Department of Epidemiology & Preventive Medicine

Annual Report

1999

A partner in the Victorian Consortium for Public Health and the Co-operative Research Centre for Water Quality and Treatment

MONASH PUBLIC HEALTH
The Department of Epidemiology and Preventive Medicine was established in 1969 at the Monash University Medical School - Alfred Hospital, and relocated to an adjacent site in St Kilda Road in 1995.

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

A number of trends in public health and health care funding have led to an increased demand for these specialist skills. These trends include an emphasis on applied clinical research to provide evidence of effectiveness of medical interventions; a rapid increase in provision of health related data driven by the need for financial accountability and quality assurance; a growing emphasis and financial incentives for prevention of illness; an increased emphasis on measuring the quality of health care; and an increased concern about legal liability which requires identification of long term hazards of medical interventions.

Financial support for research is drawn from a variety of State and Federal Government bodies, private companies and charitable organisations primarily in the form of competitive grants. DEPM ranks among the most successful Monash University departments in attracting external research funding. We also undertake contract research and consultancies for a wide range of industry bodies and government departments, and are partners in the Australian Government Cooperative Research Centre Program.

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

We also provide high quality PhD research training to graduates from a broad spectrum of medical and non-medical backgrounds. Epidemiology (together with Biostatistics) is the key scientific discipline underlying some of the most important and rapidly developing areas in medicine, and our PhD graduates are equipped with core skills which form the basis for a successful future career in a range of fields.
How to contact us

Mail should be addressed to:

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Prahran, Victoria 3181, Australia

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Postgraduate course information
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Short course information
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Biostatistics Unit
Dr Andrew Forbes
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Chronic Disease and Diagnostic Test Evaluation Unit
A/Prof Flavia Ciucuțini
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flavia.ciucutini@med.monash.edu.au

Clinical Epidemiology Unit
A/Prof Michael Abramson
Phone 9903 0573
michael.abramson@med.monash.edu.au

Clinical Pharmacology Unit
A/Prof Henry Krum
Phone 9903 0042
henry.krum@med.monash.edu.au

Epidemiological Modelling Unit
Dr Theo Vos
Phone 9903 0994
theo.vos@med.monash.edu.au

Health Services Management Unit
Dr Jenny Majoor
Phone 9903 0599
jenny.majoor@med.monash.edu.au

Health Services Research Unit
Dr Joseph Ibrahim
Phone 9903 0591
joe.ibrahim@med.monash.edu.au

Infectious Disease Unit (Incorporating the CRC for Water Quality & Treatment)
Dr M Sinclair
Phone 9903 0571
marthe.sinclair@med.monash.edu.au

International Health & Development Unit
Prof Mark Wahlqvist
Phone 9903 0581
mark.wahlqvist@med.monash.edu.au

Occupational & Environmental Health Unit
A/Prof Malcolm Sim
Phone 9903 0582
malcolm.sim@med.monash.edu.au

Preventive Medicine Unit
Prof J McNeil
Phone 9903 0565
john.mcneil@med.monash.edu.au

visit our website at http://www.med.monash.edu.au/epidemiology
From the Head of Department
Staff of the Department
Students
Honorary staff
Research in 1999
Income from external sources 1999
New research in 2000
Research Units in the Department
Administration Unit
Biostatistics Unit
Chronic Disease & Diagnostic Test Evaluation Unit
Clinical Epidemiology Unit
Clinical Pharmacology Unit
Epidemiological Modelling Unit
Health Services Management
Health Services Research
Infectious Disease Unit (Incorporating the CRC for Water Quality & Treatment)
International Health & Development Unit
Occupational & Environmental Health Unit
Preventive Medicine Unit
Undergraduate Teaching
Postgraduate teaching
Postgraduate Subject Coordinators
Short courses
PhD program
Graduates
BMedSc students
Publications
Welcome to the annual report for 1999. After all the hectic changes in 1998, this was a year of consolidation for the Department. As the report is appearing a little later than usual, we have foreshadowed some of the activities commencing early in 2000. Members of the Department were involved in the official opening by the Minister of Health and subsequent planning day for the Monash Institute of Public Health Research at Monash Medical Centre. Professor Kerin O'Dea and staff of the Nutrition & Preventive Medicine unit relocated to the Institute. Good links were established with the Centre for Clinical Effectiveness, Complementary Medicine Research Unit and the Australasian Cochrane Centre within the Institute. We look forward to working closely with the Institute in the future.

There were a number of important developments in postgraduate public health education. The Commonwealth Public Health Education & Research Program was reviewed by an international team chaired by Professor Terry Nolan. The Victorian Consortium for Public Health, in which Monash is a key player, was commended for its successful MPH program. A new Master of Health Services Management was introduced by Dr Jenny Major and 30 postgraduate students from Indonesia arrived at the beginning of 2000 to undertake this program. Links were also established with George Washington University in the USA to market health services management training elsewhere. For local students interested in less intensive courses, we introduced new graduate certificates of clinical trials and occupational health.

Undergraduate courses in medicine and biomedical science received considerable attention from our academic staff. Fourth year medicine and research was extensively revamped by Dr Flavia Cicuttini and received favourable student evaluations. The Department has enthusiastically embraced new educational technologies and produced a clinical pharmacology course on a CD-ROM. We would like to record our appreciation particularly to the part time and honorary teachers who contributed greatly to the success of all these subjects. The Department is now actively involved in planning the new 5 year undergraduate medical course at Monash. We enjoyed our largest ever intake of Bachelor of Medical Science and BSc (Hons) students in 1999. These young people were a lively presence in the open plan area and we know that the research skills they acquired will stand them in good stead for their future careers.

Some important new research projects got off the ground in 1999. A whole new area of research into prehospital care was developed by the Preventive Medicine Unit in collaboration with A/Prof Peter Cameron and others. The collaborative trial of Vitamin E for cataract prevention (VECAT) received an extension of funding from NHMRC. Dr Lin Fritschi became a coinvestigator on a new NHMRC funded case control study of Non Hodgkin lymphoma. Other members of the Department received competitively awarded grants for research into topics as various as osteoarthritis and the relationship between dairy products and asthma. Industry supported research included a case control study of cancer in petroleum workers and randomised controlled trials of various complementary therapies.
The Cooperative Research Centre for Water Quality & Treatment public health program went from strength to strength. Under the leadership of A/Prof Kit Fairley and Dr Martha Sinclair, the CRC successfully completed the largest ever randomised controlled trial of water filtration for the prevention of gastrointestinal illness. At the time of going to press, it is very pleasing to note that this trial received the Victorian Department of Human Services Award for Excellence in Public Health Research.

We congratulate Dr Andrew Forbes and Dr Susan Davis on their promotions to Associate Professor, which took effect at the beginning of 2000. Androw cheerfully carried an enormous load as the sole full time biostatistician during most of 1999 and we are greatly indebted to him. The following PhD candidates submitted their theses in 1999: Margaret Hellard, Shyamali Dharmage, Sally Green and Pauline Branley. Congratulations to Dr Andrea Hinwood who completed all requirements and was awarded her PhD. For further details, see elsewhere in this annual report.

We gained an International Health and Development Unit headed by Professor Mark Wahlqvist and welcomed Mark, Dr Fabien Dalais, Dr Gayle Savidge and Yta Meliala into the Department. Their unit has been very helpful in internationalising our activities. Another new development was the establishment of an Epidemiological Modelling Unit by Dr Theo Vos. The Complementary Medicine Research Unit headed by Dr Marc Cohen subsequently relocated most activities to the Monash Institute of Public Health Research. Other new staff in 1999 included Dr Kath Ogden, Dr Rachel Stoney, Kate Edwards-Coghill, Anna Laffy, Tegan James, Paul Lightfoot, Danila DiTrocchio, Karen Martin, Maria Karvelas and Julianna O'Keefe.

We farewelled the following staff in 1999: Dr Anna Peeters, Dr Anil Mylvaganam, Dr Max Watson, Kate Edwards-Coghill, Anna Laffy, John Elliot, Jennifer Cope, Paul Burton, Lorien Barrie, Geoff Aldred, Louise Shiel, Jody Anne See, Irina Sagolovska, John Pastoriza Pinal Lisa Natoli, Maria Karvelas, Sinead Garrett, Catherine Wharton, Kate Butler, Geoff Simmons, Alex Tzanidis, Lyndall Thomson, Kimberly Gibson, Isabel Guise, Fiona Savio and Joanne Ferguson. We thank them for their contributions to the Department which are documented elsewhere in this report and wish them well for the future.

After a period of unparalleled growth, we look forward to the new millennium with considerable enthusiasm. There are exciting opportunities in public health education and research upon which we are well placed to capitalise. I hope that you enjoy this annual report and welcome any comments that you might have. The Department also produces a regular newsletter and weekly e-mail bulletin. Let us know if you would like to be on the distribution list. In closing, I must sincerely thank all contributors and particularly Carolyn Barrie for producing this report.
Professor & Head of Department
Head of Unit, Preventive Medicine
John McNeil, Professor MBBS, MSc, PhD, FRACP, FAFPHM

Academic Staff
Abramson, Michael, Associate Professor, MBBS(Hons), BMedSc, PhD, FRACP, FAFPHM, Deputy Head of Department, Head - Unit of Clinical Epidemiology
Buchbinder, Rachelle, Dr, MBBS(Hons), MSc, FRACP (part-time), Senior Lecturer
Briganti, Esther, Dr, MBBS, GDipClinEpi, FRACP, Senior Lecturer
Cicuitini, Flavia, Associate Professor, MBBS(Hons), MSc, DHTM, PhD, FRACP, FAFPHM, Head - Unit of Chronic Disease & Diagnostic Test Evaluation.
Cohen, Mark, Dr, MBBS(Hons), BMedSc(Hons), DipAc, PhD, FAMAS, Senior Lecturer
Dalais, Fabian, Dr, BSc(Hons), PhD, Senior Research Officer
Davis, Susan, Associate Professor (part-time), MBBS, PhD, FRACP
Demos, Lisa, Dr, BPharm, GDip Hosp Pharm, PhD (on secondment from Alfred Hospital), Senior Research Fellow
Elder, David, Dr, MBChB, DGM, MRCGP, GradDipOcChth, MPH, FAFOM, Senior Lecturer (part-time).
Fairley, Christopher, Associate Professor, MBBS, PhD, FRACP, FAFPHM, Head - Unit of Infectious Diseases
Fritschi, Lin, Dr, MBBS, PhD, FAFPHM Senior Research Fellow*
Fish, David, Dr, MBBS, FAFOH, FAFPHM Senior Lecturer (part-time).
Forbes, Andrew, Associate Professor, BSc(Hons), MSc, PhD, Head - Unit of Biostatistics
Goddard, David, Dr, BMedSc, MBBS, DOH, FAFOH, MFOM, Senior Lecturer
Hellard, Margaret, Dr, MBBS, FRACP, Senior Lecturer.
Hocking, Bruce, Dr, MBBS, FRACP, FAFOH, Senior Lecturer (part-time)
Ibrahim, Joa, Dr, MBBS, FRACP, MHA, PhD, Senior Lecturer
Krum, Henry, Associate Professor, MBBS, PhD, FRACP, Head - Unit of Clinical Pharmacology
Majoer, Jenny, Dr, MBBS, MHA, FRACMA, PhD, Senior Lecturer
Ogden, Kathleen, Dr, MBBS, FRACP, Lecturer
O'Malley, Gayle, Dr, DipTeach, BSc, GDipDiet, PhD, Senior Training Officer
Sim, Malcolm, Associate Professor, BMedSc, MBBS, MSc, GDipOcHyg, PhD, FAFOH, FFOM, FAFPHM, Head - Unit of Occupational & Environmental Health
Sinclair, Martha, Dr, BSc(Hons), PhD, Senior Lecturer
Vos, Theo, Dr, MD, MSc, Senior Lecturer (part-time)
Wahlqvist, Mark, Professor, BMS, MD, FRACP, FRACP, FAIFST, FACN, FAFPHM, Head, Unit of International Health & Development

Post-doctoral Research Fellows
Woods, Rosalie, Dr, BSc, GDipDietetics, MPH, PhD
Stoney, Rachel, Dr, BSc(Hons), MHN, PhD

Research Fellows/Officers
Aldred, Geoffrey*, BBus
Bailey, Michael, BSc(Hons) MSc(Statistics)
Benke, Geza, BSc MAppSci GDipQuanMetl, FAIOH
Chan, James, MBBS
Garrett, Sinead*, BAppSc, MPH
Glass, Deborah, BA(Hons), CertEd, MSc
Ilkin, Jill, BA(Psych) GradDipBHlth
Killalea, Sheila, MB ChB, BAO, MD, MRCPI
Manser, Renee*, MBBS, FRACP
Poeters, Anna, BSc(Hons), PhD*
Piers, Sunil*, MBBS, MD, PhD
Ritzk, Samantha, BA, BSc, MSc
Robman, Luba, MD PhD
Watson, Max, BAppSc, MRuralSc, PhD, GradDipEpi
Computer Systems Officer
Fee, Colin

Software Resources Officer
Doherty, Nicole, BComputing (InfoSyst)

