NATIONAL CENTRE
FOR EPIDEMIOLOGY
& POPULATION HEALTH

ANNUAL REPORT 2003

National Centre for Epidemiology & Population Health (NCEPH)
Building 62, cnr Mills and Eggleston Roads
The Australian National University, Canberra, ACT 0200
T: 61 2 6125 2378
F: 61 2 6125 0740
W: http://nceph.anu.edu.au
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Director's Foreword

Is it just the world's climate that is changing, or is time also speeding up? Another year has gone by, rather quickly – a year characterised by a number of significant achievements for our Centre at The Australian National University (ANU).

NCEPH researchers did very well on research grant funding. In particular, with Thai collaborators, we won one of the prestigious Wellcome/NHMRC large grants, for a five-year follow-up study of the health transition process in Thailand. (Of 146 applications, 11 were funded.) NCEPH also achieved a well-above-average success rate with its applications to both the Australian Research Council (ARC) and the National Health & Medical Research Council (NHMRC). These various grants spanned the five foundation disciplines at NCEPH – epidemiology, biostatistics, sociology, demography and health economics. Early in the year, we also received a substantial grant from the US Multiple Sclerosis Society to support our national multi-centre epidemiological study of environmental factors in the causation of multiple sclerosis.

The ranks of the academic staff were enlarged by completing the intake of seven early and mid-career researchers, funded through the five-year NHMRC-funded public health research capacity-building grant. This program, along with the three-year fellowship in epidemiology funded by the Vincent Fairfax Family Foundation, has added considerable energy, vitality and depth to NCEPH's research profile. This, in turn, is now showing signs of attracting an increased number of doctoral students.

The staff and graduates of the Master of Applied Epidemiology (MAE) program were intensively involved in the national and regional response to the SARS crisis.

In November the Centre's new wing, with 28 new offices and identical in external design to the older building, was officially opened by the ANU Chancellor, Professor Peter Baume. This happy event included inaugurating the Bob Douglas Lecture Theatre, named after the previous, first, Director of NCEPH. The NCEPH choir was rehabilitated for the occasion, and distinguished itself both visually and vocally.

Particularly satisfying is the Centre's continuing commitment to interdisciplinary approaches to many of its research topics. This has seen, over the past year, considerable interaction between disciplines and research groups in relation to research strategies for understanding the rise of obesity in Australia, for exploring the relationships between urban development, environment and health, for elucidating the health transition process in Thailand, for documenting the impact of working conditions on family health, and for studies of drug and alcohol use and their health risks.

NCEPH has continued to strengthen its links internationally, with substantive involvement in, for example, the work of the World Health Organization (WHO) in infectious disease surveillance and control, the Millennium Ecosystem Assessment project, the environmental health research activities of the International Council of Scientific Unions and the International Human Dimensions of Global Change Program, and the ongoing evaluation of several national strategies for harm minimization in intravenous drug users. A successful national symposium on Climate Change and Health, with six prominent international speakers, was held in September.

Our research grant successes and our well-qualified faculty, coupled with the consolidation of the entire Centre in one building, have placed us in a strong position to further develop our research potential and to tackle the many challenges to public health that will undoubtedly arise in the years ahead.

Tony McMichael

Director
# Staff

## Academic Staff

**Director and Professor**

Anthony John McMichael, MBBS Adel PhD Monash FAFPHM FTSE

**Deputy Director**

James R.G. Butler, BEcon MPolEcon PhD Qld

**Associate Director**

Beverly M. Sibthorpe, NZRN BA(Hons) PhD ANU

**Professor**

Niels G. Becker, BSc(Hons) MSc Melb PhD Sheffield Terence H. Hull, AB Miami MA Hawaii PhD ANU Tord E. Kjellstrom, MB Karolinska Institute MME Royal Institute of Technology Sweden MedDr Karolinska Institute

Adrian Sleigh, MBBS Monash DTM&H London MPH Harvard MD Monash

## Senior Fellows

Gabriele Bammer, BSc BA Flin PhD Syd

James R.G. Butler, BEcon MPolEcon PhD Qld

Dorothy H. Broom AM, BA Carlton MA Ill PhD ANU

Keith B.G. Dear, MA Cantab MSc PhD Reading

Jennifer Earle,* BSc BA (Hons) ANU

Lynette L-Y. Lim, BSc(Hons) WA MSc Oxford PhD Reading

Anne-Louise Ponsonby, BMedSci MBBS PhD Tas

Yoland Wadsworth, * BA PhD Monash

## Fellows

Emily Banks, MBBS BMEdSci Monash PhD London School of Hygiene and Tropical Medicine*

Gordon A. Carmichael, BA MA Auckland PhD ANU

Rennie D’Souza, MBBS Karachi MSc(Epi) Harvard PhD ANU

Jane M. Dixon, BA(Social Work) SAIT MA(Social Work) NSW PhD RMIT

Richard M. Eckersley, BSc(Hons) ANU MScSoc NSW

Simon Hales, BA MBChir Camb MPH PhD Otago*

Robyn Lucas, BSc MBChB Auckland MPH&TM JCU

Beverly M. Sibthorpe, NZRN BA(Hons) PhD ANU

## Senior Lecturers

Alexander Cameron,* MBBS MD Adel, MPH Syd FRACP, FAFPHM

Mary Y. Beers-Deeble, BMus GDPH Adel MAppEpid ANU

Mahomed S. Patel, MBChb Rand FRACP FAFPHM

## Research Fellows

Catherine L. Banwell, DipT Murray Park BA Adel MA Auckland PhD Melb*

Colin Butler, BMedSci (Hons) BMed Newcastle DTM&H MSc DLSSH&TM London PhD ANU

Bruce K. Caldwell, BA(Hons) MA PhD ANU

Phyllis R. Dance, BA PhD ANU

Kathryn Glass, BSc (Hons) UWA PhD Camb*

Geetha Ranmuthugaia, MBBS PNG MAppEpid PhD ANU

Alexandra Sidorenko, MSc PhD Kiev State MA Yale PhD ANU*

Lyndall M. Strazdins, BA(Fine Arts) Tas MA(Clin Psych) PhD(Psych) ANU

Iwu Utomo, BPsych Indonesia MDemog Florida PhD ANU*

## Lecturers

Jillian A. Guthrie, BA MAppEpid ANU

Gillian V. Hall, MBBS BSc(Med) Syd DCCH Flin PhD ANU

Linda J. Halliday, BAppSci(Medical Technology) SAIT MAppEpid ANU*

## Postdoctoral Fellows

Hilary Bambrick, BSc BA(Hons) PhD ANU*

Catherine L. Banwell, DipT Murray Park BA Adel MA Auckland PhD Melb*

ZhengFeng Li, BA Henan Normal Univ MA Chinese Academy of Sciences GDip(CompSci) UNSW PhD ANU*
Visiting Fellows

John S. Deeble
Bob Douglas
Charles Guest
1 January 2003 – 31 December 2004
Judith Healy
1 September 2001 - 31 August 2003
Christopher Kelman, Australian Government Department of Health and Ageing
26 June 2001 – 28 June 2004
Barkat-e-Khuda
1 September 2003 – 31 August 2005
Stephen Lambert, University of Melbourne Department of Paediatrics, Royal Children's Hospital
11 July 2001 – 10 July 2003
& 10 November 2003 – 9 November 2004
Caleb Leung
2 February 2003 – 28 February 2004
Phillip Meyerkort
7 August 2003 – 13 November 2003
Wayne Smith, University of Newcastle
1 April 2002 – 31 March 2003

Centre Visitors

Sam-ang Seubsman, Suhothai Thammathirat Open University, Thailand.
2 December 2002 – 21 January 2003
Marianne Anderson, School of Resource and Environmental Studies, ANU
Paul Beggs
5 May 2003 – 9 May 2003
Kate Burns
8 July 2003 – 6 August 2003
Anthony Capon
29 September 2003 – 3 October 2003
Luis Dos Reis
3 March 2003 – 3 September 2003
Linda Halliday

General Staff

Executive Officer
Alison M. Humphreys, Assoc of Inst of Linguists Lond

Administrative and Clerical staff
Blanka Baric
Kaye L. Devlin
Albert Eichholzer
Ros Hales, Diploma of Art (Visual) Canberra School of Art
Yvonne Gentry, ATCL
Melissa Goodwin, BSc ANU
Neil Grant*
Jane Gresham,* BMus (Hons) ANU
Olivia Harkin,* BArsBEC Monash
Rowena Harvey*
Bonny Hepp*
Sally Kingsland*
Helen Levy, BA Syd
Mandy Law
Rebecca Low, BA Canberra*
Heather McIntyre
Joy Searle
Coral Watson, BSc Dip Ed Monash
Suzanna Amerikow,* BA M Linguistics Moscow

Research Assistants
Zoe Cozens, BA (Hons) ANU
Ivan Hanigan*

Research/Administrative support for specific projects
Vicki Brent*
Wendy H. Cosford
Karen L. Gardner, BA UNE, MPopHlth ANU*
Sarah Hinde, BSc ANU DipPubAdmin AFFA
Rosemary Korda,* BAppSci MAphSci LaTrobe
GradDipPopHlth ANU
Kamalini Lokuge,* MBBS Tasmania
Shannon Meyerkort, BA(Hons) (UWA), Dip. Prof. Couns. (AIPC), MPH (UWA)
Rhonda Owen*
Leigh Trevillian, MBBS (Hons) UNSW MPH Sydney*

Information Technology Support
Omar Ibrahim
Colin McCulloch, BSc ANU

* For part of the year only
In November, ANU Chancellor Professor Peter Baume opened the new wing of NCEPH, naming the Bob Douglas Lecture Theatre after the Centre’s first director.
In September, NCEPH hosted a one-day Climate Change and Health Symposium at the Shine Dome. Over one hundred people came to hear the internationally-renowned keynote speakers. The symposium was the first day of a four-day short course, organised by the Atmospheric Environment Collaboration, of which NCEPH is the lead partner. For more information on the collaboration see http://nceph.anu.edu.au/Envir_Collab/index.php
Research

NCEPH comprised 28 full time equivalent academic staff in 2003. They undertook research and research training and developed a number of initiatives in each of the five program areas:

- communicable diseases
- environmental health
- health systems research
- population, health and development
- social determinants of health.

Approximately 60 peer-reviewed articles, 19 book chapters and 3 books were published.

A quality-controlled, peer-reviewed system for the development of competitive research grants, begun in 2002, was extremely successful, resulting in a 50% success rate with Australian Research Council (ARC) and National Health and Medical Research Council (NHMRC) grant applications (approximately double the national average).

Policy engagement continues to be a core component of the Centre’s work, both nationally and internationally. This includes production of policy-relevant research outputs, academic staff membership of national and international expert panels and committees, other direct involvement in the policy making processes, and policy commentary, review and evaluation. Selected examples of policy activities include the following:

- Jim Butler was a member of the Meningococcal Working Party of the commonwealth government’s Australian Technical Advisory Group on Immunisation (ATAGI) and was engaged to conduct an economic evaluation of a new vaccine that protects against serotype C meningococcal disease. This evaluation was pivotal in shaping the government’s policy on public funding of this vaccine.

