

Menzies School of Health Research



1999-2000 ANNUAL REPORT

Komrud Djang — Cough/Influenzae Dreaming
by Thompson Yulidjirri of Gunbalanya

Menzies School of Health Research

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List of abbreviations

AIHW	Australian Institute for Health and Welfare
AHMAC	Australian Health Ministers Advisory Council
AusAID	Commonwealth Government's international aid agency
CARHTU	Central Australian Remote Health Training Unit
CARPA	Central Australian Rural Practitioners Association
CGRDG	Commonwealth Government Research and Development Grants
CHATA	Community Health and Anti-Tuberculosis Association
CRCATH	Cooperative Research Centre for Aboriginal and Tropical Health
CSIRO	Commonwealth Scientific Research Organisation
DETYA	Department of Employment, Training and Youth Affairs
MCS	Murrupurtiyanuwu Catholic School
NGO	Non-government organisations
NHF	National Heart Foundation
NHMRC	National Health and Medical Research Council
NIH	National Institute of Health, USA
NTCS	Northern Territory Clinical School
NTHS	Northern Territory Hearing Services
NTU	Northern Territory University
OAH HDWA	Office of Aboriginal Health, Health Department Western Australia
OATSIH	Office of Aboriginal and Torres Strait Islander Health
PNG	Papua New Guinea
PNGIMR	Papua New Guinea Institute of Medical Research
QIMR	Queensland Institute of Medical Research
RHSET	Rural Health Support, Education and Training
THB	Tiwi Health Board
THS	Territory Health Services
TNF	Tumor Necrosis Factor
UNICEF	United Nations
UNTAET	United Nations
WHO	World Health Organization

MENZIES SCHOOL OF HEALTH RESEARCH

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Mission Statement

To help improve the health of the people of northern and central Australia, and regions to the near north, through multidisciplinary research and education.

Aims and Objectives

The Menzies School of Health Research carries out health research and education of relevance to northern and central Australia, and nearby regions. The School is committed to:

- excellence in research to advance health knowledge
- excellence in scholarship and teaching about health
- the equitable use of knowledge and resources to improve health

Annual General Meeting

The 2000 annual general meeting will be held at 5pm on Friday 10 November 2000 at Menzies headquarters in Darwin.

For MSHR contact details see inside back cover.

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Foreword

At the end of what has been one of the School's most challenging years, I would like to thank the many people who have assisted me in my role as Chairman.

First of all, though, I wish to congratulate Sir Gustav Nossal AC CBE, Patron of the School, on his award of Australian of the Year. There is no doubt in my mind that Sir Gustav is a deserving recipient of this prestigious award and I am certain that all Members of the Board of Governors and staff of the School join me in congratulating him.

In June 2000, the School welcomed its second Director, Professor Kerin O'Dea. Professor O'Dea's background is in public health and nutrition, her previous experience being as Pro-Vice-Chancellor (Research) at Deakin University and then as Professor of Preventive Medicine and Nutrition at Monash University. Professor O'Dea's commitment to Aboriginal health and her determination to succeed ensure she is well placed to take on the challenges of directing our vibrant research institute.

Professor David Kemp FAA, with the support of the School's strong administrative team, very ably directed the School from the time of John Mathews' departure in July 1999, until the time of his own departure in June 2000. It was with deep regret that the Board of Governors accepted Professor Kemp's resignation from July 2000. The Board is extremely proud of Professor Kemp's achievements during the eight years he was with the School and wishes him every success as he relocates to the Queensland Institute of Medical Research in Brisbane.

During the past 12 months the Board of Governors has also accepted two resignations from within. Mr John Paterson resigned in July 1999 to accept a position with the Aboriginal Affairs Department in Western Australia. Professor John Young AO made an enormous contribution to the School as Chair of the Board of Governors from 1991 until 1997 and Deputy Chair from 1997 until his resignation in June 2000. I extend my sincere thanks to both.

Dr Ken Sawers resigned in November 1999 after one year as Business Manager and has since been replaced by Mr Grant Lindsay. I thank Ken for the support he provided the Board. I also wish to acknowledge the efforts of former staff representative and research assistant, Mr Jon Hartas. Jon was one of the School's longest serving employees and the first staff representative to have a significant input into Governing Board meetings.