Research Assistants
Butler, Kate*, BHlthSc (Nursing)
Hankin, Judy, BA(Psych) RN
Karvelas, Maria, BSc, MPH
Lightbody, Pam, BSc
Mai, Trudy, BAppSc
O'Keeffe, Julianna, BSc, GDipEd
Pastoviza-Pinol, John, BSc(Hons)
Ristevski, Sonya, BSc(Hons)
Simmons, Geoff*, BSc(Hons)
Shiel, Louise, BSc GradDip AppSci DipEd
Skiba, Marina, BEd
Smith, Karen, BSc(Hons), GradDipEpi&Biostat
Tikellis, Gabriella, BSc
Tzanidis, Alex*, BSc(Hons)
Wharton, Catherine, BAppSc HlthPromotion
Yeow, Elaine, BSc, MHN

Administrative Staff
Anderiesz, Natalie, Admin Officer, Finance & Resources
Apostolou, Effie, Recept/Secretary
Barrie, Carolyn, Administrator, Vic Consortium of Public Health
Blach, Rhonda, BEd, Postgraduate Courses Administrator
Cherry, Sandra, Personal Assistant to HOD
Cope, Jenny, BA, Admin Assistant*
Cowie, Marilyn, RN, Admin Officer, Short Courses & Undergrad
Teaching
DiTrocchio, Danila, Admin Assist, Clin Pharm Unit.
Frew, Edward, Clerical Assistant
McKeown, Sonya, BA(Hons) Resources Manager
Patchett, Annette, Office Assistant
Sagolcovska, Irina, (VECAT)
Ryan, Anna, BA, Admin Secretary, Ashley Ricketson Centre
Thomson, Lyndall*, BA, GDipMarArc, P/grad Course Admin
Toparlanis, Phyllis, Admin Secretary

Research Nurses
Edwards-Coghill, Kate, RN, RMN, BAppSc(HlthProm)*
Ferguson, Joanne, RN, DipEd
Gibson, Kimberley, BA, RN*
Guise, Isabel, RN*
Harris, Linton, RN, DipAppSc(Nursing)
James, Tegan, BA(Hons), RN
Laffy, Anna, BN*
Lightfoot, Paul, DipNursing, BN
Martin, Karen, BHlthSc(Nursing), SEN
Natoli, Lisa, RN, DipAppSc(Nursing)*
Richardson, Fiona, N, DipAppSc(Nursing), GDipHlthProm&Ed
Savio, Fiona, BNSG, MHealthSc*
See, Jody Anne, RN, GradDipAdvCommHlthNursing*
Snaddon, Judy, BA, SRN, SRM
Vincent, Trina, RN*
Wicking, Judy, RN
Willis, Jessika, BSc, GDipHumServRes, RPN
Zioikowski, Sue, RN, GDipDrugEvalPharmSc*
PhD Scholars
Jim Black, MBBS(Hons) DTM&H, MCommH
Branley, Pauline, BMed, FRACP
Cranswick, Noel, MBBS, BMedSci, FRACP(Paed) (Melb Uni)
Dharmage, Sthymail*, MBBS MSc MD
Green, Sally, BAppSc, GDip(ManipPhysio)
Glisson, Mike, MAppSci, DAppSci (Med Rad), DQual
Hellard, Margaret, MBBS FRACP
Kainer, Marion, MBBS, FRACP
Kwok, Anthony, GDipPhysio, GDipHlthAdmin, MHA
Lim, Stephen, BSc(Hons)
Loff, Bebe, MA(Lond), BA, LLB
Martin, Paul, MB, BCH, BAO, MRCP, FRACP
Meaklim, Jean, BSc(Hons), MAppSc
Meyer, Alastair, BSc(Hons), BMedSci, MBBS, FACEM
Nelson, Mark, MBBS, GDipFamMed, MFamMed
Padiglione, Alex, MBBS, FRACP
Pellizzier, Ann-Marie, MBBS, FRACP
Robertson, Brent, MBBS
Smith, Karen, BSc(Hons)
Stephenson, Hugo, BSc, MBBS
Stuart, Rhonda, MBBS FRACP
Wiluka, Anita, MBBS, Dip Int Med, FRACP

BMedSci and Honours students
Chow, Yvonne (BMedSci)
Fineberg, Daniel (BMedSci)
Giorlando, Frank (BMedSci)
Iacono, George (BMedSci)
See, Fiona (BSc Hons)
Ting, Jason (BMedSci)
Urban, Damien (BMedSci)
Honorary Professors, Associates & Clinical Associate Professors

Dr M Ackland
Dr TF Baumgartner
Prof M Elwood
Dr SM Garland
Dr GG Giles
A/Prof CN Gray
Prof ML Grayson
Mr GD Johnstone
Dr S Leggat
Dr PS Myles
Prof EJ Ozieanne-Smith
Dr A Proudfoot
Dr GJ Rouch
DR HJ Smith
A/Prof P Stoloe
A/Prof MJ Toole
Dr M Walsh

Honorary Senior Lecturers

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

Honorary Lecturers

Dr T Aboagye-Kwartang
Mr S Begg
Ms S Choo
Dr N Cranawick
Dr M Curran
Dr FMPJ De Courtan
Dr R Horsley
Dr M Kainer
Dr PW Kamen
Dr S Killalea
Dr D Kong
Dr D Kotzman
Dr DJ McCarty
Dr DW Morgan
Dr CM Reid
Ms PM Robinson
Dr H Sutcliffe
Ms L Vaughan
Dr S Whorlow
NH&MRC funded

• A randomised trial of high dose folic acid to slow the progression of atheroma in renal failure
  Prof JJ McNeil, Prof R Atkins, A/Prof BP McGrath, Dr PG Kerr,
  NH&MRC Project Grant, 1998-2000, $377,999.00.

• Cancer in textile manufacturing workers
  Dr L Fritschi

• Case control study of risk factors for cryptosporidium infection in people with HIV
  A/Prof C Fairley, Dr ME Hellard, Dr GJ Dore
  NH&MRC, 1998-1999, $80,176.00.

• Clinical trial of antioxidants to slow progression of osteoarthritis
  A/Prof FM Cloutnini
  NH&MRC Project Grant, 1998-2000, $110,865.00.

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

• Immunological, infectious, occupational and environmental risk factors for non-Hodgkins lymphoma.
  Prof BK Armstrong, Dr L Fritschi, Dr ST Milliken, Dr A Krickar.

• Is diet responsible for the high asthma prevalence among young adults?
  Dr R Woods
  NH&MRC PHRDC Postdoctoral Fellowship, 1998-2005, $221,820.00.

• 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

• 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, $263,792.00.

• Prevention of cataract and age-related macular degeneration with vitamin E in the elderly
  Prof JJ McNeil, Prof HR Taylor, Prof CA Silagy.
  NH&MRC Project Grant (extension), 1999-2000, $419,137.00.

Other competitive funding

• An estimation of the impact of trauma triage and transfer guidelines on the resources of Ambulance Service Victoria
  Dr A Peeters, A/Prof P Cameron, Prof J McNeil, Ms K Smith, Dr A Meyer
  Dept of Human Services, 1999-2000, $91,382.00.
• Antioxidant therapy for cardiovascular protection in smokers: The Melbourne Atherosclerosis and Vitamin E Trial (MAVET)
  Prof J McNeil, A/Prof B McGrath, Ms L Shiel
  Monash University Research Fund Grants, 1999, $40,000.00.

• Determining volume of knee cartilage by MRI
  A/Prof F Cicutti
  Alfred Hospital, 1999, $19,773.00.

• Does oestrogen replacement therapy (ORT) prevent osteoarthritis?
  Dr F Cicutti, A/Prof S Davis

• Do dairy products contribute to the high asthma prevalence among young adult Australians?
  Dr R Woods, A/Prof M Abramson,

• First responder pilot project
  Prof J J McNeil

• Healthwise: A study of health and work in employees of Alcoa of Australia Limited, Portland Aluminium and KAALRolling Mill
  Dr M Sim, Dr L Fritschi, Prof AW Musk, Prof JJ McNeil
  Alcoa of Australia Ltd, 1994-2000, $1,975,099.00.

• Health Watch case control study (in collaboration with Deakin University)
  A/Prof M Sim, Dr L Fritschi, Dr D Glass, A/Prof C Gray
  Australian Institute of Petroleum Ltd, 1989-2000, $217,174.00

• Occupational causes of prostate cancer - development and pilot of a workplace exposure database
  Dr M Sim, Dr L Fritschi
  Shepherd Foundation, 1998-2000, $47,837.00.

• Performance Indicator Development Project
  Prof J McNeil, A/Prof F Cicutti, Dr J Ibrahim, Dr J Majeed
  Department of Human Services, 1999-2000, $169,000.00.

• Prevalence of sexually transmitted diseases among street workers
  A/Prof CK Fairley
  Dept of Human Services, 1999, $36,000.00.

• Randomised double blind study of the use of electromagnetic field therapy in the treatment of osteoarthritis of the knee
  Dr Marc Cohen, Dr Rachelle Buchbinder
  Innoline Australia Pty Ltd, 1999, $40,000.00.

• Randomised double blind trial of the use of air ionisers in the treatment of asthma
  Dr Marc Cohen, A/Prof Michael Abramson, Dr R Woods, Ms F Giolando, Mr J Shaw,
  Bionic Products Pty Ltd, 1999, $40,000.00.

• Role of endothelin in the progression of chronic heart failure
  A/Prof H Krum
  National Heart Foundation of Australia, 1998-1999, $66,000.00.
• SABRE (Surveillance of Australian workplace Based Respiratory Events) - a pilot study
  AProf M Sim, AProf M Abramson
  Australian Lung Foundation, 1998-99, $97,862.00.

• Stocktake of information and data sources to support research into the impact of work organisation and workplace exposures on health
  AProf M Sim, Ms J O’Keefe, Ms A Shaw
  Commonwealth Department of Health and Aged Care, 1999-2000, $39,692.00.

• The pain free hospital
  Dr J Ibrahim, Dr J Majoor, AProf F Cicutiini, Prof J McNeil, Dr PMyles
  Medical Benefits Fund of Australia Ltd, 1999-2000, $35,517.00.

Collaborative Research Centre for Water Quality and Treatment

• A case-control study of cryptosporidium - Adelaide
  AProf 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, 1998-2000, $184,158.00.

• A case-control study of cryptosporidium - Melbourne
  AProf 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, 1998-2000, $181,755.00.

• A system for the early detection of outbreaks of water-related gastroenteritis in Australia
  Dr J Black, AProf CK Fairley, Dr M Kirk
  Co-operative Research Centre for Water Quality and Treatment, 1999-2002, $70,615.00.

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

• Water Quality Study
  AProf 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.

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
Income derived from external sources (grants and contracts) 1999

$ Millions

Year

Research beginning in 2000

- A clinical trial of the Buteyko Technique for asthma
  A/Prof M Abramson, Dr M Cohen, Dr D Johns, Prof H Waiters
  Alfred Hospital, 2000, $19,008.00

- A health study of Australia's Gulf War veterans
  A/Prof M Sim, Prof J McNeil, Dr L Fittsch, Prof N Cherry, A/Prof A Forbes

- A randomised trial of telephone support for chronic heart failure patients at high risk of rehospitalisation
  Prof A Tonkin, A/Prof H Krum, Prof L Piterman
  National Heart Foundation, 2000-2001, $90,000.00.

- Costs and benefits of cardiovascular prevention within strata of age and risk
  Prof J McNeil, Dr A Feeters
  VicHealth, 2000, $62,000.00

- Does oestrogen replacement therapy prevent knee cartilage loss in post-menopausal women?
  A/Prof F Cicuttini, Dr A Wluka, A/Prof S Davis, Dr S Stuckey

- Economic evaluation of community gastroenteritis
  Prof J McNeil, A/Prof C Fairley, Dr M Sinclair
  CRC for Water Quality and Treatment, 2000, $140,700.00.

- Evaluating EtO exposure under OSHA's 1984 EtO Standard
  Dr T La Montagne
  NIOSH, 2000-2002, $47,419.00. (Administered through Harvard School of Public Health)

- Evaluating OSH Programs in manufacturing and small business
  Dr T La Montagne
  NIOSH, 2000-2002, $54,340.00. (Administered through Dana-Farber Cancer Institute)

- Evaluation of the Metropolitan Fire and Emergency Service Board Training of First-Responders for the Emergency Response
  Prof J McNeil, Ms K Smith
  Metropolitan Fire and Emergency Service Board, 1999, $13,417.00.

- Investigation of the natural history of community-acquired Hepatitis C in a cohort of participants with an average of 25 years of being infected with Hepatitis C
  Dr M Holland
  NHMRC Australian Clinical Research Fellowship 2000-2004, $283,128.00.

- Norwalk-like viruses and the contribution of drinking water
  Prof J McNeil, A/Prof C Fairley, Dr M Sinclair
  CRC for Water Quality and Treatment, 2000, $112,320.00.

- Risk factors for asthma, chronic bronchitis and emphysema in older adults
  A/Prof M Abramson, A/Prof M Sim, Prof H Waiters
  NHMRC, 2000-2002, $320,443.00.
Research Units

Staff of the Department have expertise in a wide range of specialist areas and although the Department is made up of research units, each with their own specialist staff, these units work in collaboration with each other, bringing a wide range of skills to research undertaken.

