questions in the examination; an assignment involving appraisal of an article from a leading medical journal and participation in the tutorials. The unit evaluation indicated that the students could see the relevance of biostatistics to medical practice, they enjoyed the format/structure of the tutorials and appeared moderately interested in learning about research methods in medicine. In summary, the biostatistics subunit proceeded fairly successfully, and all tutors reported interesting and lively tutorial sessions.
Undergraduate teaching continued

SECOND YEAR

Introduction to Epidemiology/Statistics in Medicine

In this unit students learn:

- to interpret epidemiological information in medical journal articles;
- the difference between descriptive and analytical epidemiology;
- the strengths and weaknesses of different epidemiological study designs;
- to conduct a small clinical trial; and
- to perform simple statistical analyses.

The curriculum includes descriptive and analytical epidemiology, epidemiological study designs, diagnostic and screening tests, and statistical applications. The subject comprises lectures and tutorials in the first semester of second year. The tutorials emphasise self-learning and are used to consolidate the important concepts. The emphasis is on interpretation of medical literature. Students are assessed on a mid year multiple choice examination, tutorial exercises and an assignment.

THIRD YEAR

Health Promotion

Our Department has continued to support the teaching of Health Promotion in Year 3. Our major involvement has been with student projects on topics such as the prevention of industrial deafness. We helped students in the preparatory phase and in the marking of posters and reports. We contributed to the planning of the unit and provided a lecturer from our honorary staff.

FOURTH YEAR

Clinical Pharmacology

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

Preventive Medicine

The Department makes a relatively minor contribution to the integrated clinical subject, which runs over the first two terms. There were a few lectures on women's health, respiratory diseases in the elderly and travel medicine. As in previous years, there was a further block of teaching in preventive medicine during the third term. The lectures included the rationale for prevention, chronic fatigue, occupational skin diseases, eye diseases and cervical cancer screening. Tutorials were conducted on strategies for prevention and screening for prostate cancer. The end of year examination included an Objective Structure Clinical Examination (OSCE) station on preventive medicine.

Critical appraisal

A new course focusing on critical appraisal of medical literature was introduced in 1997. This course was based on knowledge that students had obtained in first and second year biostatistics and epidemiology. This was extended with further consideration of bias, power, intention-to-treat analysis, meta-analysis and causation. Examples from medical literature were critically appraised. Teaching was in small groups with some general discussion.

Occupational Health

Most teaching in occupational medicine takes place in fourth year. The total of two days teaching in 1997 introduced occupational history-taking, fitness for work, occupational diseases and their prevention. As has long been the practice, one half-day was devoted to small-group visits to workplaces. We remain grateful to the occupational health personnel in manufacturing industry who make these visits possible. The Envirohealth prize, $1000 split three ways, was again very keenly contested. The end of year examination included an Objective Structured Clinical Examination (OSCE) station on return to work after injury.

SIXTH YEAR

Integrated Public Health

This Department contributes substantially to the program called "Clinical & Community Health Studies" which takes the first 6 weeks of the sixth year. The program integrates knowledge across the six disciplines of public health (including evidence-based
medicine), clinical pharmacology, geriatric medicine, rehabilitation medicine, palliative care and forensic medicine. The program aims to demonstrate a multidisciplinary approach to patient care and to assist students to see the link between the theory and practice of population medicine.

In public health, both lectures and small group sessions were used to cover topics such as the Australian Health Care System, travel medicine, child safety, domestic violence, workers’ compensation and return to work after injury, youth homelessness, infectious disease and radiation.

Final year teaching in clinical pharmacology comprised plenary seminars and large group interactive sessions. The seminars covered overdose and poisoning, variability of pharmacokinetic response, drug abuse, problems in drug therapy such as good and bad combinations, poly-pharmacy, adverse drug reactions and prescribing in special patient populations such as in children and the elderly. The large group sessions comprised discussion of drugs in an interactive manner around clinical cases presented by specialists in the field. All of the major sub-specialty groups were covered in these sessions. The aim was for all of the above components of clinical pharmacology teaching to be brought together in a clinically meaningful way.

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

The program was well-received by most students and assessed by a multiple choice question examination. An OSCE station at the end of the year concerned the therapeutics of respiratory disease. The Department provided examiners for this OSCE as well as for the ‘long-case’ examinations.