- John Deeble made submissions to, and was invited to appear before, the Senate Select Committee on Medicare to provide expert advice on the effects of the government’s proposed changes to the Medicare funding arrangements. He was also commissioned by the state and territory health ministers to prepare a report on the effects of the commonwealth government’s private health insurance rebate, and by the Office of Aboriginal and Torres Strait Islander Health (OATSIH) to provide estimates of expenditures on primary health care for ATSI people in the Darwin health zone.

- Agnes Walker was an expert witness at the Senate Select Committee on Medicare which reported in October 2003 (First Inquiry). She made a submission – by request – to the Second Inquiry which commenced in November 2003 (and is expected to report in February 2004).

- Dorothy Broom, Hilary Bambrick, Casey Quinn and Kathryn Kelly were invited to present oral testimony to the Senate Inquiry into the General Agreement on Trade in Services/US Free Trade Agreement (See page 34).

- NCEPH staff, in collaboration with the University of Newcastle, are providing technical assistance to independent East Timor’s first Demographic and Health Survey (see Page 27). This landmark survey will provide essential information for future health planning in the emergent state.
Do international flights trigger DVT?

Chris Kelman, Niels Becker, Zhengfeng Li

We investigated the widely held suspicion that long-haul air travel is associated with an increased risk of deep vein thrombosis (DVT). Internationally, there has been considerable interest in studying this problem, but due to the rarity of the condition and the lack of available long-term data, most previous studies have produced inconclusive results. This study was a collaboration with the Australian Government Departments of Health and Ageing and Immigration, Multicultural and Indigenous Affairs and the University of Western Australia. To perform this study, we used record linkage to bring together hospital records with international flight arrival data for the period 1981-1999.

Western Australia is uniquely suited to this kind of study because they have excellent hospital records and all international flights to and from WA are long-haul flights. The study investigated 9 million international arrivals into Western Australia; 5,408 persons were found to have suffered DVT. The analysis revealed that the risk of DVT following a long flight was raised by a factor of four, but only for a two-week period following the flight.

From this, we estimated that an ‘average’ traveller, who makes one long flight each year, would have an increased risk of about 12 per cent of suffering a DVT. Expanding these results across the country, it is expected that around 250 episodes of flight-related DVT and five deaths will occur each year in Australia - a small number in comparison to those suffering motor vehicle and work accidents. The individual risk of death from flight-related venous thromboembolism for older passengers and people with certain pre-existing medical conditions is, however, likely to be greater. The investigators recommend that airlines and health authorities should continue to advise passengers on how to minimise the risk of DVT.

While the public health impact of this problem is reasonably small, air travel is becoming increasingly popular, with around 1.56 billion person trips occurring worldwide each year. At any one time, around 4,000 Australians are on an international flight and more than 30,000 make shorter domestic flights each day.

This research will continue over the next three years, with funding from an NHMRC project grant.

Communicable Diseases

In the study of communicable diseases one finds variety and exciting challenges. The variety comes from the wide range of transmission modes, including person-to-person contacts, sharing of needles and blood products, transmission borne by air, water or food, as well as vector-borne transmission. The challenges come from newly emerged infections like severe acute respiratory syndrome (SARS), newly developed vaccines for intervention and the fact that the infections process can be observed only through diagnosed cases.

While vaccination has long been the most successful way to control the transmission of infectious diseases, SARS has reminded us that we also need preparedness against emerging infections, for which no vaccine exists. Specifically, the emergence of SARS is a timely reminder that we face the ever-present threat of an influenza pandemic and that our preparedness for emerging infections is not as good as it could be, and should be. Naturally, some of NCEPH’s research activity in 2003 has been directed towards rectifying this. For example, guided by the lessons learnt from the SARS outbreaks in Hong Kong, Singapore, Vietnam and Canada, NCEPH researchers have begun to investigate the relative effectiveness of alternative strategies to minimise transmission and the intervention requirements for elimination of an emerged infection.

One of the most useful ways of keeping up research on major current issues is by participating in workshops on specific themes, to which perhaps 20–40 leading international researchers are invited. In 2003 NCEPH’s communicable disease research was stimulated by invitations to participate in two such workshops. One, held in Sweden, addressed two of NCEPH’s current research themes, namely optimal vaccination strategies and improving preparedness for emerging infections. The other, held in Canada, explored ways transmission models can be used to help efforts to control SARS.

Infectious disease modelling at NCEPH was strengthened in 2003 by the arrival of Dr Kathryn Glass and by Dr Geoffrey Aldis spending sabbatical leave at NCEPH. Since her arrival from the University of Cambridge, Dr Glass completed modelling work to better understand measles transmission and control, and started a study into the ability of Ross River virus to persist. Dr Aldis joined the team modelling the effectiveness of various strategies for the control of emerging infections and investigated the control of deliberately released smallpox.

With collaborators from Sweden and the UK, Professor Becker initiated a study to design vaccine trials that permit estimation of the amount by which vaccination reduces transmissibility of infection. These new designs and methods of estimation are needed because current estimates of vaccine efficacy focus only on the protective effect the vaccine provides for the individual, whereas in population health the concern is to protect all individuals by reduced transmission in the population.

Contamination of the food chain leads to foodborne disease in humans, including gastroenteritis and more serious illnesses. NCEPH researchers collaborated with OzFoodNet, a group of epidemiologists based in state and federal health departments, to determine the incidence and impact of foodborne disease in Australia. The multiple modes of transmission of many pathogens and the variable severity of clinical manifestation of illness made this a challenging investigation. Several data sources were used, including data from surveys, notifiable diseases surveillance and laboratories. The study showed that, on average, Australians can expect to have a ‘moderate’ episode of foodborne disease every three to four years. Another study examined the association between notifications of illness due to particular foodborne pathogens and climatic variables. It found evidence that for some foodborne diseases, variation in climatic factors is associated with changed incidence.
What aids persistence of Ross River virus in Australia?

Katie Glass

Ross River virus is a mosquito-transmitted pathogen that causes around 5000 notifications of disease each year in Australia. The virus is maintained by transmission between marsupial hosts and mosquitoes, and human disease occurs when an infected mosquito bites a susceptible human. There is some concern that changes to the environment, including climate change, may increase the distribution of the virus, and lead to greater numbers of human cases in the future. However, it is difficult to predict the impact of environmental changes, as multiple host species and several mosquito species are capable of transmitting the virus. In order to forecast the future distribution of Ross River virus, it is important to identify combinations of vectors and hosts that are capable of maintaining virus transmission in a local region from one year to the next.

I am using mathematical models to describe the patterns of Ross River virus transmission between vectors and hosts. Using these models, it is possible to assess the effect of host characteristics (such as birth rate and infectious period) and the type of mosquito species (salt-water or fresh-water) on the length of time that virus transmission can be maintained. The models show that a host with a high birth rate can greatly enhance virus persistence even if the host is not particularly infectious when infected. A model that incorporates both a salt- and a fresh-water mosquito species maintains virus transmission longer than alternative models with only one mosquito species present. These results suggest that diversity of host and vector species may promote Ross River virus persistence at the local level.

So far I have focused on local persistence of Ross River virus. Movement of animal hosts or mosquito vectors between regions will enhance levels of infection by introducing the virus into new areas. In future I will focus on the spatial patterns of Ross River virus in Australia.
Two simultaneous foodborne disease outbreaks occurred thousands of kilometres apart in Australia at the end of 2003. We were involved in unravelling the mystery behind these outbreaks, working in collaboration with people from a number of government departments and different institutions.

First, an outbreak of gastroenteritis in the Northern Territory was sourced to a restaurant and one of us was asked to commence a study under the auspices of the NT Health Department to identify the food vehicle and the pathogen. A day later, another foodborne outbreak occurred in the southern part of Western Australia, and we were again hot on the trail with the WA Health Department to identify the causative agent.

Although the contexts for the two outbreaks were very different, by using epidemiological techniques, we identified that oysters were the vehicle in both outbreaks. Laboratory testing identified the same pathogen, norovirus, from people who had been ill in both locations. Further sophisticated testing of the norovirus in reference laboratories revealed that the pathogen was almost identical.

OzFoodNet coordinated the investigations at a national level under the auspices of the Communicable Diseases Network of Australia and, with other organisations, was instrumental in subsequent meticulous tracing of the source of the oysters in the two outbreaks. This showed that despite different packaging, they came from the same oyster beds in Japan and were imported into Australia under different brand names.

Further exploration of the outbreak register held by OzFoodNet, showed that over the past two years, several other episodes of gastroenteritis had occurred due to consumption of oysters that had come from similar locations.

Epidemiological evidence of this kind is essential to control the spread of a foodborne outbreak that is actually happening, and to prevent more outbreaks in the future.
Niels Becker, Kathryn Glass, Zhengfeng Li

We all saw the images of people in SARS-affected cities wearing masks and disinfecting sites. These are just two of the steps that were taken, or considered, to reduce transmission. Other interventions include isolating diagnosed cases, tracing and quarantining contacts of diagnosed cases, isolating affected households, closing schools and cinemas, cancelling sporting and other events that draw crowds, and various forms of border control. Decisions to implement these interventions are always controversial, because little is known about how effective each type of intervention is and how much intervention is required to totally interrupt transmission of the infection.

In 2003 the NCEPH modelling group began to assess the relative effectiveness of the various epidemiological interventions to reduce transmission of SARS and potential emerging infections with other characteristics. Such an assessment has not been conducted previously, perhaps because the research focus in infectious disease control has been on vaccination strategies. There have also been two impediments to these assessments. The first is that transmission models that allow for a household structure are needed for parts of the assessments and such models have only been developed recently. The second is that a large number of characteristics needs to be varied to obtain a comprehensive assessment. We overcame the latter by looking at nested sequences of interventions and looking at the relative effectiveness of introducing the next level of intervention. A simple example of a nested sequence of interventions is: (i) isolate a case upon diagnosis, (ii) quarantine of all members of the same household as the case, (iii) quarantine all traced external contacts of the case.

To build on this research we intend to assess the effectiveness of a variety of border control measures and to develop methods that make effective use of data collected at the beginning of an outbreak of a newly emerged infection.
Environmental Health

Traditional concerns about environmental risks to health have focused on local environmental pollutants and infectious agents in water, air and food. In today’s world, however, the environmental health research agenda is much broader. Over the past quarter-century global environmental changes – such as global climate change – have emerged as the impact of human numbers and economic activities upon the biosphere grows.

NCEPH’s environmental health research program therefore spans household exposures (such as indoor air quality and other domestic exposures that contribute to asthma), through local community exposures (such as climate change, stratospheric ozone depletion and biodiversity loss). Inclusion of the human-made environment leads to consideration of how aspects of urbanisation, transport systems, and other profound changes in the ways-of-living of modern human societies affect health outcomes. These include the rising prevalence of obesity and its adverse health consequences in Australia.