Units within the Department are:

- Administration Unit
- Biostatistics Unit
- Clinical Epidemiology Unit
- Clinical Pharmacology Unit
- Chronic Disease & Diagnostic Test Evaluation Unit
- Epidemiological Modelling Unit
- Health Management Unit
- Health Services Research Unit
- Infectious Disease Epidemiology Unit (incorporating the CRC for Water Quality & Treatment)
- International Health & Development Unit (incorporating the FAO Centre of Excellence in Food Quality, Safety and Nutrition)
- Occupational & Environmental Health
- Preventive Medicine Unit

The areas these units cover include

- Applied clinical research
- Respiratory medicine
- Environmental toxicology
- Outcomes assessment
- Preventive medicine
- Infectious disease epidemiology
- Cancer prevention
- Drug safety monitoring
- Clinical epidemiology
- Neuro epidemiology
- CRC in Water Quality
- Information technology
- Health management
- Outbreak investigation
- Clinical trials
- Drug evaluation
- Evidence based medicine
- Occupational health
- Quality assurance audit
- Health promotion
- Health services research
- Cardiovascular disease
- Drug evaluation
- Device safety monitoring
- Nutrition
The Administrative Unit contributes to every area of the Department.

In 1999 staff were:
Natalie Andriesz
Effie Apostolou
Carolyn Barrie
Rhonda Blaich
Sandra Cherry
Jennifer Cope
Marilyn Cowie
Danila DiTroccio
Nicole Doherty
Colin Fee
Edward Frew
Lucinda Gehrig
Sonya McKeown
Annette Patchett
Lyndall Thomson
Phyllis Toparlenis

The Administrative Unit experienced a successful and productive year in 1999. The introduction of the SAP finance and human resource management system at Monash had substantial implications for many members of our group. Our staff were involved in many training courses and experienced the nervousness associated with the move to a completely new system. Would the bills be paid and more importantly would our staff be paid at the changeover date? Luckily, and due to the excellent efforts of our staff and the SAP trainers and team members at Clayton campus, the change over was quite smooth and without any major disasters. We were very happy to say goodbye forever to the clunky antiquated old systems that Monash had used for the last 20 years!

Although it was a fairly stable year in terms of staffing, we did have the opportunity to welcome some new people and say farewell to some others. Early in 1999, Lyndall Thomson (Postgraduate Courses Administrator) departed to enter graduate Medicine in Sydney. This was something that Lyndall always wanted to do and we all felt very excited and proud that she was accepted into the course. For someone with ambitions in other areas, Lyndall did a remarkable job as an administrator and certainly added a lot of character to our team. In her place we welcomed Rhonda Blaich, who had actually worked for us on a previous project. Rhonda came to us from RMIT with vast amounts of experience in student administration and management and it really does show in the changes she has made in the postgraduate administrative area.

Jennifer Cope was also undertaking a postgraduate accounting course at Monash while working for Henry Krum as an administrative assistant. No surprise that before she finished the course she was snapped up by Arthur Anderson for an accountancy position. We know she will do well and wish her the best in her real career. In December we secured the services of Danila DiTroccio to replace Jennifer, much to Henry's relief. Danila is another diligent student at Monash in her final year in 2000.

One of the most difficult parts of 1999 for me was saying goodbye to Natalie Andriesz for six months. We were excited and happy for Natalie when she and Damien were married, however six months on honeymoon was quite a scary concept! Luckily for me, we had someone equally competent and willing to fill the gap and that was Effie Apostolou. I will be forever grateful for Effie's hugely competent help and her considerable skill in learning the new finance system from scratch. It was quite obvious that Effie's skills in this area would mean that on Natalie's return she would seek a more challenging role and that is exactly what happened in early 2000.

I would like to thank the entire Administrative Unit team for making the year go so smoothly and for making working life at DEPM supportive, exciting, challenging and fun.
The Biostatistics Unit is involved in collaborative epidemiological and statistical research projects within and external to the department.

The Unit also provides statistical support to the Department's staff and students, and is involved in statistical components of the Department's teaching programs.

The Biostatistics Unit has significant input into design, data collection and analysis for the vast majority of research projects conducted in the Department. Members of the Unit hold chief investigator 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, also for external clients and bodies.

The teaching activities of the Unit consist of lectures and tutorials within and external to the Department. The Unit conducts undergraduate medical student teaching in first, second and fourth year of the medical program, and in the first year of the Bachelor of Biomedical Science course.

Postgraduate teaching includes biostatistics and computing subjects for the Master of Public Health and the Graduate Diplomas in Clinical Epidemiology, Occupational and Environmental Health, Clinical Health Management, International Health and a number of courses offered outside the Department. Other activities include a series of statistics lectures for researchers at the Alfred Hospital and education sessions for the Royal Australasian College of Physicians.
The research work of this Unit focuses mainly on the assessment and prevention of disability.

Rate of knee joint cartilage loss in people with osteoarthritis compared to normal controls. A longitudinal study to determine whether those with osteoarthritis lose joint cartilage at a faster rate than age and sex matched controls. The available methods to examine joint cartilage are very insensitive - plain knee radiology (X-ray) is insensitive to small changes over time. We have developed a non-invasive method using MRI (Magnetic Resonance Imaging) that accurately and reproducibly measures small changes in cartilage volume. We are using this method to measure the rate of cartilage loss in individuals with osteoarthritis compared to the normal population. This is important information for our understanding of this disease and in establishing the utility of this novel technique as an outcome measure in intervention studies of OA.

Does oestrogen replacement therapy (ORT) prevent osteoarthritis? A cross-sectional study to determine whether oestrogen replacement therapy slows progression of osteoarthritis of the knee. There is no treatment available that effects progression of OA. Oestrogen replacement therapy has been shown to be important in reducing the risk of cardiovascular disease and fracture rate in women. If hormone replacement therapy protects against loss of joint cartilage, this would be a potentially important preventive treatment for OA, a disabling condition affecting about 30% of women over 65 years. We hope to determine whether oestrogen replacement therapy protects against loss of knee joint cartilage in normal women using a novel, non-invasive method for measuring cartilage volume.

A cross-sectional study of the role of gender, pubertal stage, linear growth and physical activity in knee cartilage development in children. A longitudinal study to determine whether there are gender differences in development of knee cartilage. We have previously shown strong gender influences on knee cartilage volume, particularly in the femoral and patella cartilages. These appear to be independent of size differences in men and women. There is a dearth of information on both cartilage development and change over time. We are currently undertaking a cross-sectional study of 100 randomly selected children aged 9-18 years who will be followed longitudinally. Low "peak" cartilage volume may be a potential explanation for the observation that females have 1.5-4.0 fold higher risk than males of developing knee OA in later life, analogous to the relationship between peak bone mass and risk of osteoporosis in later life.

Are professional runners at increased risk of losing knee joint cartilage, thus predisposing them to osteoarthritis? A longitudinal study to determine whether those who do weight bearing exercise lose knee cartilage volume at a faster rate than age and sex-matched controls. In this study we will determine whether professional athletes lose joint cartilage at a faster rate than controls and whether there are sub-groups of people most at risk (eg BMI, family history of OA, activity in early adulthood). This has implications for public health recommendations regarding exercise. It may be that in some sub-groups, non-weight bearing exercise such as swimming should be encouraged. It is also possible that modern aids such as the cushioned training shoe or synthetic running surfaces may reduce the risk of cartilage loss and these will need to be promoted.

Human rights and healthcare.
The impact of human rights on health outcomes is of increasing interest both nationally and internationally. We are examining whether a relationship can be demonstrated between health status and observance of human rights in the specific context of aboriginal sexual health. This will include an examination of current issues in this area from the perspective of human rights and the development and conduct of research proposals to address these issues in collaboration with the Infectious Disease Epidemiology Unit. This study will also include an examination of medical, public health and criminal law in the area of sexual health and its application and consistency with human rights.
Clinical Epidemiology Unit

Clinical Epidemiology (also known as Evidence Based Medicine) is about the application of epidemiological methods to clinical practice. This involves using diagnostic tests efficiently, weighing up the benefits, risks and costs of treatments and understanding the natural history of disease.

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. Further students graduated from the Diploma of Clinical Epidemiology in 1999. 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. A Master of Clinical Epidemiology commenced in 1999 for clinicians wishing to undertake additional coursework and acquire more advanced research skills. The Certificate of Clinical Trials which commenced in 2000 is a one year program focusing on the “nuts and bolts” of actually conducting clinical trials.

Research
Much of the Department’s research falls within the scope of Clinical Epidemiology. For example, the recently completed randomised clinical trials of Vitamin E offer the prospect of preventing vascular disease and cataracts. Collaborative links with the Alfred Hospital include the Departments of Respiratory Medicine, Allergy, Asthma & Clinical Immunology, Clinical Pharmacology, Rheumatology and Microbiology & Infectious Disease continue to ensure that the Department’s epidemiological studies are relevant to clinical outcomes. Some examples of current research projects currently undertaken by clinical epidemiology staff are listed below.

Qualitative study of barriers to therapy adherence by asthmatic adolescents
Patients aged 10-24 years were 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. A sample of 91 young people and 81 of their parents were interviewed. Demographic and clinical data collected included asthma severity. Adolescents also completed questionnaires regarding their respiratory health and knowledge of asthma. The interviews were transcribed verbatim and coded into a computer software program for analysis. One of the co-investigators Dr Rosalie Aroni from La Trobe University has spent her sabbatical in the Department completing the analysis and writing papers on smoking in young people with asthma, methodological rigour in qualitative research, and adherence with medication. This study has identified barriers, which need to be addressed to improve adherence to therapy and correct self-management by young people with asthma.

European Community Respiratory Health Survey (ECRHS II)
This is a follow-up study, which involved 636 young adults in Melbourne who originally took part in a similar study in 1992. The aim of the study is to determine whether there have been any changes in the prevalence of asthma and other respiratory diseases since the study was conducted in 1992. This study is being conducted in conjunction with approximately 20 other centres worldwide (mainly in Europe). The data collection phase of this study has now been completed and analysis of the Melbourne centre data is underway. Analysis of the data from all centres participating in the ECRHS is not expected to commence until 2001.

Environmental Risk factors for asthma
The cohort of young adults who participated in the European Community Respiratory Health Survey in 1992 was followed up until 1998 to identify the incidence and remission rates of asthma, prevalence and residential determinants of indoor allergens and their impact on asthma. The annual incidence of current asthma in our cohort was 1.0% and the remission rate of current asthma was 4.5%. The majority of the participants’ houses had Der p 1 (house dust mite allergen) levels and Fel d 1 (cat allergen) levels higher than the threshold for sensitization and induction of asthma. Total fungal levels in 45% of the houses were higher than the level that is considered as hazardous by the World
Health Organization. Der p 1 levels were higher in older houses and those with central heating, weatherboard walls, damp bedrooms or fitted old wool carpets. Der p 1 levels in bed dust were significantly higher in houses with wooden floors built on stumps, high relative humidity, visible mould in the room, in beds with an old mattress or blankets.

Mould spores were lower in bedrooms with a ceiling fan, without visible mould, and those that were more frequently vacuumed, had a solid fuel fire, had windows closed at the time of the sampling or did not have pets. Ergosterol levels which indicates the cumulative exposure to fungi were significantly lower in homes without old fitted carpets, visible mould or pets and those with frequent airing and regular use of an extractor fan in the kitchen. Fel d 1 levels were related to cat ownership and having cats inside the house. High exposure to total fungi in air increased bronchial reactivity of the participants. Ergosterol levels were a risk factor for both being allergic to fungi and wheezing.

Fel d 1 levels in the floor were found to increase the risk of being sensitized to cat. High levels of bed Fel d 1 were associated with increase risk of current asthma. Surprisingly, people with high Der p 1 levels in the floor were less likely to be sensitized to house dust mites and to have wheezed within last 12 months. Bed Der p 1 levels were not related to sensitization or asthma. These results suggest that the importance of exposure to house dust mite allergens has been overrated, at least in young adults. We conclude that our homes have very high levels of indoor allergens, which have been previously identified as hazardous to health. Modifying some of the residential characteristics could reduce these levels. However further research is required to develop and evaluate interventions.

Micronutrients and current asthma in young adults

This study commenced in 1998 and is designed to look at the prevalence and risk factors associated with respiratory health in young adults. The first stage involved sending a brief respiratory health questionnaire to 4455 eligible young adults (aged 20-44 years). This stage of the study has been completed, with a 72% response rate achieved. The results of this stage suggest that the prevalence of asthma in young adults has risen since 1990. Interestingly, the prevalence of asthma symptoms and nasal allergies has not risen significantly over this time period. Whilst the prevalence of current smoking has not decreased significantly, the number of cigarettes smoked by current smokers has declined significantly over the past 8 years. The results of this phase of the study have been accepted for publication. The second phase of the study will shortly be completed. It involves approximately 1000 respondents visiting our laboratory and undertaking some simple breathing and allergy tests and providing detailed information on their usual diet in order to look more closely at the possible dietary risk factors associated with respiratory disease.

Causes of chronic lung disease in middle aged and older adults.

Chronic obstructive pulmonary disease (including chronic bronchitis and emphysema) is a major public health problem in Australia. The main known cause is cigarette smoking, which peaked among Australian men shortly after the second world war. Now that the consequences of this epidemic of smoking are passing, more attention needs to be paid to other causes of the condition. This NHMRC funded study will focus on occupational and domestic exposures and dietary factors in older people.

Dusty jobs have long been associated with COPD. However it is not known to what extent other occupational exposures to fumes and vapours are also responsible. Identifying such jobs would lead to better workplace conditions and prevention of further cases. Workers who have already developed COPD could be more fairly compensated. Similarly if indoor exposures to tobacco smoke and unvented gas appliances were found to play a role, further controls on smoking, fumes and improved ventilation could also prevent cases of COPD.