Summary
The undergraduate teaching program built upon the achievements in earlier years. The biostatistics course in first year provided the springboard for active student participation in the revamped second year epidemiology teaching. However the Department has still not achieved an appropriate level of involvement in third year health promotion. Our clinical teaching was well received, with the successful introduction of critical appraisal into fourth year. This will provide a firm basis to extend evidence based medicine into other clinical disciplines.

BMedSc & Honours students

In 1997 we were very pleased to have three BMedSc students, Carmela Caputo, Nathan Pastor and Robert Whitfield, and also two Honours students, Shari Collison and Stephen Lim.

Shari Collison and Nathan Pastor
Postgraduate teaching

The postgraduate coursework degrees offered in 1997 were:
- a Master of Public Health degree,
- a Graduate Diploma in Clinical Epidemiology, and
- a Graduate Diploma in Occupational & Environmental Health.

Dr Malcolm Sim is Director of the Postgraduate Education Program and Lyndall Thomson is the postgraduate courses administrator.

The major initiatives in postgraduate courses during 1997 were:
- the introduction of the first year of Part 2 specialisations in the expanded MPH program under the Victorian Consortium for Public Health
- the second year of the new Graduate Diploma in Clinical Epidemiology
- planning for the introduction of a Graduate Diploma in International Health in 1997, and
- the development of a block/distance format for the Graduate Diploma in Occupational and Environmental Health to be introduced for 1997.

During 1997, Merrill Stanley left her position as postgraduate courses administrator to take up another position outside Monash. Merrill had been with the department for several years, initially as short courses administrator before taking over administration of the postgraduate courses in 1994. She played an integral role in the transition of the Monash MPH into the Part 1 and Part 2 format which was introduced when Monash became part of the Victorian Consortium for Public Health, and also assisted in the development of our two Graduate Diplomas and the Australian Course in Civil Aviation Medicine. Merrill was a very popular member of staff and provided an important link between the students and the academic staff. We wish her well in her future career.

Following Merrill’s departure, the department was very fortunate to recruit Lyndall Thomson, who took over as postgraduate courses administrator mid-year. Lyndall has a Bachelor of Arts degree and a postgraduate Diploma in Maritime Archeology, and is very aware of the demands of postgraduate study. In the short time she has been in the department, Lyndall has been actively involved in developing our new teaching programs for 1998 and future planning to introduce new Masters degrees (in occupational and environmental health and clinical epidemiology) and two new graduate diplomas (in clinical health management and preventive medicine) in 1999.
Our postgraduate courses continued to be very popular with students in 1997. The number of applicants, especially for the MPH, continues to greatly exceed available places and we also had three international students, a reflection of the increasing importance of the department's education program in the region. The names of graduates from our courses in 1997 are listed in a separate section, and we wish these students well in their future careers.

Master of Public Health
Co-ordinator: Dr Malcolm Sim

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

Objectives of the course are to develop in students the skills necessary to:

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

The Master of Public Health is run as part of the Victorian Consortium for Public Health which comprises:

- this department;
- the department of Public Health & Community Medicine at the University of Melbourne;
- the Faculty of Health Sciences and Faculty of Economics, Education and Social Sciences at Latrobe University; and
- the Faculty of Health & Behavioural Sciences at Deakin University.

In 1997, the first intake of the Consortium entered Part 2 of the MPH at their respective universities. The specialisations offered by the department for Monash students were:

- Clinical Epidemiology
- Occupational and Environmental Health
- International Health
- General stream

International Health was a new specialisation developed in conjunction with Dr Mike Toole, Dr Damien Morgan and other teaching staff of the International Health Unit at the Macfarlane Burnet Centre for Medical Research. It was decided to develop a full specialisation in this area because of increasing student interest and the wide range of international health skills available at Macfarlane Burnet. Amongst the 1997 intake of MPH students, International Health was the most popular specialisation.

The MPH degree (Occupational and 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. Dr David Elder, one of our MPH students, won the Deane Southgate award for being the top candidate at the AFOM Fellowship examination in 1997. Several of the 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.