Over the past year, the major research emphases have been on:

- studies of household environments in relation to childhood asthma.
- analyses of the relationship between urban air pollution levels, climate factors and daily/weekly death rates, including new approaches to detailed spatial analyses.
- developing a research program on the contribution of changing exposures to environmental hazards to the health transition in Thailand.
- research on the relationship between ultraviolet radiation exposure, immune system activity and the occurrence of immune-related disorders (especially multiple sclerosis, an auto-immune disease).
- studies of how climatic variations influence the occurrence of several infectious diseases, especially Ross River virus disease and bacterial food poisoning in Australia, and malaria in eastern Africa.
- a program of research in Bangladesh into the widespread health risks posed by natural arsenic contamination of freshwater obtained from deep tube wells.
- research on the environmental health and other factors incorporated into health impact assessment of motor vehicle transport.
- MetaCentre and Innovations workshops: we have convened three different research workshops at NCEPH, on environmental health topics.

The research program is involved not only in conducting new population-based studies, but also in predictive modelling and in developing integrative approaches to address complex environmental health problems.

The research is increasingly developed in an integrated manner with participation from different disciplines within NCEPH and partner institutions. Three major programs are the NHMRC capacity-building program in environmental health, the Australian Government Department of Health and Ageing’s "Innovations" program, Atmospheric Environment and Health (with CSIRO, Bureau of Meteorology, University of Sydney and NSW Health) and the NCEPH participation in the Asian MetaCentre for Population and Sustainable Development Analysis (with the National University of Singapore and others). These programs create bridges with non-NCEPH researchers within ANU, Australia and in other countries.

Some examples of staff research projects in 2003 follow. For a complete list of research projects in this area, see the Centre’s website:

Over the ages, human societies have altered local ecosystems and modified regional climates. Today, the human influence has attained a global scale. This reflects the recent rapid increase in population size, energy consumption, intensity of land use, international trade and travel, and other human activities. These global changes have heightened awareness that the long-term good health of populations depends on the continued stability and functioning of the biosphere's ecological, physical, and socio-economic systems.

The world’s climate system is an integral part of the complex of life-supporting processes. Climate and weather have always had a powerful impact on human health and well-being. But like other large natural systems, the global climate system is coming under pressure from human activities. Global climate change is, therefore, a newer challenge to ongoing efforts to protect human health.

This volume seeks to describe the context and process of global climate change, its actual or likely impacts on health, and how human societies and their governments should respond, with particular focus on the health sector.


http://www.who.int/globalchange/publications/cchhsummary/en/
Anne-Louise Ponsonby

A collaborative study between the Menzies Research Institute and NCEPH has found that sun exposure during childhood and early adolescence is associated with a reduced risk of multiple sclerosis.

The team explored why MS was more common at latitudes that generally had lower levels of ultraviolet radiation (UVR). Researchers had previously proposed that this latitudinal gradient might reflect the immunosuppressive effect of UVR. That is, since UVR, which varies with latitude, suppresses normal immune response, it also suppresses misdirected (autoimmune) responses involved in the development of MS.

We interviewed 136 patients with MS (and 272 controls) about past sun exposure, measures to protect against the sun, use of vitamin D supplements, medical history and other factors thought to be associated with MS. Skin damage and skin colour were also assessed. We found that higher sun exposure when aged 6-15 years and greater sun damage on the back of the hand were associated with a decreased risk of MS. Sun exposure in winter seemed more important than sun exposure in summer; the associations persisted after adjusting for fair skin and exposure after onset of disease.

The findings support the hypothesis that insufficient ultraviolet radiation or vitamin D (or both) may influence the development of MS. However, further work is required to clearly establish if the link between low sun exposure and MS is a causal one. NCEPH, the Menzies Research Institute and a consortium of Australian universities and hospitals are now involved in a multi-centre case control study to further examine this link. This study is described in more detail on the following page.

From a public health education perspective, it is important to note that the study findings do not conflict with health messages about avoiding excessive sun exposure during summer months. Only one hour of winter sun exposure on weekend days was sufficient to confer most of the risk reduction that we observed.

Immune disorders, including Type 1 diabetes, Crohn's disease and multiple sclerosis (MS), are becoming more common. This is occurring over too short a time for genetic factors to be an explanation. The increased prevalence may reflect changing exposure to modern environmental and lifestyle factors known to alter immune activity, eg infection, diet, temperature, sunlight and man-made products.

In 2003, a collaboration of Australian researchers was funded by the National Multiple Sclerosis Society of the US to undertake the Australian Multi-centre Study of Environment and Immune Function (The Ausimmune Study). This is a three-year, multi-centre, case-control study involving approximately 1800 people. We aim to examine environmental influences on immune disease and the latitudinal variation in immune disorders across Australia. Study regions include Brisbane City, Newcastle, Western Districts of Victoria, and Tasmania, with NCEPH staff acting as the central coordinators.

We are recruiting cases who have recently suffered a first episode of demyelination, an early indicator-condition of likely subsequent multiple sclerosis. Clinicians in each region notify a regional study nurse of patients eligible to take part in the study. Age and sex-matched community controls are then selected from a database. Participation in the study involves a brief neurological examination by a study neurologist (cases only), an interview with the Ausimmune nurse, completion of questionnaires concerning aspects of medical and life history, study measurements including skin texture, skin type measured by spectrophotometer and blood samples for viral and cytokine studies and Vitamin D levels.

Recruitment began late in 2003 and will continue for a three year period in each of the four regions.
Health effects of the Canberra bushfires

Tord Kjellstrom, Sally Kingsland

For several weeks in January 2003, Canberra was shrouded in a thick pall of smoke from the bushfires which destroyed vast areas of forest and over 500 homes and claimed four lives. We investigated the association between bushfire smoke exposure and acute health impacts on Canberra residents over the three-month period of 1 December 2002 to 28 February 2003.

Several Australian studies have provided conflicting evidence on whether bushfire smoke results in increased hospital attendances by people with heart and lung diseases. Bushfire smoke may reach levels of particulate matter in the air way that are above the internationally accepted health guidelines. There is a potential health risk from inhaling the smoke, even at long distances from the actual fire.

We used hourly air pollution and meteorological data to determine time trends in population exposure to smoke from the bushfires. The exposure patterns during the days of the fires were described in terms of daily peaks and weekly averages, and these measures were related to health events (impact) data, including daily hospital admissions and presentations to accident & emergency departments in ACT hospitals. Other factors, such as daily weather (temperature, etc.) were also recorded.

The highest 24-hour average particulate air pollution level (PM10) was 200 ug/m$^3$ on 18 January 2003 (the day of the firestorm) and hourly peaks of 900 and 800 ug/m$^3$ were recorded on 18 and 30 January, respectively. These high air pollution peaks were not associated with an increase of hospital admissions or emergency presentations for common lung or heart diseases. However, there was a massive increase (more than 50 cases) of burns and acute smoke inhalation effects on 18 January. Usually there are less than 5 such cases per day. There was no sign of any delayed effects on lung or heart diseases in the weeks after the firestorm. The study is reassuring in that no “hidden” effects were found. If vulnerable groups with pre-existing diseases might have been affected by the smoke, the precautions taken appeared to have prevented such effects.
Climatic factors are an important determinant of health and disease. Extreme climate events are expected to become more frequent with climate change and these disruptive events have their greatest impact in poor countries. The Pacific-based El Niño, an approximately semi-decadal cycle, influences much of the world’s regional weather patterns. Globally, disasters triggered by droughts occur especially during the year after the onset of El Niño. Climate change is likely to increase the frequency and/or amplitude of El Niño. It illustrates well how climatic extremes can affect human health and provides an analogue for understanding the future impacts of global climate change.

The effects of weather disasters (droughts, floods, storms and bushfires) on health are difficult to quantify because secondary and delayed consequences are poorly reported. Especially in poor countries, the impacts of major vector-borne diseases and disasters can limit or even reverse improvements in social development. Natural disaster impacts have been increasing. An analysis by the reinsurance company Munich Re found a tripling in the number of natural catastrophes in the last ten years, compared to the 1960s. The increasing trend in natural disasters is partly due to better reporting, partly due to increasing population vulnerability, and may include a contribution from ongoing global climate change.

Even under favourable conditions recovery from major disasters can take decades. Short-range climatic forecasts may help reduce health impacts, but early warning systems must also incorporate monitoring and surveillance, linked to adequate response capacities. Focusing attention on current extreme events may also help countries to develop better means of dealing with the longer-term impacts of global climate change. On the other hand, this capacity may itself decline because of cumulative climate change. For example, increased food imports might prevent hunger and disease during occasional drought, but poor, food-insecure countries may be unable to afford such measures indefinitely in response to gradual year-by-year drying.
Health Systems

Over the past few decades, health and health services have come to be seen in a much broader social, cultural and economic context, the interrelated parts of which are considered as constituting the health system. The health system comprises several important elements: consumers of health services; the health service delivery system; and the environment in which both of them are located. Health systems research is concerned with deepening our understanding of these elements and the relationships between them.

The perspective that NCEPH researchers bring to bear on health systems research reflects the disciplinary mix of staff and students in this research group. Health economics and policy analysis feature strongly in that mix. Most projects have an applied orientation, with an interest not just in analysing and understanding health policy and health policy formulation but also in influencing policy – producing research results that are useful to health policy-makers and advisors.

As in the past, health systems research at NCEPH has both a national and an international focus. Health systems staff are also often involved in policy engagement, working at the interface between research results and policy design. During the year, research of national and/or international significance included the development and initial validation of a measure of ‘coordination’ of health care; the quality-of-life deficit experienced by individuals with post-operative infections following total joint replacement; an analysis of the risk-sharing properties of alternative payment schemes for private hospital services; estimates of expenditures on primary health care for ATSI people in the Darwin health zone; the use of a cardiovascular disease policy model for determining the optimal combination and treatment strategies for cardiovascular disease; investigation of the effect of flight duration on deep vein thrombosis (DVT) following air travel; estimating the effect of antiretroviral treatment during HIV seroconversion allowing for the impact of confounding in observational data; and the design of social health insurance strategies for increasing cover for low income groups in The Philippines.

The work on the effect of flight duration on the risk of developing DVT provides a useful example of the policy-relevant research undertaken in this group. That research, published in the British Medical Journal, found that the annual risk of venous thromboembolism is increased by 12% if one long haul flight is taken yearly.