It is generally thought that emphysema develops from an imbalance between the oxidative stress on the lungs and protective enzymes. A diet high in antioxidant vitamins and fish may protect against the development of COPD. If confirmed by this study, it would then be possible to conduct clinical trials of supplementation in smokers at risk of developing COPD. Public nutritional education could reduce the incidence of the condition in the future.

A randomised placebo-controlled trial of hydrodilatation (distension arthrograph) in the treatment of adhesive capsulitis.

The aim of this project was to establish whether hydrodilatation was effective in reducing pain and disability, and improving range of motion, in a population with shoulder pain classified as adhesive capsulitis. Forty-six subjects completed the study which involved a 3 month trial period. The subjects were recruited from a community Rheumatology practice. Analysis of the data has been completed and the results will be published shortly. As a result of this study and the Cochrane review on shoulder pain, Sally Green was invited to present at the Australian Rheumatology Association conference in Perth in May 1999.

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 now contributed 6 reviews to the Cochrane Library and another 2 reviews are still underway. Dr. Reneé Manser who was a training fellow in clinical epidemiology has now taken up a position at the Royal Melbourne Hospital. Dr Mary Watson who was a senior research fellow for the Cochrane Consumers and Communication group has returned to the Royal Women's Hospital. Now that the Australasian Cochrane Centre has largely relocated to the Monash Institute of Public Health in Melbourne, we look forward to closer interaction with the Collaboration. The Cochrane reviews are as follows:

1. The effects of self-management asthma education and regular practitioner review in adults with asthma (M Abramson) [completed].
2. Allergen specific immunotherapy for asthma (M. Abramson) [completed].
3. Doses of corticosteroids in hospitalised patients with acute severe asthma (R. Manser, M. Abramson) [completed].
4. A Cochrane review of interventions for shoulder pain (S. Green, R. Buchbinder) [completed].
5. A Cochrane review of interventions for lateral epicondylitis of the elbow (S. Green, R. Buchbinder) [completed].
6. Does a diet high in marine fatty acids improve asthma control? (R. Woods, M. Abramson) [completed].
7. Effectiveness of self-management advice for adults with Type 1 diabetes (M. Watson, E. Brignall) [in progress].
8. Screening for lung cancer (R. Manser, M. Abramson) [in progress].
The research activities of the Clinical Pharmacology Unit are focused primarily around new drug development for cardiovascular disease states. Drugs currently undergoing clinical research include endothelin receptor antagonists, cytokine antagonists and drugs that augment endogenous vasodilator systems. As well, the unit is currently examining the benefits of non-pharmacological therapy (e.g., exercise) in the management of cardiovascular disease.

Dr. Tzani was a recipient of the Young Investigator Award of the High Blood Pressure Research Council of Australia.

The Unit was successful in obtaining National Heart Foundation of Australia funding, as well as a CVR Research Grant. The Unit also held its second Drug Development and Clinical Research Methods Course in October and it is hoped this will be an annual event. The course was run over three days with 38 people attending from a range of backgrounds; research nurses, pharmacists, scientists, pharmaceutical company and army personnel. Keynote speakers were Professor Adam Cohen, Director of the Centre for Human Drug Research, Leiden, Netherlands, and Professor John McNeil from this Department. The course aims to provide pharmaceutical industry personnel, hospital pharmacists, research nurses and those involved with clinical trial design and conduct, with an intensive update in drug development, clinical trials methodology, drug epidemiology and pharmacoeconomics.

Currently the unit has five PhD students on NHMRC postgraduate scholarship grants, an honours student in pharmacology and two research assistants. The unit also conducts early phase pharmacokinetic and bioequivalence studies and has particular expertise in pharmacokinetic profiling.

The Clinical Pharmacology Unit contributes to preclinical 4th, 5th and 6th year medical student teaching as well as postgraduate teaching through the Department'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.
This unit was established in 1999 and aims to develop epidemiological and economic models to inform decisions on resource allocation in health. Our research efforts initially focus on cost-effectiveness analyses of various preventive interventions for coronary heart disease (CHD).

The unit is developing a cardiovascular model to allow lifetime projections of the risk of fatal and non-fatal CHD amongst individuals or sub-populations within different percentiles of aggregated cardiovascular risk.

The model includes information on the prevalence in Australia of cardiovascular risk factors such as age, sex, blood pressure, smoking and cholesterol. The model will serve to estimate lifetime risk of cardiac events and death under different preventive intervention scenarios to feed into the calculation of incremental cost-effectiveness ratios.

Fatal and non-fatal health outcomes will be measured in Disability-Adjusted Life Years making use of the disease models developed for the Australian and Victorian Burden of Disease studies.

The economic models will include:
- assessment of the current mix of coronary services and the level of exposure of 'eligible' recipients
- collection of impact data from the international literature
- judgement of the applicability of measures of impact (efficacy/effectiveness) from elsewhere to the Australian context
- the application of Australian cost data
- the calculation of incremental and marginal cost-effectiveness ratios in present value Australian dollars per death, life year saved and DALY

The project will expand subsequently to examine curative and rehabilitative interventions, enabling cost-effectiveness analyses at all levels of cardiovascular health services.
Health Services Research Unit

The work of the Health Services Research Unit has been underway since 1995 with a major focus on measuring and improving quality in health care. Performance measurement and quality improvement research provides a mechanism to allow accountability for fund providers and provides a visible means of protecting patients from inappropriate or sub-optimal care.

Health Services Management Unit

The work of the Unit of Health Services Management centres on health services management education, the interface between health management and health service organisation and research that focuses on measuring and improving quality in health care and training of newly graduated doctors.

Teaching
Staff in both units teach at all levels of the undergraduate medical course and contribute to post-graduate courses offered by the Department.

The Unit of HSM is responsible for the Graduate Certificate, Diploma and Master of Health Service Management. The Asian Development Bank is funding 30 students from the Indonesian Ministry of Health to come here in February 2000 and undertake a Master of Health Services Management. This program will be mainly taught by DEPM but will also involve other Monash faculties and departments, the Alfred Hospital and other health care networks.

The Unit of HSR is responsible for the teaching of postgraduate subjects Principles of Healthcare Quality Improvement and Preventive Medicine, Policy & Practice.

Research
Some of the research being carried out by these units include:

The Pilot Hospital Wide Clinical Indicators Project
This project examined the reliability, validity and risk adjustment of a set of pilot clinical indicators that had been designed to measure quality of care in acute public hospitals.

The Acute Health Clinical Indicator Project
This project was commissioned by the Department of Health and Human Services (Victoria) in 1998. The project team consisted of the Australian Council on Healthcare Standards-Care Evaluation Program and this Department. The project brief was to identify a concise set of indicators of clinical care that would be suitable for implementation and monitoring at the state level. It was intended that the indicators reflect on the quality of care within public acute hospitals and be useful determinants of hospital performance. The final report for the Acute Health Indicator Project was completed in June 1999.

The Pain-Free Hospital
Through a randomised controlled trial, this project is examining the effectiveness of a simple change of procedure on the pain levels of post-operative surgical patients in a public hospital setting. The project is being performed in collaboration with Associate Professor Mari Bott of the Alfred Hospital and has been funded by MBF.

The Intern Outcomes Project
This project is piloting an exit questionnaire for interns to examine their skills and competencies at the end of the pre-registration year.

Evaluation of Clinical Risk Management Program
This project has been funded by the Victorian Department of Human Services and is evaluating current clinical risk management programs in Victorian hospitals.

Effective Discharge Performance Indicators
This study has been funded by the Victorian Department of Human Services and is developing a set of effective discharge performance indicators for public hospitals.
The research work of the Unit focuses on three main areas - public health aspects of water quality; sexually transmitted diseases and clinical medicine.

**Public health aspects of water quality.**

Through its partnership in the Cooperative Research Centre for Water Quality and Treatment, the unit is a leading centre for research on public health issues relating to drinking water quality. A major innovation in this field has been the development of methods to measure the effects of water quality on human health. This contrasts with, and complements, previous emphasis on the measurement of chemicals and microbes in water.

**Sexually transmitted diseases.**

Research in this area includes measuring the prevalence of STDs in people with poor access to health care, and developing and assessing effective and acceptable interventions to prevent and treat these infections.

**Clinical medicine.**

The Unit is involved in a range of studies on infectious diseases which represent important problems in clinical practice, including antibiotic resistant microorganisms and the treatment of opportunistic infections in HIV patients.

1999 saw the completion of the 15 month data collection phase of the Water Quality Study, one of the largest projects ever undertaken in the department. Due to the excellent work of the research team, and in particular the research nurses, a high participation rate was maintained with more than 93% of the 600 enrolled families completing the entire study. A free movie night was held at the end of the study as a gesture of thanks to the participants for giving their time to the research effort. The data analysis for the study extended for the remainder of the year, with the results due for release early in 2000.

A number of related projects have also been developed and successfully funded. These will contribute to our knowledge of the causes and economic impact of community gastroenteritis.

Our relationship with the Department of Public Health Sciences at the University of Alberta continued to strengthen with the Australian sabbatical of Professor Steve Hruday at the CRC for Water Quality and Treatment in Adelaide. Prof Hruday visited DEPM several times and conducted two courses on Environmental Health Risk Management and Communication in association with the Department during his sabbatical.

Our joint research work with Professor Hruday on drinking water quality management is continuing, and a new project on exposure assessment for disinfection by-products has been planned for early next year.

Another international visitor was Dr Anna Lammersing, Chief of Microbial Food Safety Risk Assessment for Health Canada, who visited the unit in October to discuss common research interests with staff in the FAO Centre of Excellence in Food Safety, Quality and Nutrition and the CRC for Water Quality and Treatment.

PhD Scholar Jim Black was successful in winning a prestigious NHMRC Public Health Postgraduate Scholarship to continue work on improved surveillance systems for waterborne disease outbreaks. At the end of the year, Jim suspended his studies for six months in order to take up a short term position as Senior Epidemiologist with the World Health Organisation in East Timor.

Maria Kavelas joined the water research group as a research assistant for a short term project commissioned by the Water Services Association of Australia. The project was undertaken jointly with the CRC for Waste Management and Pollution Control, and involved a review of quantitative risk assessment and epidemiological studies of wastewater reuse and identification of research needs.
Public Health Trainee Martin Horrocks also spent four months with the unit, working on the analysis of several projects on waterborne disease, risk factors for Cryptosporidium exposure in gay men and sexually transmitted diseases.

Research
Public health aspects of water quality.

The Water Quality Study
A randomised double blinded controlled trial to test whether microorganisms in chlorinated but unfiltered drinking water contribute significantly to endemic levels of gastroenteritis in the community. 600 Melbourne families took part in this large study.

Economic evaluation of community gastroenteritis
Data from the Water Quality Study will be analysed to determine the direct costs of medical treatment and indirect costs from time lost from employment or education.

Norwalk-like viruses and the contribution of drinking water
Clinical specimens from the Water Quality Study will be analysed for Norwalk-like virus to determine the prevalence of this virus group in community gastroenteritis and the proportion (if any) attributable to drinking water.

Disinfection byproduct exposure assessment (pilot)
A number of concerns have been raised about the possible health effects of disinfection byproducts which are formed from natural organic matter in the water. This project aims to develop more reliable and accurate methods to measure the exposure of individual people to disinfection byproducts in drinking water, in order to facilitate improved epidemiological studies of health effects.

Case-control study of Cryptosporidiosis
A study to determine the relative importance of different risk factors for gastroenteritis caused by the protozoa Cryptosporidium parvum.

A system for the early detection of outbreaks of water-related gastroenteritis
This project involves the development of neural network software programs to analyse health and water quality data to enable the early detection of potential outbreak situations.

The effect of chlorination on the rates of 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.

Fluoridation of drinking water supplies
(With the Chronic Disease and Diagnostic Test Evaluation Unit and Health Services Research Unit). A review of evidence on the potential adverse health effects of fluoride which has been published since the most recent NHMRC review in 1991.

Environmental arsenic exposure and human absorption
(With the Occupational and Environmental Health Unit). A study of environmental arsenic exposure and absorption in people living in regions of rural Victoria with high environmental arsenic levels in water and/or soil.

Drinking Water Quality Management System
This project is being undertaken in collaboration with the NHMRC / ARMCANZ Drinking Water Review Coordinating Group and the water industry. Its aim is to develop a flexible but comprehensive risk management framework which will assist water authorities to more effectively identify, manage and reduce health risks throughout water supply systems.

Clinical Medicine and Sexually Transmitted Diseases

Cryptosporidiosis in homosexual and bisexual Men
A case - control study of the risk factors for cryptosporidiosis among homosexual and bisexual men, with and without HIV infection.

CMV-associated retinitis in HIV Patients
A study of risk factors for functional visual loss among patients with human immune deficiency virus (HIV) and cytomegalovirus (CMV) retinitis.

Vancomycin resistant Enterococcus in hospital patients
Examination of the prevalence and risk factors for carriage of Vancomycin resistant enterococci in selected categories of patients admitted to hospitals.

Tuberculosis exposure in healthcare workers
A large study to assess risk factors for exposure of healthcare workers to tuberculosis, examine the toxicity of prophylactic drug treatment, and evaluate a new diagnostic assay.

Reduction of STDs among Aboriginal communities in Northern Australia
A randomised trial to assess the effectiveness of an intensive screening and treatment program for the reduction of sexually transmitted diseases.

STDs in homeless youths
A project to establish the prevalence of sexually transmitted diseases in young homeless people, and to test a new method for diagnosis and treatment.