Graduate Diploma in Occupational & Environmental Health
Co-ordinator: Dr Malcolm Sim

The number of applicants was a little higher in 1997 than in previous years, probably due to broadening of the diploma into environmental health issues to complement the mainly occupational health emphasis of previous years.
To increase the accessibility of the diploma to interstate and overseas students, it was decided to change the mode of delivery to block/distance mode for 1998 and planning for this was a major task during 1997. The block/distance format for each subject will comprise completion of a distance manual comprising background information, followed by a five day block of on-campus teaching. Block teaching will comprise mainly case studies, problem-solving exercises, group work and work-site visits to demonstrate the practical application of the background material. The new format will comprise four core subjects and a larger range of elective subjects to meet the differing needs of our students who have diverse backgrounds and interests.

Dr David Fish, on part-time secondment from Health Services Australia, and Dr Bruce Hocking, continued to play a major and enthusiastic role in subject co-ordination in 1997. We are also grateful to the many external teachers and occupational health practitioners who host the students on their work-site visits, a crucial part of the diploma teaching.

**Graduate Diploma in Clinical Epidemiology**

Co-ordinator: Dr Michael Abramson

This new diploma was introduced in 1996 to replace the Graduate Diploma in Epidemiology and Biostatistics. The aim of the diploma is to assist health professionals to make rational evidence based decisions in clinical practice and to undertake small clinical research projects. In 1997, student numbers were a little lower than the previous year, the first year of the new course. This probably reflects a backlog of potential students, who enrolled in 1996, the first year that the course was available.

**Graduate Diploma in International Health**

Co-ordinator: Dr Mike Toole (International Health Unit, Macfarlane Burnet Centre)

This course is to be first offered in 1998, with development of the format and subjects a major task during 1997. This diploma aims to provide health and development professionals with the skills to design, implement and evaluate health projects in developing countries. International health has been a very popular and important part of the MPH and it was decided to offer students the choice of undertaking a shorter course with a greater international health focus than the MPH, particularly for overseas students. Mike Toole and Damien Morgan took the prime role in this development, with input from the other professional staff at Macfarlane Burnet.
Master of Public Health Graduates

Congratulations to the following students who successfully graduated in 1997

Anne Altman
The association between congenital malformations and childhood cancer.
Supervisors: Dr Jane Hallicay, Dr Graham Giles

Michael Baynes
A study into the prevalence of hand-arm vibration injury in the Australian motor vehicle industry.
Supervisor: Mr Anthony Berger

Aileen Britton
Nursing care in a paediatric intensive care unit: Is prediction possible?
Supervisor: Prof Frank Shann

Richard Clark
Health effects from aerial spray drift of herbicide.
Supervisor: Dr Malcolm Sim

Jennifer Davis
Alcohol consumption in methadone maintenance programs.
Supervisor: Prof Greg Whelan

M Lloyd Goss
Cryptosporidium and Giardia species in the water supply of Melbourne.
Supervisor: Prof Joc Forsyth

Tracey Higlett
Smoking during pregnancy and the duration of breastfeeding.
Supervisor: Ms Stephanie Brown

Alistair Humphrey
Use of antibodies to glutamic acid decarboxylase as a tool for classifying adult onset diabetes: A population based cohort study.
Supervisor: Prof Paul Zimmet

Danny Jago
A survey of sporting and recreational injuries presenting to a general practice.
Supervisor: Dr Caroline Finch

Judith Jones
Vietnamese women and cervical screening: How to encourage them to present.
Supervisor: Ms Priscilla Robinson

Caroline Nattrass
Lumbar spine range of motion as a measure of impairment; an investigation of reliability and validity.
Supervisor: Julie Nitschke

Congratulations also to the following students who graduated with a Diploma in Occupational and Environmental Health

Colleen Gilmour
Lisa Havelka
Peter Linton

Darren de Vries
Mary Wyatt
Postgraduate subjects &
co-ordinators

We are very grateful to the subject coordinators, especially those external to the department, who helped deliver an increasing number of Masters and Diploma subjects and ensure the continued development and success of the MPH and Graduate Diplomas in 1997. Our thanks also go to the many project supervisors who gave up their time to guide the MPH students through to completion of their research projects.