On the policy engagement front, several staff and students were involved in making submissions to, and appearing before, government committees such as the Senate Committee on Medicare, and undertaking commissioned research for State and Territory Health Ministers and the Office of Aboriginal and Torres Strait Islander Health (OATSIH). This type of activity is characteristic of the work undertaken by the health systems group.
The use of predictive genetic tests in setting premiums for life insurance is a controversial issue. Critics argue inter alia that this is ‘discriminatory’, that it will lead to the creation of a ‘genetic underclass’, and that it can lead to individuals being coerced to obtain information that they might not otherwise wish to have. Advocates argue that it is necessary in order to avoid creating a serious problem of asymmetric information between insurance companies and those wishing to purchase insurance, with purchasers possessing superior knowledge about their risk status compared to the insurer. According to this argument, if the use of predictive genetic tests for insurance purposes is not allowed, the insurance industry will experience an adverse selection problem – high risk groups will be paying too low a premium, giving them an incentive to purchase cover, while the opposite will be true for low risk groups. The flight of low risks from the insured pool will result in an increase in the average risk of those insured, exerting upward pressure on premiums which cause even more low risks to stop purchasing insurance – a spiral of rising premiums and declining coverage develops.

This project critically examined the adverse selection argument. Is there any empirical support for the concern that prohibiting the use of genetic test results in life insurance will lead to an adverse selection problem? I concluded that there is indeed empirical support for that concern. The empirical support comes from a consideration of Australia’s experience with private health insurance, an insurance market where community rating regulations precluded the use of any information on health risk in setting premiums for many years. I argued that these arrangements have given rise to a serious problem of regulation-induced adverse selection in private health insurance, resulting in a long-term downward spiral in the proportion of the population covered by private health insurance (see figure). I concluded that prohibiting the use of genetic test results in life insurance will expose the life insurance industry to the same problem that has characterised private health insurance in Australia.
Private hospital payment options for private health insurers

Jim Butler, Alexandra Sidorenko

To date, most private hospital services in Australia funded by private health insurers have been funded on a per diem basis – a fixed payment per day of stay. A difficulty with per diem funding in terms of economic efficiency is that it provides no incentives to hospitals, doctors or patients to economise on length of stay. Indeed, the opposite is true – it provides an economic incentive to increase length of stay. As a result, lengths of stay are almost certainly longer than ‘medically necessary’ to provide appropriate treatment. Per diem payments create a problem of cost control for private health insurers. Benefit outlays grow as the private health insurer is a passive payer of all claims for hospital stays of any length (subject to the cap provided by the 35 day rule). This places upward pressure on premiums which in turn provides an economic disincentive for the population to purchase private health insurance.

We considered the risk-sharing characteristics of several payment schemes for private hospitals. ‘Risk-sharing’ here refers to the extent to which the additional cost of extra days of hospital stay is shared between the hospital and the insurer. Under per diem payments, all risk is borne by the insurer. Under ‘pure’ Diagnosis-Related Group (DRG) funding, where the hospital receives a fixed payment for a case regardless of length of stay, all risk is borne by the hospital. A blended payment scheme, embodying both a fixed component independent of length of stay and a variable component that varies with length of stay, shows promise as a form of ‘incentive contract’ that can be used for paying private hospitals and that shares the risk of length-of-stay variation between the insurer and the hospital. Subject to sufficiently detailed and timely data being readily available, this approach could be developed as a viable alternative to per diem payment schemes in the future.
Measuring coordination of health care

Clare McGuiness, Bev Sibthorpe

Coordination of the health care that patients receive has been an issue of increasing importance in many health systems. Avoiding overlap and duplication of medical consultations and tests, ensuring communication between service providers about a patient’s condition, and minimising instances of conflicting information being given to patients are some of the objectives of care coordination. This research project developed a Client Perceptions of Coordination Questionnaire (CPCQ) and undertook initial tests of validity of the questionnaire.

The CPCQ was developed in the context of a trial of care coordination in the Australian Capital Territory (ACT) in the late 1990s. It is designed primarily to be used with elderly patients with chronic complex health problems. It is a 32-item instrument completed either by the patient or their carer, with 25 of the items relating to perceptions of care, two relating to preferences for care, and five identifying the respondent and type of key provider or carer being addressed.

The main sample of patients was drawn from 1,271 patients recruited to the ACT care coordination trial. Of these, 1,193 (94%) completed the baseline CPCQ. A General Practice validation study was also undertaken, with 98 (78%) of the 126 patients in that study also completing the baseline CPCQ. The third sample of 29 patients was drawn from attendees of a chronic pain management course.

Most items in the CPCQ achieved excellent completion and comprehension rates. The instrument proved to be transferable to a chronically unwell population. Six individual scales were defined on the basis of principal components analysis – acceptability, received care, GP, nominated provider, client comprehension, and client capacity. The first four of these scales were satisfactory but the client scales were inadequate with poor internal consistency, and convergent and discriminant validity. These weaknesses point to gaps in our current thinking about coordination and the use of patient-derived data in evaluating health care.
The last one hundred years has seen a vast transformation in the health of people throughout the world, as reflected in the major transition from high to lower rates of morbidity and mortality. Whether in the metropolises of rich nations or remote villages in poor countries, the life expectancy of most people today is far longer than that experienced by their great grandparents, and even their grandparents. This is not to say that anybody is satisfied with their life chances, and individuals and governments continue to emphasize the need for better health care to provide ever longer healthy lives. The long-term improvements in survival are the product of a variety of innovations in medical treatment and the result of social and economic investments in people’s welfare. The crucial questions are: which changes have been most important to the improvement of life expectancy, and can the most effective interventions be applied to those populations that still suffer high morbidity and mortality? The answers to these questions require an understanding of the social and economic setting of health conditions and their proper management. Only in this way can the innovations that have succeeded in lowering morbidity and mortality in one environment be adjusted to ensure the same outcome elsewhere. That is the ultimate aim of the research undertaken by the members of the Population, Health and Development Working Group.

The group is currently investigating the dimensions of health transitions in Timor Leste and Thailand, and exploring the cultural determinants of illness and its management and health-seeking behaviour among poor families in Bangladesh and Indonesia. Members of the PHD working group have looked at environmental elements underlying the emergence of new illnesses. Work being undertaken in Indonesia, and with regard to the analysis of SARS, avian influenza, and arsenic contamination of ground water also links the PHD group with the environmental and communicable disease research groups at NCEPH. With funding from the ARC, a survey has been undertaken to assess the changing nature of decision-making relating to family formation in Australia. The group has initiated a series of innovative studies of potentially harmful sexual practices in Asia and Africa with respect to the spread of HIV, and the global recognition of broader aspects of reproductive health and management of associated infections as a priority for health development. These include the use of vaginal drying agents, and a range of practices related to anxiety over sexual performance, including men’s sub-dermal implant of objects in their penises to cause pleasure or pain for their female sexual partners. In Indonesia and the Philippines researchers have also assessed the potential harm of circumcisions carried out without proper medical care. Throughout Southeast Asia it appears that female circumcision is more common than previously recognized, and in many regions it is growing in prevalence and severity.

Demographic issues pervade considerations of health levels and trends in developing countries. Not only are demographic estimates used to define and monitor central problems, but such information is a key guide to the implementation of health care projects. There is growing concern among members of the PHD working group that the quality of demographic data in much of the Asia Pacific region is declining due to faltering government budgets and the inability of many statistical offices to adapt to the changing data needs of countries undergoing rapid economic transformation and the decentralization of government authority. For this reason the group is increasingly working with donor agencies to improve the quality of social and demographic data quality. One benefit of this activity has been the establishment of a series of data sets from Indonesia, China, Thailand, Cambodia and Timor Leste that is available for ANU staff and students to undertake further research on key issues of health and development.
Terry Hull, Bruce Caldwell, Iwu Utomo

In collaboration with Michael Dibley of the University of Newcastle, we are providing technical assistance to independent East Timor’s first Demographic and Health Survey. This landmark survey will provide essential information for future health planning in the emergent state.

Fieldwork was a major challenge. Human resources and working facilities are limited and geographic conditions are difficult. Much of East Timor is mountainous and many villages are isolated from roads and can be reached only by walking for many hours or even days.

The survey has been conducted at a very critical time in East Timor’s history. Not only has it just won independence after a struggle lasting over 20 years but it has done so after much destruction to its already limited infrastructure, and it has a population that is desperately poor and in need of assistance.

The DHSTL 2003 is a statistically representative sample survey of the nation’s population. It covers 4,320 households from the different geographic areas in East Timor. There are separate forms for the household, ever-married women 15-49 years and ever-married men 15-54 years. The survey covers household characteristics, socio-demographic characteristics, pregnancy history (number of children born and children surviving), antenatal, delivery and postnatal care, fertility regulation and reproductive preferences and status of women. Anthropometrics measurements were taken of weight, height and mid-arm circumference of children and women. Blood samples were taken from women and children less than three years to measure haemoglobin levels and the prevalence of severe anaemia.

We are currently working on a report of the survey’s results for the nation’s government.

Already the results have revealed deep poverty, very high malnutrition, an extremely young age structure and some of the highest fertility rates in the world.
Fertility in Australia is at its lowest level ever, below long-term replacement and still declining slowly. Couples are delaying parenthood, the age group 30-34 having recently become the highest fertility age group for women after ranking third, well behind age groups 25-29 and 20-24, in 1980. Voluntary childlessness is also far more common than during the baby boom years.

The Australian Family Formation Decisions (AFFD) project is seeking to better understand the forces influencing family formation decision-making in Australia through in-depth interviews with 100 or so women, men and couples passing through the phase of their lives (mid-twenties to late thirties) when forming intimate relationships and deciding whether and when to have children are major life issues. Previous studies of the trends sketched above have stood back from aggregate data and imposed interpretations of them. The aim of this project is to allow the actors to speak, and identify the forces they believe have been, or are likely to be, influential in their own decision-making.

Data collection and coding were recently completed, and analysis is in its early stages. Among some early impressions are the frequency with which informants can identify relatives, friends or acquaintances who have opted out of parenthood, typically for career or lifestyle reasons, and the roles protracted education, career establishment, travel aspirations and the economic realities of acquiring a home are playing in deferring serious contemplation of parenthood at ages where formerly it was embraced. Couples who have a third child are often reporting negative reactions ranging from sympathy to outright disapproval. And the deferment of decisions to have children would appear not infrequently to be associated with a need to resort to IVF when eventually children are wanted.

Was there a Neolithic mortality crisis?

A powerful concept in recent decades has been that of "stone-age affluence" (to cite the title of a book on the subject). Pre-agricultural populations were held by many anthropologists and other social scientists to have experienced low mortality because sparse populations suffered little epidemic disease and families were small because of conscious control of children's numbers in order to reduce pressure on the environment and hence food supplies. These concepts appealed to those who were urging fertility control and others arguing for environmental restraint on Third World populations because they suggested that these things were not at odds with traditional cultures.

We have been undertaking a joint demographic-anthropological health project examining the concepts and the evidence upon which they are based. The investigation was triggered by the discovery that key works claiming to establish low mortality at first Western contact with hunter-gather populations had been highly selective in their use of first contact documentation. Continued research, especially on the important Eskimo and Australian Aboriginal data, revealed a similar situation with regard to the deliberate creation of small families.

The research, which is continuing, came to the conclusion that arguments for contemporary fertility control and environmental protection must rely on analysis of the present global situation and not on ancient precedents.