Members of the Board of Governors, the Selection Committee and the support staff involved in selection of the School's incoming Director, Professor Kerin O'Dea, should also be thanked. The selection process was a protracted one, involving advertising and solicitation of applicants both nationally and internationally, in

an effort to seek the most suitable candidate for the position. I am very aware of the time and efforts contributed by all members of the Board and Selection Committee and am grateful for their valuable input.

It is with deep regret that I report on the passing of two great Territorians during the year. Harry Giese AM MBE was the driving force behind establishment of the Menzies School of Health Research. Harry was an active member of the Board of Governors (1984–94) and Finance Committee (1984–2000), and a friend to many Board and staff members until his death in February this year. Father Frank Flynn MSC AC came to the Territory as an Army Chaplain and Ophthalmologist in 1942. He was the first to identify and study trachoma in the Northern Territory Aboriginal population — work that continues today. The School is fortunate to have a Northern Territory Government-funded fellowship in Father Frank's name. Both men contributed significantly to the life of the School and shall be remembered with great fondness and respect.

Finally, I would like to acknowledge the financial support received by the School. The continuing support of the Northern Territory Government and the Menzies Foundation remain critical to the School's core activities. Currently, over 130 research grants are provided by 26 national and international competitive funding agencies. I would particularly like to thank those who support the School's research activities through private donations. The School's finances have been very ably managed by Yolanda Jackson and the accounts personnel reporting to the School's Finance and Audit Committees.

In this year of great change, I wish to close by offering my sincere thanks to the staff of the School who, despite the disruptions and transitions endured over the past 12 months, have remained committed to their mission: the improvement of health outcomes through multidisciplinary research and education.



Richard V Ryan AO
Chair
MSHR Board of Governors



Directors' Reports

Acting Director's Report

The past year has been one of dramatic events and change within the School. The departure of Professor John Mathews AM in July 1999 was the first major change in direction since the School's inception and John can take great pride in the achievements of the School during its first 15 years. John's achievements were recognised on 12 November 1999 by the award of the Menzies School of Health Research Medallion following his delivery of the Annual MSHR Oration.

In September 1999, events in East Timor became inextricably mixed with the activities of the School as refugees began arriving in Darwin. In the short term I offered use of the School's facilities and we became the receiving station for primary medical evaluation of some 1,800 evacuees. The covered open air space of our loading bay — with its associated facilities — provided an ideal environment for dealing with expected cases of tuberculosis. I thank the many members of staff who volunteered their time to assist in a multitude of ways. Now and for the foreseeable future, TB programs and rebuilding the medical capacity in East Timor will impact upon the School.

I note with considerable delight the achievement of Louise Martin in becoming the Northern Territory Young Achiever of the Year, both in the Science and Technology category, and overall. Louise spent 1997 and 1998 at the School studying for a BSc(Hons), achieving a first-class pass. She is currently studying for a medical degree at Flinders University and hopes to return to the Territory to contribute to Aboriginal health.

Another friend of the School to be honoured was our Victorian State Patron, Sir Gustav Nossal AC CBE who became Australian of the Year. Sir Gustav is currently, among many other things, Deputy Chair of the Council for Aboriginal Reconciliation and Chair of the Strategic Advisory Council for the Bill and Melinda Gates Children's Vaccine Program, which was set up to help ensure that children in developing countries are immunised against major diseases. He has recently been instrumental in raising the initial funding for the program from \$100 million to \$US1.04 billion, to be spent over the next five years. Congratulations, Gus, on a well-deserved award.

A sad event was the passing of Harry Giese AM MBE. Harry's actions in the early 1980s were instrumental in establishing the School and he served on the Board and Finance Committee for many years. He is remembered with thanks and respect by all of us who had the opportunity to know him.

A change of guard also occurred with business managers. I



Professor David Kemp

thank Ken Sawers for his contributions and personal support and welcome Grant Lindsay.

Professor Kerin O'Dea was appointed Director and took up the position in June 2000. She brings a background in public health and nutrition to the School and this will enable the School to pursue some different directions to those previously emphasised. I wish her well in this challenging position.