Advanced biostatistics
Dr Andrew Forbes

Biological environment
Dr David Fish

Chemical environment 1
Dr David Fish

Chemical environment 2
Dr David Fish

Child public health
Ms Elizabeth Waters

Chronic disease epidemiology
Dr Lin Fritschi

Clinical epidemiology
Dr Rachelle Buchbinder

Communicable disease control in developing countries
Dr Christine Drummond
Dr Tilman Ruff

Controlled clinical trials
A/Prof Michael Abramson

Disease prevention and rehabilitation
Dr Bruce Hocking

Drug epidemiology
A/Prof Henry Krum
Prof John McNeil

Environmental influences on health
Dr Malcolm Sim
Dr David Goddard

Epidemiology and biostatistics
A/Prof Michael Abramson
Dr Arul Mylvanaganam

Epidemiology and demography
Mr Damien Jolley

Health economics management and evaluation
Dr Graeme Hawthorn

Health promotion
Ms Catherine Itsipoulos

Health, ethics and human rights
Ms Bebe Loff

Injury epidemiology and prevention
Prof Joan Ozanne-smith

Introductory statistics
Mr Stephen Farish

Measurement in clinical research
Dr Rachelle Buchbinder

Meta analysis
A/Prof Michael Abramson

MPH Projects
Dr Malcolm Sim

Physical environment
Dr Bruce Hocking

Primary health care in developing countries
Dr Tamara Aboagye-Kwarteng
Dr Peter Deutschmann

Public health policy and planning
Dr David Legge

Research methods and computing
Dr Kit Fairley

Risk, management and law
Dr Bruce Hocking

Sociological foundations of public health
Dr Jeanne Daly
Weekly seminar series

In 1997, the department continued its successful weekly seminars coordinated by Dr Lin Fritsch. These were presented by staff, students and invited guest speakers.

The guest speakers included:

- Bruce Evatt from the Centre for Disease Control, USA, who spoke about the history of epidemiology and the discovery of HIV in transfusion recipients and haemophiliacs.
- Professor Harvey Checkoway from the University of Washington who presented a seminar on the carcinogenicity of silica.
- Dr Salim Sayed from Dhaka University, who presented a talk on the problem of arsenic contamination of groundwater in Bangladesh.
- Dr Mark Jenkins from the University of Melbourne who presented a seminar on family history in early onset colorectal cancer.
- Dr Anne Kavanagh from the Anti-Cancer Council of Victoria, who spoke on screening endoscopy and colorectal cancer in men in the US.

Many presentations were also made by department staff and students and these were an opportunity to discuss methodology and practise demonstration skills. These talks covered many areas including disability of quality of life in elderly people, managing multiple research projects, estimation of retrospective chemical exposures by occupational hygiene panels, and other topics.

Short courses

**Australian Certificate of Civil Aviation Medicine**
The department held two Australian Certificate of Civil Aviation Medicine courses for medical practitioners, in February and September. Participants came from all states in Australia including Thursday Island, and one participant was from China. The course is a prerequisite for medical practitioners wishing to become Designated Aviation Medical Examiners and is designed to provide a basic knowledge in civil aviation medicine. This enables medical practitioners completing the course to perform medical examinations on pilot licence holders, give relevant advice to air crew and air traffic service officers and make appropriate decisions on air crew medical fitness for flying status. Marilyn Cowie is the course coordinator.

**From research to practice: An update in occupational and environmental epidemiology.**
Harvey Checkoway, Professor of Environmental Health Sciences and Epidemiology at the University of Washington in Seattle, conducted this two day course as part of his sabbatical at Monash University. The course focussed on recent developments in research methodology in occupational and environmental epidemiology with an emphasis on methods used to assess exposure. Professor Checkoway is co-author of “Research Methods in Occupational Methodology” and has particular expertise in exposure assessment.

**Musculo-skeletal disorders**
This short course was provided for Health Services Australia and approximately 30 medical and non-medical staff attended. The course covered an evidence-based approach to assessments of the musculo-skeletal system.

Marilyn Cowie
Undergraduate & Short Course Administrator
PhD students 1997

Geza Benke

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

Supervisors - Malcolm Sim, Michael Abramson

This research involves the development and evaluation of an exposure data matrix for retrospective studies in occupational epidemiology and investigation of the use of questionnaires and experts in the evaluation of retrospective exposures in community-based case-control studies. During 1997, Geza assisted in the development of the Healthwise job exposure matrix. He also had one paper published and another accepted for publication.