Epidemiology of methicillin-resistant Staphylococcus aureus (MRSA) at the Alfred Hospital
A project to establish the baseline epidemiology of MRSA at the Alfred Hospital using a large scale screening project and subtyping of MRSA isolates.

Health Stream Newsletter
This free quarterly newsletter provides the water industry and health professionals with updates on the current literature and critical analyses of research relating to drinking water and health. Circulation rose to 3259 copies this year (2726 to Australian readers and 533 to international readers in 47 countries). The newsletter is also available on the CRCWQT Web site at www.waterquality.crc.org.au
The Monash Faculty of Medicine has strong current international links that have been largely established through research collaborations, professional relationships and, increasingly, international graduates of undergraduate and postgraduate courses.

Professor Mark Wahlqvist is the director of the International Health & Development Unit which was established in early 1999, to build the international reputation of Monash University and its University's international activities, such as the Sunway Campus in Malaysia, and the Eijkman Institute for Molecular Biology in Indonesia.

The Monash University FAO Centre of Excellence in Food Quality, Safety and Nutrition

Professor Mark Wahlqvist
Dr Fabien Dalais, Dr Gayle Savage

The Monash University FAO Centre of Excellence is one of the first of its kind in the world. It has been established to deliver education and training in food quality, safety and nutrition with a special interest in risk health science in the Asia Pacific region.

The FAO Centre of Excellence is located in this apartment and has links with the Asia Pacific Food and Nutrition Centre of the Monash Asia Institute, the Australia and New Zealand Food Authority (ANZFA), the Asia Pacific Clinical Nutrition Society (APCNS), the Federation of Australian Nutrition Organisations (FANO), the Food Safety Council of Victoria (FSCV) and the International Union of Nutritional Sciences (IUNS).

Education & Training

A conference on International Food Trade was held in October 1999 and short courses will be developed in food quality, safety and nutrition, so a Graduate Certificate in Health Risk Sciences is being developed.

Research & Development

The FAO Centre's research focus is on phytochemicals with an emphasis on new food formulations. The rapid development of functional foods has led to a need for the assessment of the safety and risks associated with these new foods, especially those containing high levels of phytochemicals.

Cross-Cultural Studies on Nutrition and Ageing in Indonesia and Other Communities

Martalena Prurba (PhD Candidate), Prof. Mark L Wahlqvist and Dr Antigone Kouriis-Blazos, Dr Widjaja Lukito.

This study will identify traditional food patterns amongst older Indonesians living in urban metropolitan Jakarta and urban Semarang, Java. Food and nutrient intakes will be compared to a Caucasian elderly reference population. The main research question is whether traditional food patterns through various pathways are protective against cardiovascular disease.

Survival amongst older Japanese people compared with other elderly communities: social and nutritional determinants

Dr Irene Darmadi (PhD Candidate) Prof. Mark L Wahlqvist, Dr. Antigone Kouriis-Blazos, Prof Yoshi Mitsu Hori.

This study will compare the food habits and nutritional status of Japanese in Okazaki, Japan to other elderly community populations in Sweden and Melbourne (Anglo-Celt and Greeks living in Melbourne). Mortality data will be analysed to examine the effect of different food patterns and other lifestyle factors on survival. This study will attempt to identify food and food patterns that appear to be protective and explore the predictive power of non-nutritional factors on mortality. The Japanese data will be compared with data from other communities to determine which social and nutritional factors are likely to predict survivorship in the elderly.
Traditional coconut usage and cardiovascular disease in West Sumatra, Indonesia
Dr Indrawaty Lipoeto (PhD candidate), Mark L Wahligst, Dr Naiyana Wattanapenpaiboon, Prof Fadil Genzil.
This project aims to investigate the effect of traditional coconut usage on CVD risk factors in the Mangarikabau people. Field work has been conducted by Dr Lipoeto, in villages in West Sumatra. The first phase, involving focus group discussions to document food culture and a case-control study, was undertaken in 1998-1999. An intervention study in the final phase will be conducted in 2000, to examine the effects of coconut in developing CVD risk factors.

The PEARL (Phytosterogen, Arterial Reactivity and Lipid) Study - Completed
Dr Helena Teede, Dr Fabien Dalais, Ms Dimitra Kotspoulos, Dr Vu-Lu Liang, Dr Susan Davis and Assoc. Prof Barry McGrath.
This NHF funded study was conducted in conjunction with Professor Barry McGrath and Dr Helena Teede from the Vascular Medicine Unit at Monash Medical Centre. The aim of this study was to examine the effects of soy protein supplementation on lipids, blood pressure and cardiovascular function in humans. The hypothesis being that soy, which is high in plant estrogens (phytosterogens), would have similar beneficial effects to estrogen on lipids and vascular function. In this double blind, randomised study, 110 men and 110 women received soy protein or matching casein placebo over 3 months. Significant improvements were noted for lipids and blood pressure but not measures of vascular function in the soy group compared to placebo. Potentially this may offer a therapeutic dietary intervention with minimal side effects to reduce cardiovascular disease, especially in men in whom estrogen therapy is inappropriate.

Milk protein as a treatment of Helicobacter pylori infection
Dr Naiyana Wattanapenpaiboon, Prof Mark Wahligst, Ms Charu Mishra
This research project aims to isolate, identify and characterise milk peptides with anti H. pylori activity, and evaluate their therapeutic effect in patients with H. pylori infection. This is a three-year project funded by Dairy Research and Development Corporation (DRDC). In 1999-2000, the antimicrobial activity of milk peptides was assessed against H. pylori, and the characteristics of the active peptides are now being determined. A clinical trial will be conducted in 2000-2002 to evaluate the milk peptides as a treatment of H. pylori infection in humans.

Phytoestrogen Level Variation in Soy Food Products
Mr Dimitri Tzangalis, Dr Fabien Dalais, Prof Andrew Sinclair
Given the growing interest in phytoestrogens and a number of food companies quoting levels of phytoestrogens in foods without proper analysis, an efficient and reliable method needs to be validated. This joint project between Monash University and RMIT focuses on the fine-tuning of an established analytical method for the measurement of phytoestrogens in soy-based foods. A number of soy-based food products have been selected and over the next year, phytoestrogen levels will be assessed to determine the level of variation over time.

Australian Nutrition Bibliographic Index
Dr Naiyana Wattanpenpaiboon, Prof Mark Wahligst.
This project is being undertaken to develop and maintain database(s) of nutrition science literature of Australian researchers. The database entries will be drawn from scientific journals and conference proceedings. The searchable bibliography will be made available on the World Wide Web, for those seeking scientific information on a variety of nutrition related topics. The databases may be extended to include a directory of Australian researchers in the nutrition field. This project is a collaborative venture with the Nutrition Committee of the Australian Academy of Science and funded by the Australian Nutrition Trust.

The Healthy Eating Healthy Living Program
Professor Mark Wahligst, Dr Antigone Kouris-Blazos
This program is funded by VicHealth (1998-2000) to selectively analyse the 1995 National Nutrition survey describing the nutritional status of food insecure groups in Victoria (socially disadvantaged, low-income groups, and the food insecure; and to critically analyse literature of healthy eating programs that have been developed and implemented in Australia.

Healthy Eating Website
The Healthy Eating Healthy Living Program has also developed a website as a nutrition information resource. It contains many searchable databases including:
- A searchable database of more than 700 nutrition papers published in peer reviewed journals,
- More than 200 nutrition brochures and the latest developments in the nutrition field, and
- Two on-line text books written by Professors Mark Wahligst and David Briggs "Food Facts" and "Food Questions and Answers."

The Healthy Eating Team are also in the process of developing a 'Virtual Library', that will include over 500 articles on various nutrition topics from other credible nutrition web sites, a searchable database of healthy and delicious recipes, and a database of food and nutrition projects in Australia (with a Victorian focus).

www.healthyeating.org

This website has been recognised by Encyclopedia Britannica as one of the foremost nutrition sites globally.
The research program of the Unit of Occupational & Environmental Health is mainly concerned with the study of human health effects from chemical exposures in the workplace and the environment, in particular cancer and respiratory disease. Major research areas include occupational disease surveillance, risk factors for occupational disease, methods to assess exposure and health risk assessment.

Several new studies commenced in 1999, including expansion of our arsenic research into Bangladesh, where we are involved in an AusAid funded study addressing the severe arsenic contamination in that country. We were also successful, with Michael Abramson and Haydn Walters, in gaining a new NHMRC grant to investigate causes of chronic obstructive lung disease in older people. Our main involvement in this study will be occupational risk factors. We also undertook a stocktake of occupational disease data sources in Australia, which demonstrated the poor coverage of data in this area leading to an inadequate national occupational disease information infrastructure. In recognition of the units research activity, occupational and environmental health was recognised in 1999 as a research strength of the Faculty.

1999 also saw some personnel changes. Lin Fritschi was appointed to a senior research position at the University of Western Australia and was due to take up her new position early in 2000. In her 4 years in the department, Lin has played an invaluable role in publishing results of the Healthwise and other studies, and gaining several new grants. We all wish her well in her new position and will continue to collaborate on new joint grants. At the end of the year, a new Senior Research Fellow, Dr Tony La Montagne, joined the department. Tony has had a very productive research career in the USA, with interests in health promotion and health protection in industry and exposure surveillance. Debbie Glass also joined the Unit from Deakin University, where she had recently completed her PhD. Debbie is taking a lead role in the benzene case control study.

During 1999, Andrea Hinwood passed her PhD, involving a series of studies on human health effects of arsenic exposure, and moved to a senior position in the Department of Environmental Protection in WA. James Chan successfully completed his occupational medicine registrar position with us and moved on to another position as part of his occupational physician training program. Carolyn Barrie also moved to a senior administrative position within the department after having provided terrific support to our research activities for several years. We wish all these people well in their future endeavours.

NEW STUDIES

Survey of occupational health legislation and exposure standards in the Asia-Pacific region

This survey was conducted to form the basis of an invited methodology paper for the journal, Occupational and Environmental Medicine. Occupational health practitioners in countries in the Asia-Pacific region were contacted to complete a questionnaire about the type of occupational health legislation in these countries, the methods used to set workplace exposure standards, and the exposure standards for several common workplace hazards.

Study of arsenic absorption in Bangladesh

This study is funded by AusAid, in collaboration with the National Centre for Epidemiology and population Health, and the National Research Centre in Environmental Toxicology. Contamination of groundwater supplies with arsenic in Bangladesh is a major public health problem, with evidence of chronic arsenic poisoning. This cross-sectional study will measure the extent of this poisoning, investigate the contribution of food and water and look for dose-response relationships to assist in the setting of intervention criteria for drinking water.

Benzene study

This case-control study is funded by the Australian Institute of Petroleum and aims to establish whether there is an association between exposure to benzene and lympho-haematopoetic (L-H) cancers among workers in the Australian petroleum industry. The study was established
due to the finding of an excess of LH cancer in the main cohort study, and is potentially of great importance to the epidemiology and risk assessment of LH cancer and benzene, as it is designed to provide a better understanding of the low-dose risk than is currently available from any previous studies.

Causes of chronic obstructive lung diseases in older people
This NH&MRC funded community-based study will measure prevalence of asthma, chronic bronchitis and emphysema among the general population between 45 and 70 years old, and attempt to establish the contribution of occupational exposures and other risk factors to these respiratory conditions. Occupational information will be collected using job specific modules.

Stocktake of Australian Data sources of Occupational Disease.
This is funded by the Commonwealth Department of Health and we collaborate with Andrea Shaw, who has research interests in work organisation and health. This stocktake of occupational disease data sources in Australia identified and reviewed the current occupational disease data sources in Australia and assessed their coverage, quality and availability for supporting research into the impact of work factors on such diseases. We have made recommendations to the Commonwealth Department of Health and Aged Care on ways to improve these data sources and therefore develop a more comprehensive and effective national occupational disease information infrastructure.

CONTINUING STUDIES
Ervas - Environmental arsenic exposure and risk factors for human absorption
A study of environmental arsenic exposure and human absorption - This study commenced in 1996 and was funded by the Victorian Department of Human Services to identify sources of arsenic exposure which make an important contribution to arsenic absorption in people living in areas with high concentrations of arsenic in soil and drinking water. 213 residents were recruited from 8 rural areas in Victoria and asked to complete a questionnaire as well as provide samples of urine, hair and nails, to measure absorption of arsenic. Data collection has been completed.

Glioma Study
The aim of this case-control study is to assist in the prevention of cerebral glioma by determining associations between this type of brain tumour and solvent, other chemical and electromagnetic field (EMF) exposures in the workplace. Cerebral glioma is a common form of brain tumour which is increasing in incidence in Australia. Final write-up of papers was undertaken in 1999.

Healthwise
Healthwise is a study of health and work in employees of Alcoa of Australia Ltd, Portland Aluminium and KAAL Australia, and one of the largest and most comprehensive occupational epidemiological study ever carried out in Australia. The program is funded by Alcoa of Australia Limited, Portland Aluminium and the KAAL Rolling Mill at Point Henry, and conducted in collaboration with the Department of Respiratory Medicine at the University of Western Australia. Locations taking part are smelters at Portland and Point Henry, KAAL Rolling Mill at Point Henry, the Anglesea power station, refineries at Kwinana, Pinjarra and Wagerup, the Bunbury shipping terminal and bauxite mines at Jarrahdale, Hantly and Willandale.