I carried out ethnographic fieldwork for 14 months in a large urban slum in Dhaka city in Bangladesh on married adolescent women’s reproductive health needs. What confronted me when I started my fieldwork was the sheer scale of poverty and misery I saw all around. The alleyways were tiny and congested, with hundreds of shack settlements, rooms were tiny and dark and drains overflowed with sewage, particularly during the rainy season. Homes were no more than two to three square metres, with mud floors and bamboo or tin/polythene covers, none of which shielded the urban slum dwellers from the blazing sun or pouring rain. During my interviews I would often see rats and cockroaches running across the floor. Some rooms had a bed and some utensils, while other homes had no possessions, just a jute sheet on the floor and some basic utensils for cooking.

The urban poor constitute 30 percent of Dhaka’s population of fourteen million. Poor and landless, millions migrate to the city in search of food, shelter and employment. Unable to find affordable housing many set up illegal shack settlements on vacant government or private land. The urban poor live with marginal jobs as well as insecure tenure. Eight months into my fieldwork, the entire slum population was forcibly removed from their slums by the government, leaving 80,000 families homeless.

Young women’s narratives of reproductive health include discussions about poverty and survival, not being able to eat, worries about being homeless and unemployment, as well as concerns about white discharge, menstrual problems, and infertility. Thus, for many of the urban poor adolescent women, reproductive health was not just about illness inside the body, but also a social, economic and political issue.

My study found that in most cases, worries and responses to reproductive health concerns fade into insignificance as most try just to manage their basic needs and survive. Many are forced to go along with decisions not of their own making, such as unsafe sex, forced abortions, forced early marriages and child-bearing, which put their reproductive bodies at risk, but they do so in order to gain advantages under difficult conditions. Adolescent women’s reproductive outcomes need to be set in the context of economic hardship and survival. In public health, definitions of reproductive health continue to be linked to mainly biological reproduction, moving away from subjective experiences of health and illness, as well as the lived realities of women’s everyday life. It is crucial we recognize structural and social inequalities, which produce specific kinds of suffering and reproductive illnesses among poor urban married adolescent women in Bangladesh.
Social Determinants of Health

The phrase ‘social determinants of health’ is used to encompass the wide range of non-physical factors that contribute to health, particularly the social patterning of health. Because the distribution of injury, disease and death generally corresponds to societal divisions such as class, ethnicity and gender, researchers and policy makers alike are keen to understand what underlies these regularities. The hope is that such information can guide strategies to reduce the health costs of poverty, disadvantage and social exclusion. As well as documenting the patterns in detail, it is important to identify the mechanisms through which social location comes to be translated into health outcomes. Health-related behaviours tell only part of the story, so the challenge is to improve our understanding of what else may be operating.

In very poor societies, and amongst poor and marginalised sub populations in rich nations (such as Indigenous people in Australia), much can be attributed to lack of access to basic necessities of life: clean water, adequate nutrition, freedom from violence, protection from the elements. However, most of the Australian population does not experience the deprivations of absolute poverty; yet Australian population health is markedly unequal. Why?

NCEPH researchers are conducting several projects designed to shed light on these issues, and to inform policy. For example, a major study in the ACT and region has investigated health and other needs (such as those related to culture and employment) of Aboriginal and Torres Strait Islander people who use illegal drugs. Through a meticulous process, the researchers developed a relationship of trust with the community and were able to achieve a remarkably large sample. A consultative approach has been achieved through meetings with a local reference group which has supplied guidance throughout the project, now focusing on the preparation of a report that can lead to practical steps for health improvement.

A major new program of research focuses on the social trends underlying the dramatic increase in overweight and obesity. Although not ‘diseases’ in themselves, these conditions are key risk factors for several significant acute and chronic diseases, including osteoarthritis, cardiovascular disease and diabetes. NCEPH researchers are using a variety of methods to investigate both large scale social and economic trends, and people’s individual experiences of those trends. For example, a ‘cultural economy audit’ is being undertaken to show how reliance on the motor car has created the environment for dramatic changes in patterns of physical activity and food consumption over the last 50 years.

Because of the centrality of paid work, several NCEPH researchers are studying the ways conditions of employment may affect the health of workers, and also the well-being of their families. In 2003, NCEPH had the benefit of having a commonwealth officer from a relevant department present for a six-month Public Health Residency. During the residency, the team conducted a forum on work and the health of families, attracting participation from policy makers, unions, business, childcare, and researchers. Such ongoing conversations are valuable elements in formulating research that can be of practical value to improving population health.
Community Practices in Australia has been written at a time of great dynamism, nationally and globally. The welfare state architecture that provided a basis for community practice throughout the second half of the twentieth century is being transformed. Reflecting the changing relationships between states and communities, many academics have been either largely silent about community life or have dismissed the relevance of the concept of community.

This book examines the reclaiming of virtue in community discourse since the mid 1990s from a theoretical and practice perspective. As one book reviewer, Peter Whitecross, noted "this collection illustrates the many and varied solutions available to community practitioners when working towards more compassionate and health-promoting responses to neoliberal policies".

Community Practices in Australia presents 15 contemporary case studies covering a broad sweep of activity, including public health. Each describes the conscious application of principles, strategies and skills used to build and maintain a sense of community, both as an end in itself and as a vehicle to achieve social, economic, political and cultural change.

An original framework is advanced for understanding the breadth of community practice, encompassing: building trans-national solidarity; developing partnerships with government; engaging in neighbourhood and local development; community organising; campaigning against the state; and creating and resourcing sustainable communities and networks.

This book showcases the sophistication that is involved in thinking about and doing community capacity building, including the generation of social capital which is increasingly viewed as a major determinant of health. It contains chapters by NCEPH staff, Cathy Banwell, Jane Dixon and Karen Gardner and was launched by Professor Marjorie Mayo, University of London, at events at the Victorian Trades Hall and Gleebooks.

Published by PEARSON EDUCATION AUSTRALIA 2003. ISBN 1-74091-033-8
Health for Life!

Dorothy Broom, Lyndall Strazdins, Shannon Meyerkort

We are conducting a cross-disciplinary study of the potential influence of parental working conditions on family health and well-being. This project entails a range of different data, including questionnaires about employees and their families, stress and immune function measures (biomarkers), interviews with managers, unions and employees, analysing company policies on ‘family friendliness’ and employee award agreements. The aim is to develop a multi-dimensional picture of working parents and their families.

We are going beyond the usual approach of comparing children whose parents are employed with children whose parents are not in paid work. Instead, we are examining parental working conditions to see whether – and if so how – those conditions affect the capacity of fathers and mothers to care for their children, and hence influence child health.

In addition to a pilot study on 47 public service employees and their families, data has been collected on 45 employees and their families (including 87 children) from retail stores in the ACT and region. Preliminary findings indicate that parent work conditions are associated with children's emotional and behavioural well-being, and this is especially the case for dual earner families (where both parents work). Job insecurity, control over work pace and work decisions, and access to family friendly conditions are all associated with both parent’s and children's mental health.

We have also conducted qualitative interviews with retail employees. Emerging themes indicate there might be two groups of people within the retail sector – those who deliberately choose a career in retail because it is less challenging and stressful than other jobs (‘down-shifting’), enabling working parents to devote more time and energy to their families; and those who find themselves ‘stuck’ in the industry despite only intending to work there for a short while. Some spoke of the flexibility of the retail sector in being able to work the hours they wanted, while others spoke of the rigid nature of the sector and the negative impact working non-standard hours – especially weekends - had on their families.

A forum was hosted by NCEPH in August 2003 bringing together academic researchers, policy makers, industry leaders, unions and family support peaks. The forum generated lively discussion of the ‘Health for Life!’ study, and also of the research-policy interface of work, health and family. One general conclusion of the Forum was that the prevailing pressures on families can, and should, change – and researchers, governments, unions and the private sector all have a role to play in bringing about this change.
For over forty years, public health practitioners have been acknowledging the importance of the concept of ‘community’ in their work. Community involvement in primary health care was fully endorsed by the World Health Organization in 1978 at the Alma Ata Conference. Prior to this, the community-influenced delivery of health services was evident mainly in developing countries. Community development as a particular approach to health and well-being is predicated on two ideas. First, services will be more responsive and hence more acceptable when they incorporate the views of community members. Second, community participation in and of itself is health promoting, an argument receiving significant exposure in recent debates surrounding the relationship between social capital and the incidence of mortality and morbidity. However, while numerous studies support the beneficial effects of strong communities, the building and maintenance of such communities is now recognised as a difficult challenge.

This is the context in which I co-edited Community Practices in Australia (see page 31). In one chapter, ‘Community practice within the context of civil society-state relations’, I explore the influence that political philosophy has had over the conceptualisation and operationalisation of community. As a former community work practitioner and educator for fifteen years, I recognise the value of theory in influencing the strategic planning of community capacity. Having a theoretically grounded sense of purpose means that practitioners can survive the vagaries of changes in government policy, and my chapter indicates how community organisations have responded to, and influenced, government policy. Without active community engagement in issues as diverse as urban planning, abortion law reform and employment in the garment industry, other chapters in the book show how population health and well-being would suffer further.
In July 2003 we appeared before the Department of Foreign Affairs and Trade Senate Inquiry into an Australia–United States Free Trade Agreement. We were invited to give expert testimony before the committee following a submission by several NCEPH staff that raised questions concerning the potential effect on public health of the proposed agreement. Two areas of particular concern were the increased price of pharmaceuticals and the potential for weakening Australia’s quarantine regulations.

Australia’s Pharmaceutical Benefits Scheme (PBS) ensures access to low cost medicines, and has been hailed as a model system by other countries. The Australia–US FTA will increase the influence of pharmaceutical companies in determining which medicines are available and the prices Australia pays for drugs. Furthermore, new intellectual property provisions extend the patent period of drugs so that cheaper generics do not gain market access, thereby ensuring higher prices are maintained.

Quarantine protects both Australia’s agricultural industry and food safety. Australia is under increasing pressure from trading partners to ‘harmonise downwards’ its standards of import risk assessment with those accepted elsewhere. Australia’s cautious approach is not recognised internationally as being scientifically sound, despite its demonstrated effectiveness in protecting public health from, for example, bovine spongiform encephalopathy (BSE) and avian flu. Even if quarantine is not weakened directly through FTA negotiations, it is subject to international trade dispute processes that may have the same effect.

The Australia Institute has published three discussion papers highlighting concerns over the PBS implications of the FTA. These were prepared by NCEPH PhD student Kamalini Lokuge, Richard Denniss of the Australia Institute, Buddhima Lokuge and Thomas Faunce from the ANU Law Faculty and Medical School. A further discussion paper by Hilary Bambrick details concerns over trade and food safety.