Pauline Branley

A model of cost effectiveness for renal replacement services in Australia to predict the impact of altering cardiovascular risk factors in the chronic renal failure population.

NH&MRC Medical scholarship

Supervisors - John McNeill, Henry Krum

Dr Pauline Branley has a background in renal medicine and is conducting a study looking at vascular disease in patients with renal failure who are dependant on dialysis. The study will compare the amount of vascular disease in renal patients and in age matched healthy people, measuring carotid artery intimal-medial thickness with ultrasound, vascular compliance and forearm blood flow response to exercise and to ischaemia. This study will assist in determining the best techniques for use in an intervention study of folate supplementation in renal failure.

Shyamali Dharmage

Environmental risk factors for asthma

Departmental Scholarship

Supervisors - Michael Abramson, Haydn Walters

This project is planned to follow up a cohort of young adults yearly over three years. The first year of this project was completed successfully during 1996 in which 485 participants and their homes were investigated. Participants completed a respiratory questionnaire, skin prick tests and lung function tests in the Lung Function Laboratory, Alfred Hospital. Home visits were made to collect dust and air samples from bedrooms and to collect information on residential characteristics via a questionnaire survey. Dust samples were analysed for house dust mite allergen and cat allergen. Air samples were cultured for fungi. Data entry and cleaning have been completed. Some analyses have already been carried out.
Sally Green
Management of the stiff and painful shoulder
Departmental scholarship
Supervisors - Rachelle Buchbinder, Michael Abramson
A reliability study of shoulder range of motion has been conducted and published in Arthritis Care and Research. A Cochrane review of interventions for shoulder pain, in conjunction with the Musculoskeletal Review Group has been completed and published in the British Medical Journal. A validity study of various methods of measuring disability in the shoulder has been completed and is being written up for publication. Two randomised controlled trials of interventions for adhesive capsulitis (frozen shoulder) are in data collection phase.

Margaret Hellard
The Water Quality Study
CRCfor Water Quality and Treatment Scholarship
Supervisors - Christopher Fairley, John McNeill
The Water Quality Study is a randomised double blinded trial to determine whether removal of microorganisms from drinking water results in a decline in the rate of gastroenteritis. Six hundred families were recruited in September 1997. Participants will complete weekly Health Diaries and also Water Consumption and Food Frequency Questionnaires. Participants were invited to submit faecal specimens prior to the commencement of the study and 1093 specimens were collected over a three-month period from asymptomatic individuals.

Andrea Hinwood
Arsenic exposure, human absorption, risk and cancer
Australian Postgraduate Award
Supervisors - John McNeill, Malcolm Sim
Although health effects from arsenic have been well-documented, at the present time little is known about the degree of human absorption for people living in an area of very high environmental contamination and whether potential exposure sources including drinking water, inhalation and ingestion of soil and ingestion of contaminated food are important contributors to arsenic body burden. In 1997 a study of the risk factors of arsenic absorption (Envas) was completed which aimed to determine the significant sources of arsenic exposure in people living in areas with elevated arsenic concentrations in the environment and the risk factors for absorption. In addition, data collection commenced for an intervention study whereby usual tap water was substituted with bottled water which was free of arsenic.

Joe Ibrahim
The reliability, validity and risk adjustment of a set of pilot hospital wide clinical indicators
Australian Post-graduate Award
Supervisors - John McNeill, Flavia Cicuttini
The aim of this project is to establish the reliability, validity and risk adjustment of a pilot set of hospital wide clinical indicators as quality of care markers. The indicators studied included rate of emergency patient hospital readmissions within 28 days of separation; rate of post-operative wound infection; rate of hospital acquired bacteraemia and rate of unplanned return to the operating room. The project has involved an extensive examination of the use of administrative databases for clinical indicator data collection along with case-control studies. Data collection has been performed at ten hospitals in Victoria, NSW and SA. The field research of the project has involved screening of 2771 medical records and the photocopying of 1367 de-identified medical records. In addition, 2730 medical records underwent expert clinical peer review for quality of care ratings.