Healthwise consists of three major studies, a cross-sectional study of respiratory health, a new starters study and a cancer incidence and mortality study.

The Cross-sectional Study of Respiratory Health
Aims to investigate the relationship between occupational exposures to several chemical substances and changes in lung function and respiratory symptoms. This survey took place in 1995/6 and all current employees were invited to take part. 5095 (90% of the eligible workforce) were surveyed. The main exposures of interest are bauxite, alumina, caustic, fluorides, PAHs, oil mist, SO2 and particulates. A task exposure matrix has been developed using occupational hygiene data. This study was completed during 1999.

A New Starters Study aims to determine the incidence of respiratory symptoms and changes in lung function and bronchial reactivity over time in new employees, and investigate the relationship between any abnormalities and occupational exposures. Since July 1995, new employees at all sites have been asked to participate in this study and by the end of 1999, about 700 participants had been recruited. They are asked about their health and have lung function and bronchial reactivity tested before beginning work. This is repeated at follow-up each year.

The Cancer Incidence and mortality study is a retrospective and prospective cohort study and aims to monitor mortality and cancer incidence. A list of all employees who have worked for at least three months at or after 11/1/83 was matched in 1999 against the National Death Registry and National Cancer Statistics Clearing House.

SABRE - Surveillance of Australian Workplace Based Respiratory Events
Funded by The Australian Lung Foundation, SABRE is a surveillance scheme providing the first comprehensive data on occupational respiratory disease in Victoria, Australia. Respiratory and occupational physicians regularly report whether or not they have seen cases of occupational respiratory disease. Over 400 cases of occupational respiratory disease have been reported to the end of 1999.

VicLead. Risk factors for lead exposure in the children of lead workers
This study aimed to identify risk factors for inorganic lead absorption in children aged 2-5 years of age, who have a parent who works in the lead industry. This group was identified as a potential high risk group for lead absorption in the 1997 National Childhood Blood Lead Survey carried out by the Australian Institute for Health and Welfare. Families were recruited from companies on the Victorian WorkCover Authority's list of scheduled lead processes and from leadlighting companies in the Yellow Pages. Neighbourhood control families were also recruited. Data collection included blood samples, questionnaire and collection of environmental samples from the homes of participants. Questions were included on the parent's work hygiene practices.

VIEW
This is a methodological study to develop a computer-assisted questionnaire to collect work histories in epidemiological studies, funded by The Shepherd Foundation.

Computer-based work place exposure questionnaires have been developed for use in many overseas countries. We are liasing with the National Cancer Institute in the USA to use their job specific computer modules to develop computer-based work histories for use in epidemiological studies in Australia. This study will also collate available workplace exposure information from Victorian workplaces to assist expert occupational hygiene panels to better assess work history data when deciding on workplace exposures in community-based case-control studies.
The Unit of Preventive Medicine was established to bring together staff working with Professor McNeil in the areas of clinical trials and prevention of cardiovascular disease.

1999 was a very busy year for the Unit with several new initiatives beginning. In July, we became the successful recipients of a tender by the Victorian Department of Human Services to estimate the impact of trauma triage and transfer guidelines on the resources of Ambulance Service Victoria. The project involved the selection of a year’s worth of Victorian major trauma cases using the Victorian Inpatient Minimum Dataset (VIMD) followed by re-coding of data regarding accident location and time from the patient medical records.

The ASFAST study also began in 1999, a randomised double blind clinical trial designed to examine whether high dose folic acid reduces the rate of progression of atherosclerosis amongst patients with chronic renal failure.

A Survey of Diseases of the Kidney and Urinary Tract in Australia was undertaken in collaboration with the Department of Nephrology, Monash Medical Centre and the Australian Kidney Foundation.

During 1999 Pauline Branley completed her PhD project on future needs and associated costs for renal replacement services in Australia. We also farewelled Anna Peeters who left to work in The Netherlands for a couple of years. Anna contributed a great deal to research in this Unit, especially in the area of coronary heart disease risk prevention and also the First Responder Pilot study. Anna also contributed to teaching and began the Monash
Research

MAVET - A randomised trial of antioxidants to prevent atheroma progression in smokers
Prof. JJ McNeil, A/Prof. B.P. McGrath (Monash Medical Centre). Dr. P. Branley, L. Stiel, J. Snaddon
The Melbourne Atherosclerosis and Vitamin E Trial (MAVET) is a double blind placebo controlled randomized trial of Vitamin E (500 iu/day) to determine if Vitamin E will retard the progression of atheroma in smokers. Atherosclerosis is caused by accumulation of cholesterol-laden material in the walls of arteries, leading to narrowing and restriction of blood flow. Recent studies suggest that the more rapid progress of atherosclerosis in smokers may result from oxidation of cholesterol particles in blood. Some vitamins are natural antioxidants and can protect cholesterol particles from oxidation. Epidemiological studies in humans suggest that Vitamin E may slow the progress of atherosclerosis, and this study is measuring the effect of Vitamin E on the rate of progression of this disease.

409 volunteers were recruited to join the study, half receiving 500 iu of Vitamin E daily and the other half receiving a placebo. The study was conducted in a double blind manner and the code held by an external body until study completion. Each participant attended the study centre initially on a semiannual and then an annual basis. At each visit a carotid artery ultrasound was performed and images were digitized and analyzed for changes in artery wall thickness. The study was completed in late 1999 and results are presently being prepared for publication.

VECAT - Prevention of cataract in the elderly with low dose aspirin and Vitamin E
Prof. JJ McNeil, Prof. H. Taylor, Prof. C. Silagy (Monash Institute of Public Health), Dr. L. Robman, Dr. M. Sinclair, Dr K. Ogden.
A community based clinical trial investigating the role of Vitamin E in the prevention of cataract and age-related macular degeneration. Cataract occurs when the lens inside the eye becomes opaque, interfering with normal vision. Although cataract surgery has a high success rate, an intervention which delayed or prevented the development of lens opacities would greatly reduce the social and economic burden of cataract in our society. Age-related macular degeneration results from damage to cells at the back of the eye and is another common cause of visual impairment in the community. Unlike cataract, there is no effective treatment for this disease. Evidence now suggests that these conditions may result from abnormal oxidation taking place within the lens or macula of the eye. VECAT was established to determine whether Vitamin E delays the onset and/or progression of these conditions.

1204 volunteers were recruited to join this 5 year study, half receiving 500 iu of natural vitamin E daily, and the other half taking an identical placebo capsule so that neither the participants nor the research team know which individual is receiving which capsule. Each participant attends the Study Centre yearly for an examination that includes photography of the lens inside the eye which can be analyzed for even the slightest change in lens density. Stereoscopic photos of the back of the eye are also taken and assessed for degree of age-related changes. Results from the VECAT Study have been presented at several national and international forums to wide acclaim. The study is now complete and the final results are presently being assembled.

SPI - Stroke Prevention and Intervention Program
Dr P Tolman (Monash Medical Centre), Dr C Chapman (Monash Medical Centre).
Prof. JJ McNeil, Dr S Killelea, Dr H Stephens
Cardiovascular disease is a major health and economic problem for Australia, accounting for 41.9% of all deaths in 1996. Efforts to reduce the morbidity and mortality from cardiovascular disease by modifying risk factors, such as hypertension, smoking and diabetes are urgently needed. SPI involves the development of clinical decision assistance algorithms and the conversion of these algorithms into computer software for use in the prevention of stroke in primary care and hospital settings. This involves collaboration with the Dept of Neurosciences at Monash Medical Centre and the Mornington Peninsula Division of General Practice. Initial funding was made available from the ANZ charitable trusts and we are hopeful of securing a VicHealth grant to continue the work. Prior to construction of the computerised version of SPI, a paper version using flow diagrams to guide the practitioner through the management of cardiovascular risk factors was designed. This paper version of the SPI algorithm is currently being evaluated by general practitioners. The computer version of SPI is nearing completion, with five risk factors modules completed.

Trialing of the computer program by GPs is set for July and August 1999, with further modification of the program leading to a final version of SPI by the end of this year. The formal assessment of the effectiveness and utility of the product will be conducted in the general practice setting next year. In parallel, we are developing similar decision support programs for the primary and secondary prevention of coronary heart disease, with the overall aim being to provide clinicians with "best-practice" decision support for the management of complex medical problems.

PESPI Design and evaluation of a pharmaceutical expert system plug-in
Dr Paul Tolman (Monash Medical Centre), Prof JJ McNeil, Dr H Stephens, Dr S Killelea, Ms N Doherty.
PESPI is a prescription-focused clinical information system using a multidisciplinary approach which aims to provide high level decision support to assist prescribers. A computer system accesses both patient databases and pharmaceutical information databases to assemble clinical information impacting on the choice of drug in a particular clinical setting.
PESPI algorithms check the specific drug's specifications and contraindications against the patient's file. Any possible hazards are alerted to the prescriber. Such a detection system will benefit the patients' health, the hospital costs and the prescribers' time and quality of care. In Victoria, the current emphasis is on incorporating information technology into health and on minimizing bad health outcomes have created the necessary environment for the development of this intelligent pharmaceutical surveillance and response system.
Results from the First Responder Pilot Analysis - Out of hospital cardiac arrest
Prof JJ McNeil, Dr A Peeters, Ms K Smith on behalf of the FIRP Steering Committee. (Steering Committee - John McNeil, Monash University (Chair), Bruce Esplin, Department of Justice; Trevor Sutherland; DHS; Michael Morton, DHS; Alan Richards, MFESB; Greg Sassella, MAS; Geoff Spring, Intergraph.)

There were 464 events involving simultaneous dispatch in the pilot area during emergency medical response (EMR), of which 162 (36%) were cardiac arrests of presumed cardiac etiology. Mean time to defibrillation in the pilot area was 1.43 minutes shorter than in the control area during EMR (p=0.0675). A simultaneous dispatch of MFESB and MAS resources in the pilot area during EMR lead to a reduction in the proportion of prolonged responses (>10 minutes) in the pilot area (3%), compared to the control area (17%) during EMR and both areas historically (control 16%, pilot 18%), p<0.001.

During the pilot period, there were 272 cardiac arrests of presumed cardiac etiology in the control area and 182 in the pilot area. In both areas the number of witnessed arrests was low (30% control, 22% pilot), as was the number of arrest patients that received bystander CPR (26% control, 20% pilot).

ASFAST - a randomised controlled trial of high dose folic acid to slow the progression of atheroma in chronic renal failure
Prof JJ McNeil, Prof R Atkins (Monash Medical Centre), A/Prof. B.P.McGrath (Monash Medical Centre), Prof. G.Becker (Royal Melbourne Hospital), Dr S.Zoungras (Monash Medical Centre), Dr P.Branley, Dr. A.Peeters, Dr P.Kerr (Monash Medical Centre), Mr P. Lightfoot, Ms S. Rivestavski.

ASFAST is a randomised double blind clinical trial designed to examine whether high dose folic acid supplementation reduces the rate of progression of atherosclerosis amongst patients with chronic renal failure (CRF). It is known that individuals with CRF experience an approximately 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. Also, recent evidence suggests that over 85% of these patients have elevated homocysteine levels, linked in other studies to an elevated risk of coronary and cardiovascular disease. However there is no evidence that reducing such levels will benefit these patients.

In ASFAST, 350 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 15mg of folic acid daily and the controls will receive a matching placebo, or low dose folic acid supplementation (less than 2mg/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 intimal-medial thickness of the carotid artery. This technology is well established within the Department in other collaborative studies with Monash Medical Centre.

Renal Disease Epidemiology and Prevention Project
Prof. J.J. McNeil, Prof. R. Atkins (Monash Medical Centre), Dr E Briganti

The Survey of Diseases of the Kidney and Urinary Tract in Australia was undertaken in collaboration with the Department of Nephrology, Monash Medical Centre and the Australian Kidney Foundation. The purpose of the study was to compile all available data regarding the frequency and distribution renal and urinary tract disease in Australia. The outcome is a comprehensive report on the trends in incidence and prevalence, likely economic impact and prevention opportunities related to renal and urinary tract disease in Australia. This report is available at http://www.kidney.org.au/survey/frames.htm
In 1999 the Department continued its undergraduate teaching in all six years of the MBBS course, and also the core subject (Biomedical Science and Society) in the new Bachelor of Biomedical Science degree.

**MBBS**

**First Year**

*Health, Illness and Human Behaviour II (MED1042)*

This second semester subject includes an introductory biostatistics component which is coordinated by Dr Andrew Forbes.

**Second Year**

*Introduction to Statistics and Epidemiology (MED2021)*

Coordinated by Dr Lin Fritsch and Karen Smith of DEPM.

**Third Year**

*Health Promotion (MED 3072)*

DEPM staff are involved in project work and assessments.

**Fourth Year**

*Clinical Pharmacology (MED4003)*

Lectures in this second semester subject are given by Prof John McNeil and A/Prof Henry Krum.

Coordinated by DEPM.

*Epidemiology and Preventive Medicine (MED4010)*

This subject includes components on Critical Appraisal, and Medicine and Research which are coordinated by A/Prof Flavia Cicuttini, and Occupational Medicine which is coordinated by Dr David Elder.

**Fifth Year**

*Medicine (MED 5001)*

DEPM conducts tutorials in Clinical Pharmacology.

**Sixth Year**

*Combined clinical and community health studies (MED6003)*

Overall coordination of this composite subject is done by Dr David Goddard.