For my own part, I decided that my work on scabies (with the eventual hope of making a vaccine) has now reached the stage where it will be better pursued with the facilities of the Queensland Institute of Medical Research, as indeed will my malaria work. I hope to continue collaborating with Shelley Walton and Bart Currie on the scabies project, which I consider to be the avenue with the greatest chance of my making a difference to Aboriginal health. It is with considerable sadness that I leave after eight years, years that I regard as having been productive and happy. I thank the many collaborators and friends who made this possible.

David Kemp

Director's Overview

Although this annual report covers the year immediately prior to my appointment as Director, I was keen to make a brief contribution to highlight what I consider to be the exciting future directions and opportunities for the Menzies School of Health Research.

Menzies is one of very few health and medical research institutes in Australia that conduct research across the spectrum – from biomedical through clinical to population and health services research. The research focus is on questions relevant to our region: Indigenous health, rural and remote health, tropical and international health.

The small population and large geographical area of the Northern Territory pose both opportunities and challenges. On the one hand, the small population and relative isolation make it imperative to build links with the best researchers and research institutions both nationally and internationally. On the other hand, it provides a wonderful opportunity for innovative approaches to research and practice in health, including:

- > the possibility to adopt a whole of government approach not practical in large jurisdictions;
- > health-related interventions in relative isolation from external influences;
- > demonstration projects for the translation of research into practice and
- > the Preventable Chronic Diseases Strategy developed by THS offers an exciting framework for collaboration in research and evaluation, particularly relevant to my own longstanding research program.

One of my early goals will be to develop a vision for the MSHR

which is broadly based on public health imperatives (the burden of disease in northern Australia), supported by Territory Health Services, and endorsed by the staff and Board of the School. I would like to place on the record my longstanding commitment to addressing complex health problems with a range of research modalities that span the spectrum from the molecular to the population. To this end, I am strongly committed to maintaining and strengthening the broad research base of the MSHR.

Key early goals include the development of:

- > a strategy to strengthen the research capacity of the School by a combination of growth and collaboration;
- > a coherent and integrated approach to Indigenous health research, and its translation into policy and practice, across northern and central Australia (the Cooperative Research Centre for Aboriginal and Tropical Health is critical to future developments in this domain);
- > a capacity for the training of Indigenous people in health research;
- > our capacity to act as a research and evaluation resource for Territory Health Services;
- > mechanisms to enhance the partnership with Territory Health Services and other government departments to better facilitate the translation of research into policy and practice;
- > strategies to increase the number of research students and research fellows attached to the School through partnerships with other institutions;
- > a communications strategy to raise the profile of the School locally, nationally and internationally; and
- > a fundraising strategy with a broad national base.

I see an exciting future for the School, as it is increasingly recognised as a national resource in Indigenous, rural and remote health research, and tropical and international health. I look

forward to the challenges of working with a broad group of collaborators and stakeholders to achieve these goals.