Bebe Loff
Health and human rights
NH&MRC Public Health Scholarship
Supervisors: Flavia Cicuttini, Roger Short
This project begins with a comprehensive review of the literature as to the meaning of human rights in Indigenous and non-Indigenous people, examines the evolution of human rights thinking and then more specifically examines the health care program for the prevention and treatment of sexually transmitted diseases where human rights issues will be examined in relation to health care delivery and health care outcomes. The project is being done in collaboration with the Northern Territory Health Department and Northern Territory Aboriginal community groups.

Jenny Majoor
The reliability, validity and risk adjustment of nosocomial infection clinical indicators.
Departmental Scholarship
Supervisors - John McNeill, Flavia Cicuttini
This project involves an examination of the reliability, validity and risk adjustment of nosocomial infection clinical indicators and is part of a larger project examining the reliability, validity and risk adjustment of a pilot set of hospital wide clinical indicators. The
project has involved an extensive examination of the use of administrative databases for clinical indicator data collection along with case-control studies. Data collection has been performed at ten hospitals in Victoria, NSW and SA. The field research of the project has involved screening of 2771 medical records and the photocopying of 1387 de-identified medical records. In addition, 2730 medical records have undergone expert clinical peer review for quality of care ratings.

Jean Meaklim
Risk assessment of grain protectants
Supervisors John McNeill, Malcolm Sim
This project is investigating the human health effects of using chemicals to protect stored grain from insect infestation. Data collection was completed during 1997 and involved farmers from randomly selected branches of the Victorian Farmer’s Federation throughout rural Victoria. Data was coded and preliminary analysis commenced.

Mark Nelson
Predictors of success of the maintenance of normotension after withdrawal of antihypertensive drugs in the Second Australian National Blood Pressure Study.
Supervisors - John McNeill, Henry Krum
This study aims to show that independent predictors of success of withdrawal of antihypertensive drugs can be identified that would permit the identification of individuals for implementation of withdrawal in general practice. Subjects aged 65-84 years and previously on antihypertensive medication are admitted to the study according to the protocol of the Second Australian Blood Pressure Study and managed by their usual treating GP throughout the study.

Anne-Marie Pellizzer
The effect of pharmacological and non-pharmacological therapy on autonomic function in patients with heart failure.
NH&MRC Medical Scholarship
Supervisors - Henry Krum, John McNeill
Chronic heart failure (CHF) is characterised by abnormalities of the autonomic nervous system, which have been shown to be of prognostic significance. Baroreflex sensitivity is an integrated measure of autonomic function. We have developed a non-invasive method to assess the baroreflex. The aim of this project is to use this technique to evaluate the possible benefits of various therapeutic interventions in CHF. A study was completed in 1997 examining the use of this non-invasive baroreflex assessment in normal subjects after perturbation of the autonomic nervous system. In 1996 a study was commenced in conjunction with the Alfred Hospital Department of Respiratory Medicine looking at degree and type of sleep apnoea and correlating this with haemodynamic and autonomic parameters in CHF patients. Ongoing studies are looking at the effect of low and standard dose digoxin in CHF patients in sinus rhythm and in normal subjects.

Brent Robertson
Case-Control Study of sporadic cryptosporidiosis
CRC for Water Quality & Treatment Scholarship
Supervisors - Christopher Fairley, John McNeill
This study will assess the importance of risk factors for cryptosporidiosis in the general community. The preliminary stage of the project involving the testing and validation of a water consumption questionnaire has been completed, and preliminary data analysis has been undertaken. The Pilot stage is being undertaken in Melbourne early in 1998. Cases will be people with cryptosporidiosis identified from pathology laboratory reports to the Department of Human Services, Victoria. Controls will be people without diarrhoeal illness selected randomly and matched by age and sex to the cases.

Rhonda Stuart
Tuberculosis - Mantoux testing
Monash Graduate Scholarship
Supervisor - Lindsay Grayson, John McNeil
The major study being undertaken is an assessment of Mantoux reactivity among health care workers in Melbourne teaching hospitals. This study is supported by the Health Department of Victoria, and aims to establish the prevalence of strongly positive Mantoux readings among this population. It will also identify risk factors for reactions such as past history of BCG vaccination, country of birth, age and tuberculosis contacts. Additional studies being undertaken are looking at new diagnostic tests for tuberculosis in both health care workers and patients with proven tuberculosis.
Visitors to the department in 1997

Professor Harvey Checkoway
We were very pleased to have Professor Harvey Checkoway from the University of Washington visiting the department for his sabbatical in 1997. Harvey is Professor of Environmental Health Sciences at the University of Washington and co-author of "Research Methods in Occupational Methodology". During his visit, Professor Checkoway conducted a two day course titled "An update in occupational and environmental epidemiology" which was very successful and well attended. Professor Checkoway is also on the Healthwise Advisory Board.