*Public Health and Forensic Medicine (MED6003)*

The Evidence-based Medicine component is coordinated by Dr Shyamal Dharmage, and the Public Health component by Dr David Goddard of DEPM.

*Therapeutics (MED6005)*

Coordinated by A/Prof Henry Krum of DEPM.

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

Thank you to everyone involved in the teaching of these units - tutors, role-players, workplace hosts, external lecturers, examiners, and Marilyn Cowie, the course coordinator.

Information on all our courses can be found at [http://www.med.monash.edu.au/epidemiology/teaching/](http://www.med.monash.edu.au/epidemiology/teaching/)
Postgraduate Education

During 1999, the Department continued to expand its postgraduate education program. Postgraduate courses in 1999 were:

- Master in Public Health
- Grad Dip / Master in Occupational & Environmental Health
- Grad Dip / Master in Clinical Epidemiology
- Grad Dip in International Health
- Grad Dip in Health Services Management

Student numbers increased in 1999 with almost 200 postgraduate students enrolled. The Graduate Diploma in Health Services management was the main new course introduced in 1999, and proved to be popular with students coming from a wide range of health management environments. New courses were planned to begin in 2000, including Master of Health Services Management, a Graduate Certificate in Occupational Health, and a Graduate Certificate in Clinical Trials. The Health Services Management and Occupational and Environmental Health courses began to introduce more flexible delivery options with many subjects being converted into distance education format. Many of our postgraduate subjects were are available as stand alone subjects for non-enrolled students.

Associate Professor Malcolm Sim is Director of the Postgraduate Education Program and Rhonda Blaich is the Postgraduate Courses Administrator.

Master of Public Health

Co-ordinator: Associate Prof Malcolm Sim

In 1999, the Master of Public Health continued to be a popular and important postgraduate degree for the Department. This vocational course aims to equip students with the full range of quantitative, analytical and communication skills necessary to work in the broad domain of public health.

The Master of Public Health is coordinated by the Victorian Consortium for Public Health, comprising this Department, the Department of General Practice and Public Health Department, University of Melbourne; the Faculty of Health Sciences at La Trobe, and the Faculty of Health and Behavioural Sciences Faculty at Deakin University. In 1999, Monash continued to be the most popular option for applying students.

For Part 1 of the MPH, students enrolled through the four universities in the Consortium attend classes together at Deakin, Toorak campus. Part 1 consists of 8 units which can be completed part-time over two years or full-time over one year.

For Part 2, students enrolled at Monash stream into one of the following areas of public health specialisation:

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

The Health Services Management stream was offered for the first time in 1999, aiming to give graduates leadership and administrative skills for the effective management of health services.

A Preventive Medicine stream currently under development will aim to give graduates knowledge and skills to provide effective evidence-based prevention care and to develop disease prevention and health promotion programs.

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. 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.

During 1999, 21 students met the requirements for this degree and they are listed with the topics for their research projects on page 42. We wish these graduates well in their future careers.

For more information about the Master of Public Health, go to http://www.publichealth.vic.edu.au or contact pgradenquiries@medmonash.edu.au
Graduate Diploma in Occupational & Environmental Health
Coordinator - Associate Professor Malcolm Sim
In 1999 there was an increase in the number of enrolled students, with the intensive block format allowing interstate students to participate in the Graduate Diploma course which requires 8 units of study. Further course developments planned for 2000 will allow greater timetable flexibility and program options. Plans include offering all subjects in a distance education format with reduced block attendance, a Graduate Certificate in Occupational Health (4 units) and a revised Master of Occupational and Environmental Health (12 units). The Graduate Certificate will aim to provide students with basic knowledge in legal OH&S requirements and competencies in assessing and controlling workplace hazards.

Graduate Diploma in Clinical Epidemiology
Coordinator - Associate Professor Michael Abramson
In 1999 the student enrolments in the Graduate Diploma of Clinical Epidemiology (8 units) were maintained. The Masters in Clinical Epidemiology (12 units) was successfully introduced in 1999 and increased student participation in Epidemiology programs. Course developments planned for 2000 will allow greater program options. Plans include the introduction of a Graduate Certificate in Clinical Trials (4 units). This will aim to provide students with core competencies in epidemiology and biostatistics, and clinical trial design and evaluation.

Graduate Diploma in International Health
Co-ordinator: A/Prof. Mike Toole (International Health Unit, Macfarlane Burnet Centre)
In 1999 there was an increase in the number of enrolled students, with participation of several international students and the successful introduction of additional elective subjects. Further course developments planned for 2000 will allow greater subject selection. Plans include the introduction of a Nutrition in Developing Countries subject. International health continues to be a very popular and important part of the MPH and as a Graduate Diploma program. The Graduate Diploma (8 units) aims to provide health and development professionals with the skills to design, implement and evaluate health projects in developing countries.

Graduate Diploma in Health Services Management
Co-ordinator: Dr Jenny Major
This course was offered for the first time in 1999. The Graduate Diploma (8 units) teaches the essentials of management theory and practice from a clinical health perspective. It is designed to meet the needs of health care personnel currently in, or seeking to move into, middle to senior health services management positions. Course developments planned for 2000 will allow greater timetable flexibility and program options. Plans include offering subjects in a distance education format with minimal block attendance, the introduction of a Graduate Certificate (4 units) and a Masters (12 units) in Health Services Management. The graduate certificate aims to provide students with core competencies in health services management including the leadership, human resource and financial management of health services. The Masters program is intended to provide a 72-point masters alternative to the 96-point MPH degree.
Postgraduate teaching coordinators

We are very grateful to the following subject coordinators, especially those external to the department, who helped deliver an increasing number of Masters and Diploma subjects and help to ensure the continued development and success of the MPH, MCE and Graduate Diplomas in 1999. Our thanks also go to the many project supervisors who gave up their time to guide the Master students through to completion of their research projects.

A/Prof Michael Abramson (Epidemiology & Biostatistics, Meta Analysis)
Dr Esther Briganti (Epidemiology & Biostatistics)
Dr Rachelle Buchbinder (Clinical Epidemiology, Measurement in Clinical Research)
A/Prof Jeanne Daly (Sociological Foundations of Public Health)
Dr Peter Deutschmann (Primary Health Care in Developing Countries)
Dr Shyamali Dharmage (Epidemiology & Demography)
Dr David Elder (Risk, Management and Law)
A/Prof Stephen Farish (Introductory Statistics)
A/Prof Kit Fairley (Research Methods and Computing, Infectious Disease Epidemiology)
Dr David Fish (Environmental Influences on Health)
A/Prof Andrew Forbes (Advanced Biostatistics, Epidemiology & Biostatistics)
Dr Lin Fritschi (Methods for Chronic Disease Epidemiology, Research Projects)
Dr David Goddard (Assessment & Control of Workplace Hazards, Clinical Occupational & Environmental Medicine)
Dr Graeme Hawthorne (Health Economics Management & Evaluation)
Dr Bruce Hocking (Industry & the Environment, Physical Environment, People at Work)
Dr Wendy Holmes (Health of Women and Children in Developing Countries)
A/Prof Henry Krum (Controlled Clinical Trials)
Dr Tamara Kwarteng (Managing HIV Programs in Developing Countries)
A/Prof David Legge (Public Health Policy and Planning)
Ms Bebe Loft (Law for Health Systems)
A/Prof Mike Toole (Field Methods for International Health, Public Health in A Refugee Setting)
Dr Jenny Majoor (Clinical Leadership & Management, Health Care Financial Management & Accounting, Health Policy & Information Management, Principles of Health Care Quality Improvement)
Prof Joan Ozone-smith (Injury Epidemiology and Prevention)
Ms Priscilla Robinson (Communicable Disease Control in Developing Countries)
Ms Margaret Sheehan (Evidence Based Health Promotion)
A/Prof Malcolm Sim (Critical Appraisal of Occupational Health Information, Environmental Influences on Health, Environmental Health Risk Assessment)
Ms Beverley Snell (Indigenous Health)
Ms Elizabeth Waters (Child Public Health)
Dr Mary Wyatt (Clinical Occupational & Environmental Medicine)
Short courses

Drug Development and Research Methods
A short course in Drug Development & Research Methods was again held in October 1999 and was well attended. This course is organised by the Clinical Pharmacology Unit.

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

The course runs for two weeks each year. Twenty-two participants attended the course in November 1999, including international students from Iran, Saudi Arabia, The Solomons, Hong Kong and Fiji. Marilyn Cowie is the course administrator and candidates thanked her for the wonderful effort she put in to make them feel welcome and organise all aspects of the course. Professor Rod Westerman was the course convenor. The next course will be held in November 2000.

Environmental Risk Management & Communication
A short course in Environmental Risk Management and Communication was also held in 1999 and presented by Professor Steve Hruday from the University of Alberta, Canada. The course aimed to provide an understanding of the knowledge foundations and rational processes for risk decision-making so that environmental risk management can be grounded in reality.

Impairment Assessment Training
The Department began, in collaboration with The University of Melbourne, a series of courses for doctors undertaking impairment assessment. The courses covered the 4th Edition of the AMA Guides and the requirements of the VWA and TAC. Participants completed a core module followed by one or more elective module(s) which covered impairment assessment of the different body systems. 459 physicians completed the course in 1999.

For information on short courses email marilyn.cowie@med.monash.edu.au
A PhD in epidemiology provides a unique way to value add to clinical knowledge and skills. It provides advanced skills in clinical and/or public health research. The Department provides high quality research training for graduates from a wide range of medical and non-medical backgrounds. Recent PhD students have come from clinical medicine, medical administration, biological sciences, environmental health, occupational health, physiotherapy and law.

DEPM has a strong record of achievement in PhD training with many graduates obtaining prestigious post-doctoral awards and securing senior positions in Australia and overseas. The progress of PhD students within the department is facilitated by a strong research environment with an extensive program of NHMRC funded research; access to extensive infrastructure support including assistance in biostatistics, data management, computing and support from experienced staff and a large student body. In 1999, the department had 19 PhD students with more beginning in 2000.

**Why study epidemiology?**

Epidemiology is the key scientific discipline underlying some of the most important and rapidly developing areas of medicine. These include:

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

Graduates considering enrolling for a PhD in the department should contact the PhD Coordinator, Associate Professor Michael Abramson, michael.abramson@med.monash.edu.au.

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

**Geza Benke**

Retrospective assessment of occupational exposures by job exposure matrices and expert evaluation.
Supervisors: Malcolm Slim, 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.

**Jim Black**

This project is exploring two key areas in disease surveillance, with special attention to the surveillance of water-related gastroenteritis in Australian cities.
Supervisor: Kit Fairley
One area is new data sources that are becoming available in digital format as hospitals and pathology services increasingly computerise their working data. For example it will be possible in future to know how many requests were made for faecal analysis at a time that patients presented with gastroenteritis on a given day, immediately the day ends. Current surveillance systems depend on confirmed laboratory diagnosis, adding days (if not weeks) to the detection of outbreaks.

The other area is the computerised analysis of such large numbers of data points. We are exploring the use of artificial neural network computer programs, which we will use to model disease incidence (using the kind of data described above), and flag unusual events (e.g., increasing incidence of gastroenteritis in an area corresponding to a water distribution network) for further investigation. Artificial neural networks also offer the possibility of predicting future outbreaks by finding previously unknown associations between (for example) environmental and climatic factors and variation in disease incidence.

**Shyamali Dharmage**

Environmental risk factors for asthma
Supervisors - Michael Abramson, Frank Thien.
A follow up of a cohort of young adults participating in the European Community Respiratory Health Survey (ECRHS) involving 485 participants who completed a respiratory questionnaire, skin prick tests and lung function tests. Home visits were made to collect dust and air samples from bedrooms and to collect information on residential characteristics. Dust samples were analysed for house dust mite and cat allergens. Air samples were cultured for fungi. A study was also carried out to examine the validity and reliability of the home visit report that was used in this study.

Another study was carried out to assess the seasonal variation in indoor allergen levels and its impact on asthma on a sample of 40 atopic asthmatics in 1997. A research grant was obtained from the Department of Human Services in 1998 to conduct a clinical trial to assess the efficacy of encasing bedding on controlling house dust mite allergen levels and asthma. This is a randomised placebo controlled trial of 6 months duration. The trial was commenced in April 1998, and was completed at the end of October 1999. The thesis was submitted in 1999.

**Michael Glisson**

Quantifying the influence of osteoarthritis by measuring changes in cartilage of the hip and knee.
Supervisor: Flavia Cicutti
This project will investigate the non-invasive measurement of various knee and hip cartilage parameters using various methods applied to medical diagnostic images. Measurements derived from radiological and magnetic resonance images of the joint spaces will be used to establish a baseline from which the progression or regression of the disease can be accurately monitored. The appropriate images and patient history will be acquired as part of broader clinical studies of the disease within the population.

**Margaret Hellard**

The Water Quality Study
Supervisors - Christopher Fairley, John McNeil/NHMRC Scholarship
The Water Quality Study (WQS) was a randomized double-blinded trial designed to measure the gastrointestinal health affects of drinking water. The study commenced in September 1997 and data collection was completed in February 1999. Six hundred families were recruited from the outer southeastern suburbs of Melbourne. 300 hundred families had a water treatment unit (WTU) installed into their home which removed viruses, bacteria and protozoa from their tap water. 300 had an identical but non-functioning unit installed into their homes. Both the participating families and the researchers were blinded as to whether a family had a "real" or " sham" filter. A weekly Health Diary recorded the amount of gastroenteritis for each participant for the 65 weeks of the study, and a comparison of the amount of gastroenteritis in the groups with real and sham WTUs will be performed. Participants also answered a series of questionnaires about water consumption, gastroenteritis, food intake and food handling. Participants submitted faecal specimens prior to the commencement of the study when they were asymptomatic and throughout the study when they had an episode of gastroenteritis. Faecal samples were examined for a variety of viruses, bacteria and protozoa. Serum samples were also obtained from adult participants for Cryptosporidium and Hepatitis A serology.