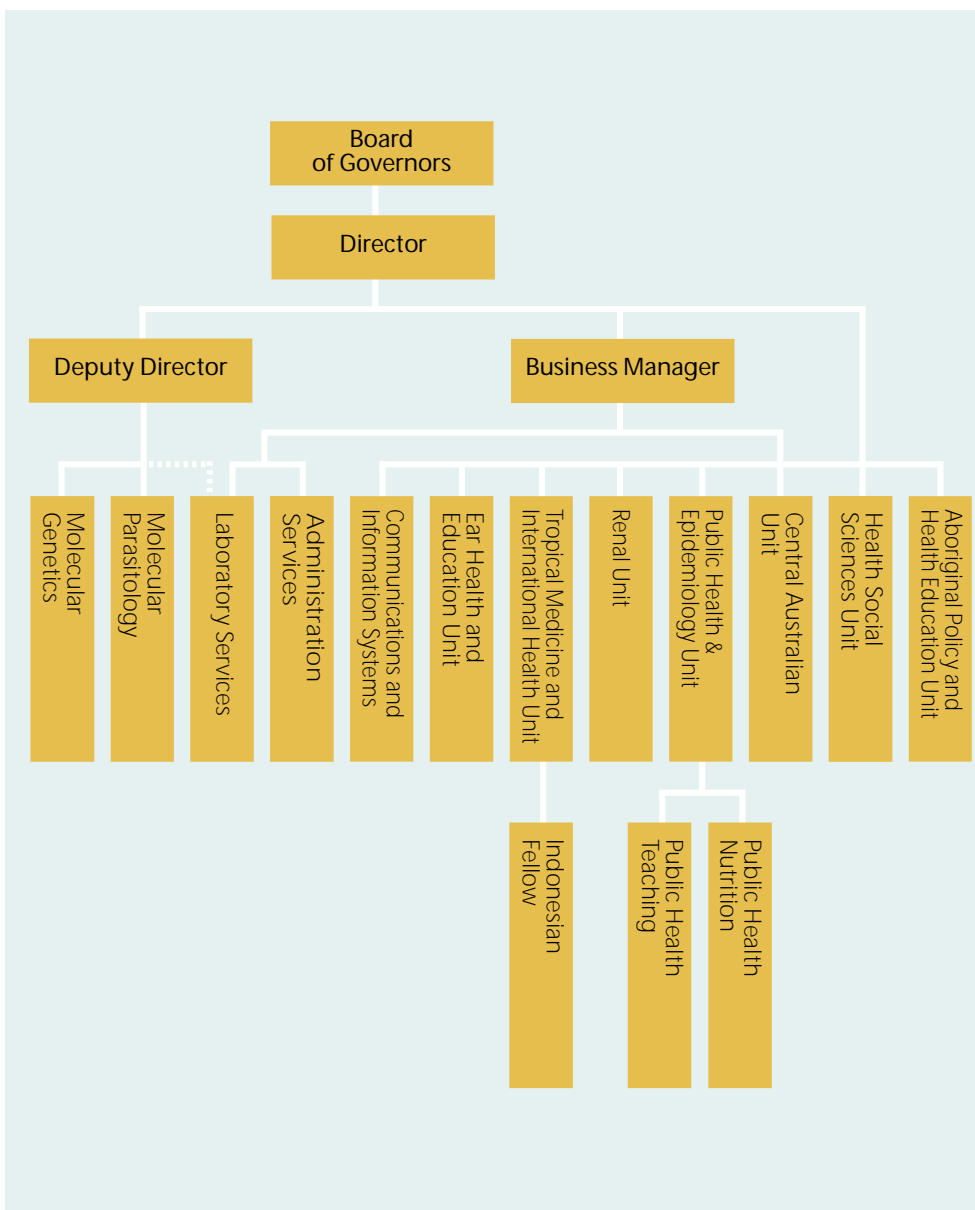
Ker in O Dea



Professor Ker in O Dea

Management

The Structure of MSHR



Menzies School of Health Research was established as a cooperative endeavour between the Menzies Foundation, Northern Territory Government and the University of Sydney. It commenced operations in January 1985 and is incorporated under Northern Territory legislation and controlled by an independent governing board. The School reports to the Northern Territory Legislative Assembly through the Minister for Health, Family and Children's Services, and also to an annual general meeting of the School. MSHR has a small Central Australian Unit in Alice Springs.

Patrons and Members

Patron-in-Chief

His Excellency Sir William Deane AC KBE
Governor-General of Australia

Official Patron

The Hon Dr Neil Conn AO
Administrator of the Northern Territory

State Patrons

Northern Territory :

The Hon Austin Asche AC QC
Mr Gatjil Djerrkura OAM

Queensland :

Mr Ron Archer AM

Victoria :

Sir Gustav Nossal AC CBE

Mr Charles Goode

South Australia :

The Hon John Dawkins
Dr Lowitja O'Donoghue CBE AM

Mr William Scammell CBE

Tasmania :

Dr John Hargrave AO MBE

MSHR Medallion

Recipients*

Dr Valerie Asche
Miss Margaret Brewster
Father Frank Flynn MSC AC
Mr Harry Giese AM MBE
Professor Richard Gye AO
Dr John Hargrave AO MBE
Professor John Mathews AM
Mr Ray Norman AM