Professor Chris Bulpitt
Professor Bulpitt is Head of the Division of Geriatric Medicine at London’s Hammersmith Hospital, and spent a week in the department in 1997.

Dr Salim Sayed
We were also pleased to have a visit from Dr Salim Sayed from the National Institute of Preventive and Social Medicine at Dhaka University in Bangladesh. Dr Sayed was carrying out postgraduate work at the University of Newcastle in 1997 and came to the department to speak to several staff members who were involved in research on environmental arsenic. Bangladesh has a very big problem with arsenic contaminated water and during his visit, Dr Sayed gave a presentation to the department on the arsenic contamination of groundwater in Bangladesh.

Students from The Netherlands

Brechje Gosens and Noortje Hamse from the University of Nijmegen
Brechje Gosens and Noortje Hamse spent several weeks in the Unit of Occupational & Environmental Health, assisting with data collection in a study of respiratory health in tea packers. Brechje and Noortje are studying biomedical science at the University of Nijmegen. Before heading back to Nijmegen, they enjoyed travelling through the Northern Territory and North Queensland.

Staff awards

Several staff of the department were rewarded for their efforts during 1997.

At a ceremony in Montreal on September 14, Andrea Hinwood received a "Best-of-the-Best Stratospheric Ozone Protection Award" from the US Environmental Protection Agency in recognition of her work. In 1989, Andrea developed Victoria's strategy on ozone protection, which was largely used as a basis for Australia's National Ozone Phase Out Program. Andrea also chaired the UNEP Aerosol Products, Sterilants and Miscellaneous Uses, and Carbon Tetrachloride Technical Options Committee, and served as a member of the UNEP Technology and Economic Assessment Panel from 1990 to 1995. During that time she managed the assessment of some of the most complicated technical topics, including medical and sterilization uses. She has spoken at UNEP meetings in Bangkok, Caracas and Washington, communicating the message that aerosol products, sterilants and miscellaneous use sectors can stop using CFCs worldwide.

Louise Shiel was awarded the Toshiba Poster Award for the Best Clinical or Technical Research at the 27th Annual Scientific Meeting of the Australian Society for Ultrasound in Medicine. Louise presented a poster titled "Melbourne atherosclerosis and Vitamin E Trial: A randomised placebo controlled trial of Vitamin E with carotid artery intimal-medial thickness as the primary end-point". Louise is a research assistant with the MAVET study.

Gabriella Tikellis won an award for best oral and poster presentation at the Australasian Ophthalmic Visual Sciences meeting in Canberra in December. Gabriella is a research assistant with the VECAT study.

Geza Benke was awarded the Dalloz Safety Overseas Professional Development Award at the Australian Institute of Occupational Hygienists Conference in Albury. Geza is an occupational hygienist in the Unit of Occupational and Environmental Health and the award will enable Geza to attend the American Industrial Hygiene Conference and Exposition in Atlanta, Georgia in May 1998, and to visit other research centres in the US and Sweden.
Honorary staff members

Associate & Clinical
Associate Professors

SM Garland
GG Giles
CN Gray
ML Grayson
DJ Hill
GD Johnstone
GJ Rouch
HJ Smith
GW Whyte

Honorary Senior Lecturers

DG Barton
RJ Bell
RM Borland
RJ Burns
JN Crofts
WG Hart
EW Knight
VK Lin
KJ MacDonald
SM McGhee
T Ruff
MJ Toole

Honorary Lecturers

VR Collins
MAW Curran
FMPJ de Courten
WG Hart
R Horsley
DJ Jolley
PW Kamen
D Kolzman
DJ McCarty
EJ Ozanne-Smith
CM Reid
PM Robinson
H Sutcliffe
SC Thompson
Income derived from external sources (grants & contracts)

Income derived from internal sources (core funding)
Publications

Book chapters


Journal Articles


Cicuttini FM and Spector TD. What is the evidence that osteoarthritis is genetically determined? Bailliere's Clinical Rheumatology 1997;11(4):369-381.