These two important public health topics have since attracted considerable media attention, provoking parliamentary and public debate.
Obesity research at NCEPH

Jane Dixon, Cathy Banwell, Dorothy Broom, Sarah Hinde, Heather McIntyre

We are applying a novel research method to the systematic exploration of major social trends that lie behind the rising prevalence of obesity in Australia. The trends have been identified by 50 experts from academia, policy and practice, and include car reliance, sedentary leisure, convenience foods and busyness. Some preliminary findings show that car reliance does not simply lower physical activity but also shapes food choices and is thus an important determinant of the two behaviours most relevant to weight gain.

We have sought funding to pursue this unique and interdisciplinary program of research, which will also involve analysing longitudinal data pertaining to health behaviours from the Melbourne Collaborating Cohort Study. We are also collaborating with the NHMRC funded Health for Life! project to examine the influence of work on parenting practices and family food consumption. Cathy Banwell’s work on parenting practices and obesity was presented at Parliament House to the Sports Leaders Summit on Childhood Obesity in October, and received substantial media coverage. In conjunction with the Academic Unit of General Practice and Community Health, we have applied for funds to make the ACT a sentinel site for obesity prevention.

To bolster the policy relevance of this suite of research, we have begun a review of the reasons for the decline in coronary heart disease over the last 30 years and will apply the findings to what we learn about the social, cultural and behavioural determinants of obesity. NCEPH’s obesity research has been presented at numerous international and local conferences and workshops.
The Graduate Program

Postgraduate training at NCEPH during 2003 was concerned primarily with Doctor and Master of Philosophy research and the Master of Applied Epidemiology programs in Disease Control and Indigenous Health.

An induction program for newly commenced PhD students was carried out on an individual basis. In addition, NCEPH’s Student Officer organised a special induction seminar for those NCEPH research students who arrived after the Graduate School Induction program was held in February. This was presented by Dr Gail Craswell, Senior Advisor (Graduate Students) from the Academic Skills and Learning Centre at ANU. It was well attended and was considered very helpful by students.

NCEPH was well represented by academic and administrative staff and students at the ANU Open Day in August. In 2003, for the first time, Open Day included a special graduate studies section organised by the Graduate School, to promote the ANU’s graduate programs and to field questions from enquirers.

The Centre has continued Indigenous engagement in research and research training. It continues to support a series of scholarships and grants to Honours students from ANU and other universities whose projects are supervised at the Centre; Indigenous students undertaking Honours or Graduate Diploma projects; and Indigenous and non-Indigenous students wishing to attend a conference around Australia or visit NCEPH from elsewhere. The Centre’s first recipient of the Leonard Broom Scholarship for Indigenous students, Carmen Cubillo, completed the Graduate Diploma in Psychology with distinction and has been accepted into the Master of Clinical Psychology program at the University of Canberra.

In September NCEPH’s Director, Professor Tony McMichael, attended an honours fair at the Faculty of Science to address prospective honours students and inform them of the opportunities to undertake honours and postgraduate study at NCEPH and how to apply for an honours scholarship at NCEPH.

As in past years, NCEPH students took an active role in presenting and attending lunchtime and special methodology seminars. Writing workshops organised by Dr Dorothy Broom were also well attended.

NCEPH staff have been instrumental in the development of the curriculum for the ANU Medical School. NCEPH is a major contributor to population health teaching and looks forward to continuing to develop collaborative population health work with the new ANU Medical School to understand and respond to contemporary health issues.

Summer research scholars

In 2003, NCEPH was pleased to host four Summer Research Scholars, three from other States, and one from ANU. The intention of the Summer Research Scholarship program is to provide opportunities for undergraduate and honours students from all over Australia to gain insight into how research is conducted at ANU, to experience being part of a research community and to learn about future career opportunities in higher degree studies.

Our four scholars were awarded a Summer Research Scholarship on a competitive basis. This enabled them to attend ANU, accommodated at Burgmann College over the summer break, to complete a research project at NCEPH.

A brief description of their summer research projects follow.
Judy Gold (Monash University) completed two projects under the supervision of Professor Terry Hull and Dr Iwu Utomo. The first was a literature review on Harmful Reproductive Practices. The report aimed to evaluate research that has previously been conducted throughout the world, with a particular focus on studies, or lack thereof, in the Asia-Pacific region.

Judy’s second project was assisting on the analysis of the 2003 East Timor Demographic Health Survey (DHSTL). Judy compiled tables from the data set. She also had the opportunity to contribute to the analysis of data for a chapter on Fertility Preferences, which revealed that women in East Timor not only have the highest fertility in the world, but they also want more children!

Of her experience at ANU as a Summer Research Scholar, Judy says:

"my time … has been very useful and worthwhile for a multitude of reasons. I have greatly improved my literature research skills as well as gained valuable experience in completing large-scale literature reviews. I also learnt how to use the STATA statistical program, which will no doubt be of use in the future… In addition to the skills I have attained via my project work, I have greatly enjoyed interacting with staff and other students at NCEPH. Events such as seminars and informal interactions in the tea room have expanded my view of academia, as well as provided me with further options for future research and study."

Raj Balasingham, (University of Adelaide)

Under the supervision of Professor Terry Hull, Dr Bruce Caldwell and Dr Iwu Utomo, Raj undertook research on child survival in selected Indonesian cities.

His research project investigated the extent of infant mortality among female migrants in central Jakarta and surrounding areas. In addition the education levels of these women were analysed as important variables.

In his own words:

“The research project gave me a chance to get hands-on experience in the fields of demography, statistical analysis and mapping. However I found that the opportunity to talk, share ideas, attend conferences, meetings and most importantly work with the many excellent demographic and other academics at ANU (RSSS and NCEPH) was the most beneficial outcome of my summer scholarship program… the program… definitely has improved my analytical and problem solving skills which will be valuable for any future academic and/or work related environment”.

Rebekah White (ANU), supervised by Dr Hilary Bambrick, worked on two substantial research papers. The first investigated the role of breast-feeding (and particularly gamma-linoleic acid), Epstein-Barr virus, ultraviolet radiation and vaccinations in the aetiology of autoimmune disease, asthma and atopy. The second paper focused on health behaviours in Australia, investigating the incongruence between public knowledge, attitudes and behaviours with respect to modifiable disease risk factors. The health behaviours she was particularly interested in were smoking, excessive sun exposure and diet and physical activity levels.

Rebekah said that she benefited from being given exposure to a range of drafting, research and writing techniques, use of the Endnote referencing program and advice on how to utilise useful word-processing tools while working on large research projects. “I am really grateful for the rich experience I have enjoyed at NCEPH. I loved meeting staff from a range of backgrounds and learning about their projects and areas of research. The summer scholarship has further fuelled my interest in population health, inspiring me to seriously consider postgraduate research.”

Vaike Vohma (Murdoch University and University of WA) conducted an extensive literature review on autism spectrum disorders (ASDs). Vaike was supervised by Niels Becker and Mark Clements. She found that the review “elucidated for me the complex nature of any research regarding ASDs due to the manifold ambiguities that exist regarding the true nature of the disease. It has been a very interesting disorder to research and clearly encompasses many avenues for further investigation”.

Vaike says:

“the time I have spent at NCEPH has been filled with many lovely experiences, surrounded by like-minded Summer Research Scholars, very approachable and helpful supervisors and hospitable peripheral academics and support staff. I have benefited from the helpful scrutiny of my supervisors and the opportunity to conduct research in a professional and supportive environment. The collaboration of the programme with Burgmann College {where the scholars were accommodated} has provided the Summer Scholars with an environment to socialize and mix, making networking and the formation of good friends and the organisation of memorable social events easy and possible….I see this experience as providing me with a good grounding going into my honours year and look forward to possibly coming back to undertake further research at the postgraduate level some time in the future.”
I was a PhD student from April 1998 until July 2003. I was a part-timer mostly but an ANU scholarship part way through allowed me to have a wonderful year as a full-time student in 2001–2002 before returning to my job as Assistant Director of Nursing (Research) at The Canberra Hospital. Keeping my job whilst studying meant that I had no worries about employment after PhD and my work was directly relevant to my studies.

My PhD topic was a longitudinal study of adults with bacterial and fungal bloodstream infections (BSI). These BSI carry high early mortality but we knew relatively little about longer-term mortality and even less about the health status of those who survive. I have been able to fill in some of the gaps, finding an alarmingly high longer-term morbidity and mortality.

The academic training that I obtained as an NCEPH student, has been pivotal in opening up career opportunities for me as a nurse employed with responsibility for clinical research. I particularly valued the inter-disciplinary opportunities and have always learned a great deal from other NCEPH students as well as academic staff.

Anne Gardner

Mental, physical and spiritual problems of Indigenous Australians, resulting primarily from colonization, continue to affect us today. Research into subjective well-being could help to resolve these problems. Personality, culture and socioeconomic factors are central to subjective well-being judgements. However, as Indigenous culture is different from the wider Australian culture, it needs to be considered independently.

For my Graduate Diploma in Science (Psychology) I applied the Australian Unity Well-being Index (AUWI) to an Indigenous sample, and compared it to a non-Indigenous sample by quantitative and qualitative methods. The results supported the hypotheses that predicted both lower well-being and variation in life domains related to life satisfaction for the Indigenous sample. Future research needs to be directed into the nature of Indigenous well-being and its implications for health policies and the improvement of methodology in Indigenous research.

I am very grateful for the support I received at NCEPH. Being awarded the Leonard Broom Scholarship helped cover my living expenses, and I probably would not have got through without it.

As an Indigenous student, I feel an enormous burden on my shoulders to continue as far as I can to research Indigenous health to alleviate the problems that exist. It is, however, the path that I chose and I am proud of what I have achieved.

This path has now led me to the Master of Clinical Psychology at the University of Canberra.

Carmen Cubillo
On 12 March 2003, the World Health Organization (WHO) issued a global alert for a recently discovered emerging infectious disease which had been named severe acute respiratory syndrome (SARS). Four days later, MAE Program Director, Mary Deeble received a telephone call from the WHO to request support from the MAE Program for the global investigation and control of SARS. Within 24 hours arrangements had been made for two staff members and four students to be made available immediately to deal with the SARS outbreak in Vietnam, Hong Kong and Manila. More than 40 staff, current students and alumni of the program have contributed to the management and understanding of this new disease nationally, regionally and globally.

The MAE Program has been playing a key role in protecting Australia from the threat of emerging infectious diseases through its role in the national and global responses to SARS and more recently Avian Influenza. In doing so it is following the objectives which underpinned its establishment in 1990, namely to build national preparedness for response to communicable disease threats through the high level training of human resources. Through their close collaborations with the Australian Government Department of Health and Ageing, Communicable Diseases Network of Australia, the Public Health Laboratory Network, the WHO and the Network of Training Programs in Epidemiology and Public Health Interventions (TEPHINET), program staff, trainees, alumni and field supervisors provide a professional specialist network for rapid response to both national and global communicable disease challenges.

Mary Deeble is now the TEPHINET board representative for the Western Pacific Region and coordinates the quality improvement initiatives of the network. Five MAE scholars (Hazel Clothier, James Fielding, Megge Miller, Gina Samaan and Hassan Vally) presented papers at the 2003 regional TEPHINET conference in Borocay, The Philippines.