**Medallion Recipients are also
Members of the School*

Life Members

Dr Keith Fleming
Dr Ella Stack CBE

Members

Mr Phil Alderslade
Mrs Ann Alderslade
Dr Ray Anderson
Mr John Antella
Professor Bruce Armstrong AM
Mrs Lucille Arthur
Mr Wilfred Arthur
Dr Ben Bartlett
Professor Antony Basten
Dr Barbara Bauert
Dr Paul Bauert
Mr Neil Bell
Dr Rob Berkowicz
Professor Geoffrey Berry
Dr Helle Bielefeldt-Ohmann
Ms Heather Boulden
Dr Frank Bowden
Mrs Joyce Bowden

Mr Hugh Bradley
Mrs Sue Bradley
Dr Charles Butcher
Dr Anthony Capon
Mr Brad Cassels
Dr Elizabeth Chalmers
Mr Bob Collins
Dr David Cox
Mr Bill Craig
Mr Joe Daby
Mr Don Darben AO
Mr Kevin Davis
Dr Brian Devlin
Mr Kevin Diflo
Dr Ross Diplock
Mr Brian Dixon
Mr Mick Dodson
Professor William Doe
Lady Joan Doll
Sir Richard Doll
Professor Ken Donald
Dr Fiona Douglas
Dr Rogan Draper
Dr Age Dyrting
Mrs Marjory Edwards
Dr John Erlich
Dr Sharyn Errington
Dr Kerry Eupene
Dr Kayte Evans
Mr Paul Everingham AO
Mrs Lorna Fejo
Mr Fred Finch
Mr Joe Fisher JP
Dr David Fitzpatrick
Dr Albert Foreman
Dr Ian Gardner
Mr Steve Gelding
Mrs Nan Giese OBE AO
Professor Michael Good
Mr Mike Gratten
Mr John Grootjans
Dr Steve Guthridge
Dr Peter Hallsworth
Dr Jeff Hanna
Mr Tom Harris
Mr David Hastings
Mr Steve Hatton
Dr Shirley Hendy
Mr John Hicks
Mrs Jane Hogan
Mrs Beth Hogan
Dr John Hopper

Professor Victor Hopper
Dr Diane Howard
Mr Jeffrey Huddleston
Dr Ian Humphrey
Mr Amin Islam
Mrs Barbara Jones
Professor Ross Kalucy
Lady Jessica Kearney
Dr Charles Kilburn
Mrs Christine King
Mr Laurie King
Ms Wendy Kirke
Dr Kerry Kirke AM
Dr Vicki Krause
Professor Marcia Langton AM
Dr Helen Lapsley
Mrs Jane Large
Ms Alison Laycock
Mr John Liddle
Miss Lorraine Liddle
Dr Richard Lim MLA
Mr Jack Little
Dr David Lo
Dr Mike MacAvoy
Mr Ian MacGregor
Miss Sandra Mackenzie
Mr Lyal Mackintosh
The Hon Daryl Manzie MLA
Mr Patrick Markwick-Smith
Dr Diana Martin
Ms Clare Martin MLA
Dr Fred McConnel
Dr David McCredie
Mr Brian McLaughlin
Professor James McLeod
Mr Stuart McMillan
His Worship, The Mayor Andy
McNeill APM JP
Professor Don McNicol
Dr Lorna Melville
Dr Angela Merianos
Mr David Moncrieff
Mrs Fran Morey
Ms Estrella Munoz
The Rev Philip Muston
Professor Malcolm Nairn
Mr Stanley Nangala
Mr John Neill
Assoc Professor Terry Nienhuys
Professor Kerin O'Dea
Mrs Lesley Oldfield
Dr David Parry
Dr Mahomed Patel