Non-refereed Journal Articles


Editorials/Reviews


Service activities of academic staff

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

Rachelle Buchbinder is a member of the Australian Rheumatology Association, the Royal Australian College of Physicians, the Australian Medical Association and the American College of Rheumatology. She is a member of the Economic Sub-committee of the Pharmaceutical Benefits Advisory Committee.

Flavia Cicuttini is a member of the NH&MRC Regional Grant Interviewing Committee and the Victoria Centre for Ambulatory Care Innovation Advisory Group.

Lisa Demos is a member of the Society of Hospital Pharmacists of Australia (SHPA) and the Australian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT). Lisa is currently on the ASCEPT Working Party for Drug Usage Evaluation and the SHPA COSP on Acute Home Care. Lisa is also coordinator of the Alfred Hospital Drug Use Subcommittee and a member of the Melbourne Teaching Drug Usage Group, the Victorian Drug Use Evaluation Special Interest Group and the Victorian Drug Usage Advisory Committee on Adverse Drug Reactions.

Christopher Fairley is on the NH&MRC Regional Grants Committee in Brisbane and the NH&MRC Committee on Antibiotic Resistance.

David Fish is a Chief Examiner for the Australasian Faculty of Occupational Medicine (RFACP).

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

Lin Fritschi is a cancer epidemiologist with a particular interest in occupational causes of cancer. She is a member of the Council of the Australasian Epidemiological Association (AEA) and co-editor of the official publication of the AEA (the Australasian Epidemiologist). She is also a member of the Canadian Society for Epidemiology and Biostatistics, the Clinical Oncology Society of Australia, and the Monash Medical Centre Human Research and Ethics Committee B.

David Goddard is a consultant in occupational medicine to the Royal Australian Air Force and an examiner for the Australasian Faculty of Occupational Medicine. David is a Fellow of the Australasian Faculty of Occupational Medicine and a member of the Australian and New Zealand Society of Occupational Medicine.
Bruce Hocking is a member of the Australian Standards Association Committee TE/7 and the Australian Standards Association Subcommittee on medical standards for laser exposures, and also a member of the Monash University Advisory Committee Statistical Consulting Centre.

Henry Krum is a Council Member of the Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists, and is currently convenor of the Clinical Section of that society. He is also a member of the Cardiac Society of Australia and New Zealand and the American Heart Association. Henry is a member of several Monash committees including the Faculty of Medicine Research Committee and the Monash University Human Research Ethics Committee. He is Head of Clinical Pharmacology at the Alfred Hospital, a visiting physician to the Alfred Heart Centre, a member of the Professorial General Medical Unit, the Pharmacy and Therapeutics Advisory Committee and the Research Ethics Committee of the Alfred Healthcare Group.

Arul Mylvaganam is a Chartered Statistician with the Royal Statistical Society of the UK and a reviewer of the Australian Journal of Public Health.

John McNiel is visiting physician in the Hypertension and Vascular Medicine Unit at Monash Medical Centre. He is a member of the NH&MRC Research Grants Committee and is chair of the research committee for the National Stroke Foundation and the Dunlop Foundation for Medical Research. He also chairs the Ethics Committee of the Alfred Hospital.

Alex Padiglione is a Fellow of the Royal Australian College of Physicians and a member of the Australian Society for Infectious Diseases and the Australian Society for HIV Medicine.

Martha Sinclair is a member of the Australian Society for Microbiology, and Editor of the Health Stream newsletter of the CRC for Water Quality and Treatment. Martha is also the departmental network manager, a member of the Biomedical Library Advisory Committee and a member of the Education Committee of the CRC for Water Quality and Treatment.

Malcolm Sim is a councillor and Chief Censor and Chair of the Board of Censors for the Australasian Faculty of Occupational Medicine, a member of the Radiation Advisory Committee of the Victorian Department of Human Services, a member of the Editorial Board of the Journal, *Occupational and Environmental Medicine*, and a member of the Scientific Committee in Occupational Epidemiology of the International Commission in Occupational Health and on the Research Advisory Committee of the Royal Australasian College of Physicians. He is also a member of the Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists, the Australasian Epidemiological Association.