The 2003 MAE Conference, entitled "Crisis and Opportunity: the changing game of public health", incorporated a strong environmental health focus. NCEPH Director Professor Tony McMichael and Dr Roscoe Taylor, enHealth Council and current field supervisor, both discussed the opportunities in environmental health to address current and emerging crises. Dr Ngaire Brown and Ms Rachel Atkinson both highlighted the ongoing crisis in Indigenous health and the importance of identifying opportunities for Indigenous workforce development. Our international visitor, D'Ato Dr Ti Ah Sian, Deputy Director General of Public Health in Malaysia, demonstrated how the devastation wrought by emerging infectious diseases in her country had been turned into the opportunity to develop the response capacity to such issues in her country.

Many studies were undertaken by MAE scholars. Examples include:

- The establishment of a surveillance system that enabled the impact of the ACT bushfires on public health to be monitored (Megge Miller). Megge was also part of the team investigating an outbreak of encephalitis in Vietnam.

- A collaborative project between OzFoodNet in Australia and FoodNet in the United States comparing rates of Campylobacter infection between these two countries (Hassan Vally).

- An examination of the impact of some bloodborne viruses in the Indigenous community (Michael Wright).

Eleven MAE students successfully defended their bound volumes and graduated in 2003 and ten students enrolled and took up their field placements in March.
MAE Student Profiles

Megge Miller
Placement: Aust Govt Department of Health & Ageing, Canberra.
Supervisors: Ms Linda Halliday, Dr Jenean Spencer

Before the MAE, I studied environmental health and really enjoyed the applied nature of the degree. I completed an Honours degree focusing on occupational health, and a PhD in environmental health. I then took up a position as a data analyst at the Australian Institute of Health and Welfare. A common theme through all my work was epidemiology, but I had no training or real hands-on experience. I applied for the MAE hoping to learn the skills I needed to practise epidemiology.

I have been very lucky during my MAE. I have been able to combine communicable and non-communicable disease epidemiology. The highlights of my MAE have been working on surveillance after the ACT bushfires and working in Vietnam. I have also been exposed to applied epidemiology at each level of government: local (ACT); national (my placement at the Australian Government Department of Health and Ageing) and international (work in Vietnam). I went to Hanoi, Vietnam, on two occasions; once for the SARS epidemic and once for an encephalitis investigation. I worked closely with Vietnamese doctors and learned a great deal about epidemiology, psychology and Vietnamese history and culture! Experiencing life in two very different countries made me appreciate the complexities of the stresses on public health in both developing and developed countries.

I am still deciding on future directions – whether to stay in communicable disease epidemiology and eventually work overseas or to go back to research and become an environmental epidemiologist. I have learnt so much from my two years doing the MAE that, either way, I have a strong grounding in applied epidemiology which creates many opportunities.

Chris Lawrence
Placement: National Centre in HIV Epidemiology & Clinical Research, Sydney
Supervisors: Ms Jill Guthrie, Dr Andrew Grulich

Before doing the MAE I worked in HIV/AIDS education and prevention with Aboriginal communities and health services as an educator and policy advisor. A lot of my work was also providing advocacy and support for Aboriginal and Torres Strait Islander people living with HIV and AIDS.

I have worked on a number of local, state and national Aboriginal and Torres Strait Islander HIV/AIDS initiatives, health promotion campaigns and policies.

The MAE has provided me with the essential skills to enable me to effectively analyse data and information regarding Aboriginal and Torres Strait Islander health and wellbeing, health policies and strategies, and health research initiatives. I have also gained a better understanding of public health measures, interventions and necessary clinical and medical practices.

I plan to apply these skills to my future work and academic endeavours to contribute towards improving health outcomes for Aboriginal and Torres Strait Islander people and the wider Australian community.

I have enjoyed the MAE immensely. Great NCEPH staff, colleagues and support as well as astute supervisors! And above all, the MAE is a course that embraces and respects differences, diversity and challenges.

I have no hesitation in encouraging Aboriginal and Torres Strait Islander people to apply for the MAE.
Students

Doctor of Philosophy students, their PhD topics and supervisors  * For part of the year only

*Karen Andreasyan, BDentalSurgery MDentalSurgery MDentalSci Yerevan State Medical University MPH Umea University
Dietary determinants of child asthma
Dr A-L Ponsonby, Dr K Dear, Associate Professor M Riley

Ross Andrews, DipAppSc Swin MPH Monash MAPpEpid ANU
Evaluation of the impact of a publicly funded pneumococcal vaccination program for persons aged 65 or more
Dr J Butler, Dr L Roberts, Dr P McIntyre

*Stuart Collins, MBBS Qld DTM&H James Cook MPH Syd
Nutrition on Flores Island, Nusa Tenggara-Timur province, Indonesia: the impact of El Nino
Dr A Sleigh, Professor T McMichael, Dr C Butler, Dr B Lees

Samantha Crompvoets, BSc (Hons) Melb
Breast cancer and the post-surgical body
Dr D Broom, Dr A Whittaker, Dr K White, Dr A Dugdale

Marian Currie, BAppSci CCAE GradDipPopHlth ANU
Postnatal depression in the Australian Capital Territory
Dr G Hall, Professor W Smith, Dr L Lim, Dr J Thompson, Professor D Ellwood

Anne Gardner, BA MPH ANU
Health status after bacterial and fungal bloodstream infections
Dr B Sibthorpe, Dr P Collignon, Dr K Dear

Brendan Gibson, BA Syd; MPH UNE
An exploration of the relationship between research and policy in public health in Australia
Dr B Sibthorpe, Dr G Gray, Professor S Duckett

Jennifer Hargreaves, BSc (Hons) ANU
Adverse events in routinely collected mortality and morbidity data
Dr B Sibthorpe, Dr C Kelman, Dr P Philips

Milton Hasnat, MBBS Dhaka MSc TN Med
Randomised controlled trial of the effectiveness of Dugwell and Three Pitchers Filter as sources of arsenic free safe drinking water in Bangladesh
Professor W Smith, Dr K Dear, Dr B Caldwell, Dr J Ng

Geethanjali Isaac-Toua, MBBS PNG DipPubHlth Otago
Methadone program evaluation
Dr R D’Souza, Professor N Becker, Dr P Dance

Carol Kee, BEd Riverina – Murray Inst of HEd GradDipSpecialEd Goulburn CAE GradDipPopHlth ANU
Being working poor is bad for your health: the challenge of the new millennium
Dr D Broom, Dr L Lim, Dr J McMillan
*Kathryn Kelly, BSc Griffith MEnvMDev ANU
Water management and health considerations
Professor A J McMichael, Professor T Kjellstrom, Professor I White

Chin-Kei Lee, MBChB Chinese Uni of Hong Kong MPH Syd MA AppEpid ANU
Modelling person to person transmission of infectious diseases: implications for control
Professor N Becker, Dr M Patel, Dr L Roberts, Ms M Beers Deeble

Karen Lees, RN RM BAppSci (Nurs Sci) Canberra
Long term outcomes of neck and upper body disorders among female office workers
Dr G Bammer, Dr Lyndall Strazdins, Dr K Dear

Robyn Lucas, BSc MBChB Auckland MPH et TM James Cook
Biomarkers of social disadvantage
Professor A J McMichael, Dr K. Dear, Dr B Rodgers, Professor W Smith, Professor R M Douglas, Dr D Broom

Lynelle Moon, BMath Wollongong Grad Dip Stats ANU
Inequalities in population-level health outcomes: the case of coronary heart disease
Dr G Carmichael, Dr Lim, Professor RM Douglas, Dr P Magnus, Dr J Butler

Kasumi Nishigaya, BA Meiji Gakum MAAS MA ANU
Social and sexual relations of young female garment factory workers in Cambodia and their risk of HIV/AIDS
Professor J C Caldwell, Dr G Carmichael, Professor N Becker

Rosemary Norman, BHealthMan Grad Dip PubHlth UNE Master of Nursing Canberra
Injecting drug users and nurses in the ACT: understanding the issues
Dr G Bammer, Dr L Lim, Dr M Makkai

*Saifur Rahman, MBBS Chittagong Medical College Bangladesh MPH Johns Hopkins University School of Hygiene & Public Health Diploma AIDS/STD Management Consortium of Thai Training Institutes for STDs and AIDS
Reproductive health of women complaining of vaginal discharge
Professor T Hull, Dr F Bowden, Dr R D’Souza, Professor N Becker

Sabina Rashid, MLitt BA ANU
An ethnographic study on reproductive health of female adolescents and women living in slums in Bangladesh
Dr B. Caldwell, Dr A. Whittaker, Dr R. D’Souza

Stephen Rudzki, MBBS Adelaide Grad Dip Sports Sc Cumberland
The cost of injury to the Australian army
Professor RM Douglas, Dr J Butler, Professor W Smith

Marluce Silva, BSoC Wk PCUMC Grad Dip PH UNAERP
The long-term impact of work-related neck and upper body disorders; an historical cohort study of all female office workers employed at The Australian National University from 1980 – 1984
Dr G Bammer, Professor W Smith, Dr G Carmichael

*Rupen Shrestha, MBA Waikato MSc Auckland
Population health impact of air pollution
Dr K Dear, Professor T Kjellstrom, Dr G Morgan

*Masha Somi, BA/BEc(Hons) ANU
Household socioeconomic status and malaria in rural Tanzania
Dr J Butler, Dr M Patel, Dr A Martina
Leigh Trevillian, MBBS MPH Syd
Asthma: the relationship to a child's sleeping environment
Dr A-L Ponsonby, Professor Al Adams, Dr L Lim

Agnes Walker, BEng Ecole Poly Tech Paris MEng NSW
Modelling the links between socio-economic status and health
Professor N Becker, Dr J Butler, Professor A Harding

Rosalie Woodruff, BA Canberra MPH ANU
Environmental and personal factors in Ross River virus disease
Dr C Guest, Dr G Garner, Professor N Becker, Dr J Lindsay

**Doctor of Population Health students, research topics and supervisors**

Walter Abhayaratna, MBBS Sydney,FRACP RACP
The ACT heart failure survey
Professor A J McMichael, Professor W Smith, Professor N Becker

Kamalini Lokuge, MBBS Tasmania
Interventions for arsenic mitigation in Bangladesh and their effect on childhood diarrhoeal disease
Dr K Dear, Dr B Caldwell, Dr W Smith, Dr M Patel

Judith Staples, BSc(Hons) MSc Canterbury BAAppSc QUT
Environmental factors, particularly ultraviolet radiation, affecting multiple sclerosis and other autoimmune disease
Dr A-L Ponsonby, Professor AJ McMichael Dr, L Lim, Ms M Beers Deeble

**Master of Philosophy students, research topics and supervisors**

Jenny Cahill, BAPS Cumberland College of Health Sciences
The overall cost to the individual and the community of post-operative infection in total joint replacement
Dr P Smith, Dr J Butler