Mr Greg Paterson
Professor Hedley Peach
Mr Charles Perkins
Mr Marshall Perron
Ms Elizabeth Phillips
Dr Aileen Plant
Professor Robert Porter
Dr David Pugsley
Mr Denis Quinn
Mrs Cheryl Rae
Dr Brian Reid
Dr Lyn Reid
Mrs Rose Rhodes
Professor Field Rickards
Mrs Jan Robbins
Dr Alan Ruben
Mr Tom Rubin
Ms Kristine Seeleither
Mrs Margaret Sheridan
Ms Bernadette Shields
Dr Anthony Smith
The Hon Warren Snowdon MP
Professor DG Soll
Dr Ross Spark
Professor Fiona Stanley AC
Mr Graeme Symons
Senator Grant Tambling
Mr Phil Temple
Professor Yee-Hing Thong
Dr Peter Thorn
Mr Robert Tipungwuti
Dr Paul Torzillo
Dr John Treharne
Dr Paul Van Buynder
Sir William Vines AC CMG
Mr John Vorrath
Dr Alan Walker AM
Dr Mike Ward
Dr Carol Watson
Mrs Michelle Watts
Dr Barrie Way
Assoc Professor Charles Webb
Dr Agnes Westwater
Mr Peter Whelan AM
Mr Robert White AO
Dr Eric Wigglesworth
Ms Joan Wilkinson
Dr Howard Williams AO
Dr Pauline Wilson AM
Dr KC Woo
Dr Marion Woods
Ms Alison Worrell
Professor Heddy Zola

Members of the Governing Board

The Governing Board of MSHR is appointed by the responsible minister as follows:

- two nominees of the Minister of Health
- one nominee of the Minister of Education
- one nominee of the Menzies Foundation
- four nominees of the Governing Board
- three ex officio positions (Vice Chancellor of Sydney or nominee, Dean of Medicine of University of Sydney, Director of MSHR)

The Board meets at least twice each year, usually once in Darwin and once in Alice Springs.

Chair/Treasurer

Richard Ryan AO BSc FCA FAIM (Nominee of the Governing Board)

Mr Ryan is a Fellow of the Institute of Chartered Accountants in Australia and a Companion of the Institution of Engineers, Australia. He is Chief Executive Officer of Henry Walker Eltin Group, Deputy Chancellor of the Northern Territory University, a Director of the Aboriginal and Torres Strait Islander Commercial Development Corporation and President of the National Heart Foundation.

Members

L Valerie Asche MSc PhD FASM MAIBiol CBiol (Nominee of the Governing Board)

As a microbiologist Dr Asche has been a university academic, an industrial consultant and head of a diagnostic unit. In the Northern Territory she was Head of the Microbiology Unit at the Menzies School of Health Research (1986–94); a consultant for the Northern Territory Department of Health and Community Services and is at present editor of *Recent Advances in Microbiology*.

Dayalan Devanesen AM MBBS DPH MPH FRACMA FAFPHM FCHSE GDip Public Sector Executive Management (Nominee of the Minister for Health, Family and Children's Services)

Dr Devanesen is the Director of the Primary Health and Coordinated Care Branch of Territory Health Services. He commenced work in Alice Springs as a district medical officer in 1974 and has been involved with the development of services to Aboriginal communities. In 1985 he moved to Darwin as the Director for Aboriginal Health for the Northern Territory. He is the Chair of the Northern Territory Branch of the Royal Australian College of Medical Administrators.

Stephen Leeder BSc(Med) MBBS PhD FRACP FFPHM FAFPHM (Ex officio)

Professor Leeder is Dean of the Faculty of Medicine, Professor of Public Health and Community Medicine at the University of Sydney and a Fellow of the University Senate (the governing body of the University). At a national level Professor Leeder is a member of the National Health and Medical Research Council; he chairs one of its principal committees, the Health Advisory Committee. He is also the immediate past president of the Public Health Association of Australia. Professor Leeder is a member of the Western Sydney Area Health Board and chairs its Human Research Ethics Committee and Health Outcomes Council.

Simon Maddocks BAgSc(Hons) PhD MAIAST CPAg (Nominee of the Menzies Foundation)

Professor Maddocks is Director of the Adelaide University Roseworthy Campus and a Professor in the Department of Animal Science. His research interests are in reproductive immunology and cell biology. Professor Maddocks is a member of the Pest Animal Control Cooperative Research Centre and a member of its Board. He is President of the Australian Institute of Agricultural Science and Technology (South Australian branch) and a national Director of the IAIST. He is a Director of the Board of the Sir Robert Menzies Memorial Foundation and has previously been President of the Sir Robert Menzies Memorial Scholars Alumni Association.