**Anthony Kwok**

Systematic review of the physio-therapy management of lower back pain.
Supervisors: Flavia Cicutti, Michael Abramson
This study aims to find out the epidemiological data of low back pain and the best combination of physiotherapy modalities to reduce back pain. A clinical trial will be conducted to evaluate the effectiveness of the application of physiotherapy in treating both acute and chronic back problems.
Bebe Loff
Health and human rights.
Supervisors: Flavia Cicuttini, Roger Short
NH&MRC Public Health Scholarship
Bebe is critically examining the application of a 'health and human rights' framework generally, and in the context of three case studies: the conduct of international health research; the intentional transmission of HIV; and public health law for remote Aboriginal communities.

Jean Meaklim
Risk assessment of grain protectants.
Supervisors: John McNeil, 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 McNeil, Henry Krum, Chris Reid.
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. 503 subjects were identified and classification of these subjects has been completed. The analysis is to be completed in 2000. In addition, a postal survey of 283 Victorian GPs knowledge, attitude and stated practice on the initiation of antihypertensive drugs has been conducted and a cost analysis of the use of antihypertensive drugs in Australia.

Anne-Marie Pellizzier
The effect of pharmacological and non-pharmacological therapy on autonomic function in patients with heart failure.
Supervisors: Henry Krum, John McNeil
NH&MRC Medical Scholarship
The autonomic nervous system (ANS) is impaired in several forms of cardiovascular disease and the degree of impairment has been shown to be of prognostic significance. Various measures of ANS function have been employed including heart rate variability (HRV) analysis and baroreflex sensitivity (BRS), the latter being an integrated measure of autonomic function. Previously the BRS has been measured using invasive techniques but we have developed a non-invasive method to assess the baroreflex, which has been validated against standard invasive measures, and also examined under conditions of perturbation of the baroreflex, as part of this thesis. The subsequent aim has been to use this technique as well as HRV analysis and other methods to evaluate the possible benefits of various therapeutic interventions in cardiovascular disease.

A study in conjunction with the Alfred Hospital Department of Respiratory Medicine examined the degree and type of sleep apnoea in CHF patients and correlated this with haemodynamic and autonomic parameters. Other completed studies looked at the effect of low and standard dose digoxin in CHF patients in sinus rhythm and in normal subjects, and also the effect of an innovative antihypertensive drug on the autonomic nervous system. Collaborative studies with the Austin and Repatriation Medical Centre, Departments of Cardiology and Clinical Pharmacology, have looked at the effects of altering dietary fat intake in pre-menopausal women and the effect of resistance exercise training in patients with CHF. The thesis is in the final stages of writing up and submission will be by the end of 2000.

Alastair Meyer
Pre-hospital emergency care
Supervisor Prof John McNeil (Monash University), Assoc Prof Peter Cameron (Royal Melbourne Hospital)
Departmental scholarship.
This project is investigating methods for improving emergency care of patients in the prehospital setting. Sudden cardiac death is a leading cause of death in industrialised nations. The gap between the world's best survival rates and those of metropolitan areas in Australia is large. Metropolitan Melbourne has one of the lowest survival rates in the world. The initial stage of this project is a review article which has been developed tracing the history of pre-hospital cardiac care and the development of the Emergency Medical Service (EMS) systems. The aetiology of sudden cardiac arrest is discussed and the review examines the "Chain of Survival" from an Australian perspective. It also identifies areas of weakness in the chain and recommends areas for further research.

A retrospective study of Out of Hospital Cardiac Arrest (OHCA) as it presents as asystole has been performed. The majority of survivors of OHCA present as ventricular fibrillation (VF) or ventricular tachycardia (VT). However, asystole is being reported with increasing frequency both in Australia and the USA. Existing Australian experience with asystole indicates that the outcome is universally poor. It has been argued that "less vigorous" resuscitation efforts be made and postulated that no resuscitation be offered to those found in asystole. In this study, there were 778 cases identified and data analysis indicates that overall survival from out of hospital asystolic arrest is very poor (less than 0.5% survival rate). This project aims at improving such survival and Alastair is part of a team developing a database for OHCA which will assist the planning and analysis of a variety of trials, which may result in improved survival from OHCA in Melbourne.

Brent Robertson
Case-Control Study of sporadic cryptosporidiosis.
Supervisors - Christopher Fairley, John McNeil
CRC for Water Quality & Treatment Scholarship
This study is assessing the importance of risk factors for cryptosporidiosis in both Melbourne and Adelaide. The preliminary stages of the project involved the validation of water consumption estimates and a pilot of the main case-control study. Cases are people with cryptosporidiosis identified by pathology laboratories. Controls will be people without diarrhoeal illness selected randomly and matched by age and gender to the cases. The Department of Human Services in Victoria and South Australia are collaborating with the study.

Hugo Stephenson
The development of a reusable computerised decision support tool.
Supervisor - John McNeil
Funded by Bankers Trust, Health & Family Services & Department of Veterans Affairs
This research involves the development and testing of software that supports doctors when making diagnostic and treatment decisions. This software is being trialled in the management of stroke, congestive cardiac failure and chronic obstructive airways disease.
Rhonda Stuart

Tuberculosis - Mantoux testing.
Supervisor - Lindsay Grayson, John McNeil
Monash Graduate Scholarship
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. This study is now complete and is in the process of being analysed. More than 8000 individuals in 15 major teaching hospitals have been screened. Studies have also been completed evaluating the human gamma interferon assay in tuberculosis, comparison of s vs T in the Mantoux test, and isoniazid toxicity during tuberculosis chemoprophylaxis.

Karen Smith

Out of hospital cardiac arrest: Investigating Melbourne's "Chain of Survival".

Emergency Medical Response First-Responder Pilot . K Smith, A Peeters, JJ McNeil
This pilot program was conducted to determine the value of placing automatic defibrillators in fire vehicles. The pilot thus focused solely on the unconscious and / or non-breathing patient (which implies a high probability of cardiac arrest) to which the simultaneous dispatch of ambulance and fire resources occurred immediately on a routine basis. This is the first time that the fire brigade has responded to medical emergencies in a formal cooperative program in Australia.

K Smith, JJ McNeil. The implementation of the EMR program in Melbourne is unique, being the first of its kind in Australia. Consequently, very little information is currently available regarding the efficacy of training programs and the impact such programs have upon participating firefighting personnel. Through the use of focus groups and a questionnaire this study aimed to examine the impact of the EMR program on the fire officers located at the 7 pilot stations.

Anita Wliuka

Does obesity or weight bearing exercise affect joint cartilage volume in healthy subjects?
This study is investigating the role of cartilage volume as imaged by MRI in osteoarthritis. A cohort of 80 subjects who do regular weight bearing exercise will be compared to 80 subject who swim regularly.

Anita Wliuka
Congratulations to the following students who successfully completed their MPH in 1999

- **Carole Alt**
  Clinical trials in oncology: Perceptions of Australian oncologists. Supervisor: Dr Russell Basser.

- **Francis Archer**
  A case series of the management of patients with an acute asthma episode by Mica paramedics: A descriptive clinical audit. Supervisor: A/Prof Michael Abramson

- **Simon French**
  The intra- and interexaminer reliability of chiropractic methods commonly used to detect manipulable lesions in patients with chronic low back pain. Supervisor: Dr Sally Green

- **Roger Gabb**
  Development of a patient satisfaction questionnaire for gynaecological surgery.

- **Sinead Garrett**
  Cost-effectiveness of recruitment and predictors of early withdrawal from a longitudinal intervention study. Supervisor: A/Prof Flavia Cicuttini

- **Anne Geschke**
  Particulate air pollution and hospital admissions for cardiovascular disease in Melbourne. Supervisors: A/Prof Michael Abramson and A/Prof Damien Jolly

- **Robert Grenfeld**

- **Marion Kainer**
  Antivirals in patients hospitalised with influenza and/or its complications (APHIC)

- **Selvanayagi Ketharanathan**
  The health status of Southeast Asian refugees in Victoria. Supervisor: Dr Raina Macintyre

- **Stuart McConnell**
  Pilot study: Reduction in incidence of gastrointestinal disease resulting from implementation of public water treatment. Supervisor: A/Prof Kit Fairley

- **Susan McMullen**
  A study of patient satisfaction with health care in a psychiatric setting.

- **Catherine McMutrie**
  Safety: A dimension of the quality of health care. A descriptive analysis of reported medication errors. Supervisor: A/Prof Flavia Cicuttini

- **Valerie Mead**
  Functional independence in elderly Australian. Supervisor: A/Prof Flavia Cicuttini

- **Susan Nisbet**
  Evaluation of the first year of a maternal serum screening program conducted in Victoria. Supervisors: Dr Robin Bell and Dr Jane Halliday

- **Jill Nosworthy**
  Assessing the effectiveness of liaison between St Vincent's Hospital and general practitioners – a repeat survey.

- **Lesley-Jane O'Connor**
  Aspects of morphine compliance in patients self-closing for cancer pain control.

- **Deborah Osborne**
  A study of predictors and outcomes of self-rated health in older people. Supervisor: A/Prof Andrew Forbes

- **Elizabeth Parkinson**
  An interim analysis of case-control data collected on children diagnosed with mosaic karyotype in utero from 1986 to 1992. Supervisor: Dr Jane Halliday

- **Clayton Thomas**
  Factors influencing outcome following severe musculo-skeletal traumatic injury.

- **Jane Wadsley**
  The effect of influenza vaccination on absenteeism in the workplace.

- **Andrew Waters**
  An investigation of symptom reporting and measured respiratory effects in health care personnel using glutaraldehyde. Supervisors: A/Prof Michael Abramson, Dr Jeremy Beach.

- **Caroline Watts**
  Willingness to pay: A study to evaluate travellers’ value of health interventions to decrease the risk of Hepatitis A. Supervisors: Dr Sarah McGhee and Dr Tilman Ruff
Congratulations to the following students who successfully completed their Graduate Diplomas in 1999

Graduate Diploma in International Health
Suzanne Lau Gooey
Wendy Lee
Louise Lyons
Marion Moloney
Rachel Stredwick
Nicholas Thomson
Sophie Treleaven

Graduate Diploma in Occupational and Environmental Health
Ross Andrews
Dorothy Bampton
Mary Christoforou
Kathleen Cynes
Sarah Fairweather
Tim Hwang
Reghavan Manoharan
Andrew Milliken
Jonathan Mushin
Angela Robertson
Anne Shields
Douglas Tong
Stuart Turnbull
Dominic Yong

Graduate Diploma in Health Services Management
Jaclyn Rouvray
In 1999, we were pleased to host six BMedSc students. The BMedSc program coordinators were Jenny Majoor and Joseph Ibrahim.

George Isac's project was "The risk of respiratory complications in day surgery patients: smokers vs non-smokers. George investigated patients from the Alfred Hospital and also worked through the Department of Anaesthesia and Pain Medicine at the Alfred. Dr Lin Fritschi was George's supervisor.

Daniel Fineberg's project looked at tempeh and phytoestrogens and was under the supervision of Professor Mark Wahlqvist and Dr Fabien Delais from the International Health and Development Unit. Daniel went to Java, Indonesia and worked with Dr Andryanyla Meliala, also from the IHDU. Data and blood samples were collected from over 300 participants.

Jason Ting looked at the role of general practitioners in primary prevention of cardiovascular disease. Anna Peetels and Mark Nelson were supervisors.

Yvonne Chow's project was "Preliminary studies for operational research on infant feeding alternatives in Zimbabwe". This project was part of a larger collaborative project on prevention of mother to child transmission (MTCT) of HIV involving the Macfarlane Burnet Centre for Medical Research and Batsirai Group (Zimbabwe). Yvonne's supervisors were Wendy Holmes and John McNeil. During June to September, Yvonne went to Zimbabwe to work as part of the MTCT Prevention Project team. While in Zimbabwe, Yvonne organised a training workshop on HIV and infant feeding in collaboration with the Ministry of Health.

Damien Urban coordinated a double-blind, placebo controlled trial of electromagnetic therapy for the treatment of osteoarthritis of the knees and recruited 50 participants. Damien's supervisors were Marc Cohen and Rachelle Buchbinder.

Frank Giorlando investigated the use of air ionisers in the treatment of asthma. Air ionisers have become a common consumer item, while there are many positive anecdotal reports on their use in treating asthma, there are few rigorous clinical trials to confirm these reports. This study assessed the effect of 9 weeks of negative air ionisation on the quality of life, medication usage and objective lung function measurements in 53 subjects. Frank's supervisors were Marc Cohen and Michael Abramson.
Publications

Book Chapters

Journal Articles


Chen S, Tabrizi SN, O'Sullivan HM, Fairley CK, Quinn M and Garland SM. Lack of association between HLADQB1 alleles with HP infection and histology findings in cervical cancer in Australian women.


The Department also publishes a weekly email news bulletin, and
a quarterly magazine, Episode.

If you would like to be added to the mailing list for either of these,
please phone 9903 0588, or email
carolyn.barris@med.monash.edu.au