*James Harris, BSc Hons Otago
Optimal resource allocation for prevention and treatment of cardiovascular disease in New Zealand
Dr J Butler, Dr P Magnus, Dr M Clements

Rubaiul Murshed, MBBS Dhaka Diploma in Paediatric Surgery London
A study of public health management of arsenic in Bangladesh
Professor RM Douglas, Dr B Caldwell, Dr G Ranmuthugala

Casey Quinn, BComm(Hons) Econometrics Sydney
Alternative modelling methodologies pertaining to private health insurance demand and the private health insurance purchasing decision
Dr J Butler

**Master of Population Health students**

Nicole Druhan, BSc St Francis Xavier University
Frances Fischer, BA/BSc ANU
Sarah Hinde, BSc ANU

**Graduate Diploma of Population Health students**

Therese Foster, BSocial Work Sydney
Master of Applied Epidemiology scholars, placements and field supervisors

Ms Angela Babo-Soares
TB Division, East Timor Ministry of Health, Dili
Dr Jaine Sarmento, Ms Angelina Martins, Ms Mary Beers Deeble

Ms Jenny Barralet
Queensland Health, Brisbane
Dr Margaret Young, Dr Linda Selvey, Dr Robyn Pugh, Associate Professor Scott Cameron

Ms Kylie Carvill
Telethon Institute for Child Health Research and WA Centre for Pathology and Medical Research, Perth
Dr Deborah Lehman, Professor Tom Riley, Dr Gillian Hall

Ms Hazel Clothier
Department of Human Services, Melbourne
Dr Graham Tallis, Ms Mary Beers Deeble, Dr Stephen Lambert

Mr Luis Dos Reis*
Subdivision Surveillance and Communicable Diseases, East Timor Ministry of Health, Dili
Dr Greg Fernandez, Ms Linda Halliday

Ms Francine Eades
Institute for Child Health Research, Perth
Professor Sven Silburn, Dr Geetha Ranmuthugala, Ms Jill Guthrie

Mr Keith Eastwood
PathCentre and Department of Health, Perth
Dr Gary Dowse, Professor Tom Riley, Associate Professor Scott Cameron

Mr James Fielding
Communicable Disease Control Branch, Department of Human Services, Adelaide
Dr Rod Givney, Associate Professor Scott Cameron

Ms Wendy Hermeston
Combined Universities Centre for Rural Health, Geraldton, WA
Dr Marisa Gilles, Dr Gillian Hall

Mr David Hogan
AIDS Communicable Diseases Branch, NSW Health, Sydney
Dr Jeremy McAnulty, Ms Mary Beers Deeble

Dr Ilisapeci Kubaabola*
Health Department, Suva, Fiji
Dr Joe Koroivueta, Ms Mary Beers Deeble

Mr Chris Lawrence
National Centre in HIV Epidemiology and Clinical Research, Sydney
Dr Andrew Grulich, Ms Jill Guthrie

Mr Dallas Leon*
Brisbane Southside Public Health Unit, Brisbane
Dr Brad McCall, Dr Noel Hayman, Dr Christine McClintock, Dr Gillian Hall
Dr Megge Miller  
Department of Health and Ageing, Canberra  
Dr Jenean Spencer, Ms Linda Halliday, Ms Mary Beers Deeble

Dr Roseanne Muller*  
Centre for Disease Control, Darwin  
Dr Vicki Krause, Associate Professor Scott Cameron

Ms Sally Munnoch  
Department of Health and Human Services, Hobart  
Dr Roscoe Taylor, Ms Rosie Ashbolt, Ms Mary Beers Deeble

Ms Cynthia Payne  
Queensland Health and Townsville Division of General Practice  
Dr Ross Nable, Ms Mary Beers Deeble

Dr Helen Quinn  
Communicable Disease Unit, Queensland Health, Brisbane  
Dr Margaret Young, Dr Gillian Hall

Ms Gina Samaan  
Communicable Disease Branch, Department of Health & Ageing, Canberra  
Dr Jenean Spencer, Dr Margaret Norington, Dr Mahomed Patel

Dr Sanjaya Senanayake  
South Eastern Sydney Area Public Health Unit, Randwick  
Associate Professor Mark Ferson, Dr Mahomed Patel

Ms Nola Tomaska*  
OzFoodNet, National Public Health Partnership, Melbourne  
Dr Martyn Kirk, Dr Gillian Hall

Dr Hassan Vally  
Health Department of Western Australia, Perth  
Dr Gary Dowse, Associate Professor Scott Cameron

Dr Julie Wang  
Dept of Human Services, Melbourne  
Dr Ross Andrews, Dr Trang Vu, Dr Stephen Lambert

Dr Ros Webby  
Centre for Disease Control, Darwin  
Dr Vicki Krause, Dr Peter Markey, Dr Mahomed Patel

Mr Michael Wright  
Sexual Health Services, Department of Health, Perth  
Dr Sandy Thompson, Dr Phyl Dance


Books


Book chapters


**Invited keynote conference papers**


Becker N. *How to accommodate disease transmission when assessing vaccines*. International Joint Statistical Meeting, San Francisco, USA, 2–7 August.

Becker N. *Design and analysis of infectious disease studies*. Invited discussant at the 54th Session of the International Statistical Institute, Berlin, Germany, 13–20 August.


Becker N. *Controlling emerging infectious diseases like SARS*. International workshop on Analyses for the Outbreak and Control of SARS and Other Infectious Diseases, Banff, Canada, 4-6 September.

Broom D. *Putting gender to work*. In Search of Sustainability, Canberra, 14 November.


Butler CD. *Equity and Peace*. In Search of Sustainability Canberra, The Shine Dome, Canberra, 14 November.
Carmichael G. *In quest of enhanced understanding of demographic change: do we need to be more methodologically imaginative?* Biennial conference of the Population Association of New Zealand, University of Canterbury, Christchurch, 3-4 July.

Dixon J, Sibthorpe B, Hinde S, Banwell C. *The state, market and civil society in Australia's "obesogenic" social environment.* 12th European Congress on Obesity, Helsinki, Finland.

Eckersley R. *Young people and progress: taking the prize or paying the price?* Mater Hospital child and youth mental health service annual conference, Brisbane, 25 July.

Eckersley R. *Being human and being young: never better, or getting worse?* ‘Priests and principals’ conference, Catholic Education Office of Lismore diocese, Coffs Harbour, 9 September.


Hull T. *Multi-country study on harmful sexual practices in South-East Asia.* WHO Session on Violence and Sexual Health, Havana Cuba, 12 March.


McMichael AJ. *Climate change and health; the picture begins to clarify.* Marine Biological Laboratory, Woods Hole, MA, USA, July.

McMichael AJ. *Climate change and health – the picture begins to clarify.* Australian Academy of Science, Canberra ACT, August.

Sleigh A. *Epidemiology and socio-economic impact of vivax malaria in China.* WHO Interregional Workshop on the Control of Vivax Malaria in East Asia, Shanghai, 17–20 November.

Sleigh A. *The role of health systems in vivax malaria control in China.* WHO Interregional Workshop on the Control of Vivax Malaria in East Asia, Shanghai, 17–20 November.

Woodruff RE. *Highlights from ‘Human health and climate change in Oceania: a risk assessment’.* International Climate Change Symposium, Shine Dome Canberra, 29 September.
Outreach

While scientific research and postgraduate training form the core of NCEPH's activities, staff also make many contributions to professional associations, journals, research funding processes, government decision-making and public education. These activities form an important dimension of the creation and application of scientific knowledge about population health. For example, NCEPH researchers served on over 60 committees, boards, councils and other bodies in 2003, including:

Public Health Association of Australia (ACT Branch)
Hilary Bambrick (Secretary), Cathy Banwell (Treasurer), Geetha Isaac-Toua, Rosemary Korda, Rosalie Woodruff.

Communicable Diseases Network Australia
Mary Deeble

National Influenza Pandemic Action Committee
Niels Becker

WHO Western Pacific Regional Office (WPRO) Organising Committee
Mahomed Patel (Advisory Board member)

Australian Women's Health Network
Dorothy Broom (Steering Group member)

Doctors for the Environment, Australia
Colin Butler

Alcohol and Drug Foundation of the ACT (ADFACT)
Phyll Dance

ACT Alcohol and Other Drug Taskforce
Gabriele Bammer

Biostatistics Collaboration of Australia
Keith Dear (Executive Committee member)

International Society for Equity and Health
Jane Dixon (Executive Committee)

Australia 21
Bob Douglas (Chair), Richard Eckersley, Jane Dixon (Board Members)

Sexual Health and Family Planning ACT
Terence Hull (Council member)

Australian Reproductive Health Alliance
Terence Hull (Committee member)

Advisory group on Environmental Health Indicators, Aust Govt Dept of Health and Ageing
Tord Kjellstrom

Accident and Compensation Corporation, New Zealand
Tord Kjellstrom (Board Director)

ACT Health and Medical Research Council
Tony McMichael

NHMRC Triennium Council 2003-2005
Tony McMichael

Grant Review Panel – Public Health, NHMRC
Anne-Louise Ponsonby
Honours and awards

- Hilary Bambrick was nominated for the Vice-Chancellor’s Award for Excellence in Teaching, Semester 1 2003, for convening Ecology of Health and Disease
- Lorrae van Kerkhoff was awarded Fulbright Post-doctoral Fellowship (to be formally awarded in 2004)
- Lorrae van Kerkhoff was awarded a Land and Water Australia Travelling Fellowship
- Bruce Caldwell was awarded an ARC Queen Elizabeth II Fellowship
- Lyndall Strazdins and Gabriele Bammer contributed to the ANU program which led to the University being awarded the Category 9 Award “Best Health and Safety Month Initiative” in the ACT Occupational Health and Safety Excellence Awards 2003
- Rosemary Ford was awarded an NHMRC Postgraduate Research Scholarship
- Sanchia Shibasaki was awarded an NHMRC Training Scholarship in Indigenous Australian Health Research
Grants

The Centre has been eligible to apply to ARC and NHMRC for a number of years. A quality-controlled, peer-reviewed system for the development of competitive research grants, begun in 2002, was refined in 2003. The success rate of 50% was particularly high, with five out of ten applications awarded.

In total in 2003 the Centre was awarded 19 grants, consultancies and externally funded scholarships including:

- Wellcome – NHMRC Internal Collaborative Research Grant: Thai Health Risk Transition: a national cohort study (approx $1.5m)
- National Multiple Sclerosis Society (USA): A case control study of past sun exposure and first demyelinating events ($950,333)
- Vincent Fairfax Foundation: Postdoctoral Fellowship ($195,000)
- ACIL: Technical assistance to conduct a demographic and general health survey in East Timor ($63,270)
- Australian Government Department of Health and Ageing: Estimation of Indigenous use of mainstream services ($65,000)
- Australian Institute of Family Studies: Longitudinal Study of Australian Children ($86,100)

Finance

Income and Expenditure Statement 2003

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