Ron McKay BSc PhD GDipComp GDipBus FAIM (Nominee of the Minister for Education)

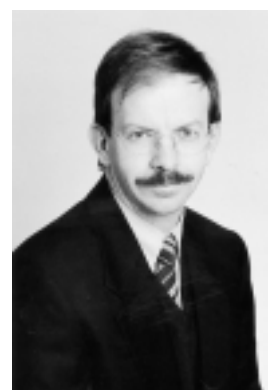
Professor McKay is Vice Chancellor of the Northern Territory University. He was appointed in 1996, following a six-year term as Deputy Vice Chancellor. He is currently Chair of the Northern Territory Research and Development Advisory Council (NTRDAC).



Dr Valerie Asche



Professor Stephen Leeder



Professor Simon Maddocks



Professor Ron McKay



Mrs Margaret McLean

Margaret McLean JP Clinical Nurse Consultant RN RM DipAppSci BNurs (Nominee of the Governing Board)
 Mrs McLean has worked as a clinical nurse consultant in the Elliott community and north Barkly region for the past eleven years. She is currently on secondment to the Community Care Information Systems Project of Territory Health Services where, as the Rural Information Systems Manager, she is overseeing the development and implementation of an information system in remote communities. She is an active member of various community organisations and a past member of the Women's Advisory Council (1990–92). Currently she is a representative on numerous steering committees and working parties with particular relevance to health issues in remote areas.

Peter Plummer BSc GDipMgt Corp Directors Dip (Nominee of the Minister for Health, Family and Children's Services)

Currently Chief Executive Officer of Territory Education, Mr Plummer was previously CEO Territory Health Services and, prior to that, of Mines and Energy. Previously, he held senior positions in two economic development departments in the Northern Territory. Before coming to the Northern Territory Mr Plummer lived in Papua New Guinea for 16 years working in the secondary and tertiary education sectors.



Dorothy Sing RN (Nominee of the Governing Board)

Ms Sing is a certified general, midwifery and intensive care nurse, a family planning nurse practitioner and an AIDS educator. She has lived and worked in the Territory for 30 years and is currently Clinical Nurse Consultant for the Disease Control Unit in Katherine. Her particular interests are sexually transmitted diseases and women's health, and Ms Sing has been involved in the STDs in Women 'T-test' pilot project.

John Young AO DSc MD FAA FRACP (Nominee of the Vice Chancellor, University of Sydney) (Until 30 June 2000)

Professor Young is Pro-Vice Chancellor (Health Sciences) and Professor of Physiology at the University of Sydney. He is an eminent physiologist who has played an important role in international and national physiology societies. Professor Young was Dean of the Faculty of Medicine and Chair of the MSHR Board of Governors until his appointment as Pro-Vice Chancellor in April 1997.

Professor John Young

Staff Representative

Ms Bev Hayhurst MPHc BEd DipTeach AppDipTeach (Multiple-Handicapped Deaf) (until November 1999)

Mr Geoffrey Angeles BAppSc (from November 1999)

Secretary to the Board

Dr Ken Sawers BAqEc(Hons) DipEconStats MEd PhD (until November 1999)

Mr Grant Lindsay BA(Mil Stud) AIMM MAICD (from December 1999)

Membership of MSHR Committees

Audit Committee

Mrs Sue Bradley (Chair)
 Mr Harry Giese AM MBE (until 02/2000)
 Ms Jennifer Prince
 Mr Richard Ryan AO
 Ms Joanne Schilling
 Mr Geoffrey Angeles (staff rep) (from 11/1999)
 Dr Ross Bailie
 Ms Bev Hayhurst (staff rep) (until 11/1999)
 Mrs Yolanda Jackson CPA
 Professor David Kemp FAA (until 05/2000)
 Mr Grant Lindsay (from 12/1999)
 Professor Kerin O'Dea (from 06/2000)
 Dr Ken Sawers (until 12/1999)

Coursework Management Committee

Dr Ross Bailie (Chair)
 Ms Bronwyn Carson (student rep)
 Dr Joan Cunningham
 Dr Peter d'Abbs
 Ms Letitia Del Fabbro (student rep) (until 12/1999)
 Ms Pam Gollow (student rep) (until 06/1999)
 Ms Sue Hunter (from 07/1999)
 Ms Audrey Langlands (Secretary)
 Dr Dorothy Mackerras
 Ms Catherine Richardson (from 08/1999)
 Dr Komla Tsey (until 08/1999)

Finance Committee

Mrs Jane Large (Chair)
 Mrs Sue Bradley
 Mr Harry Giese AM MBE (until 02/2000)
 Mr Richard Ryan AO
 Ms Joanne Schilling
 Mr Geoffrey Angeles (staff rep) (from 11/1999)
 Dr Ross Bailie
 Ms Bev Hayhurst (staff rep) (until 11/1999)
 Mrs Yolanda Jackson CPA
 Professor David Kemp FAA (until 05/2000)
 Mr Grant Lindsay (from 12/1999)
 Professor Kerin O'Dea (from 06/2000)
 Dr Ken Sawers (until 12/1999)

Institutional Biosafety Committee

Dr KS Sriprakash (Chair from 09/1999)
 Professor David Kemp FAA (Chair until 09/1999) (until 05/2000)
 Dr Val Asche
 Dr Anna Padovan
 Mr Lodi Hoeben
 Dr Gary Lum
 Dr Lorna Melville
 Ms Elizabeth Stubbs (Secretary)
 Mrs Sue Hutton

Joint Institutional Ethics Committee of RDH and MSHR

Dr John Condon (Chair)
 Dr Nick Anstey

Dr David Brewster
 Ms Peggy Cheong (until 08/1999)
 Mr Ian Hillock
 Ms Elizabeth Jacob (until 11/1999)
 Mr Jack McTaggart
 Dr Peter Morris
 Ms Helen Murray
 Ms Elizabeth Stubbs (Secretary)
 Reverend Jim Taylor (until 11/1999)
 Mr Peter Thomsen
 Dr Katharine Trenholme (until 04/2000)
 Professor Jenny Watson

New Members in 1999–2000

Ms Brydget Barker-Hudson (from 08/1999)
 Ms Jill Huck (from 08/1999)
 Reverend Brian Tunks (from 06/2000)
 Rev Dennis van der Woolfe (from 02/2000 till 06/2000)
 Dr Shelley Walton (from 06/2000)

Aboriginal Ethics Sub-Committee

Mr Peter Thomsen (Chair)
 Dr Ngiare Brown
 Mr Joe Cardona
 Ms Elaine Dixon
 Ms Terry Dunbar
 Ms Katrina Hodson
 Ms Mai Katona
 Ms Merle Kennedy
 Ms Sandra Kitching
 Dr Marlene Kong
 Mr Desi McKenzie (until 08/1999)
 Mr Travis Peris (until 06/2000)
 Mrs Liz Williams (until 06/2000)

Scientific Adviser:

Dr Peter Morris

New Members in 1999–2000

Ms Pieta Laughton (from 06/2000)

Postgraduate Studies Committee

Professor David Kemp FAA (Chair) (until 05/2000)
 Professor Kerin O'Dea (Chair) (from 06/2000)
 Dr Ross Bailie
 Professor Tony Barnes (from 08/1999)
 Dr Joan Cunningham
 Assoc Professor Bart Currie
 Dr Peter d'Abbs
 Dr Wendy Hoy
 Mr Grant Lindsay (from 03/2000)
 Dr Dorothy Mackerras
 Dr Graeme Maguire (student rep)
 Dr Peter Morris (from 07/1999)
 Ms Catherine Richardson (Secretary) (from 08/1999)
 Dr KS Sriprakash
 Ms Elizabeth Stubbs (Secretary) (until 08/1999)
 Dr Komla Tsey (until 08/1999)
 Assoc Professor Charles Webb

Farewell to John Mathews AM

Arriving in Darwin in 1985 to take up Directorship of the Menzies School of Health Research, John Mathews has since seen both his family and his vision of improved health outcomes for all Australians grow.

At the professional level, John, the proud and ever-encouraging father, has guided Menzies through infancy, teething and growing pains into its adolescent years. Outlined below are just a few of the many milestones that mark the path that the School has travelled under John's guidance.

In November 1986, John convened the first workshop to improve understanding between Aboriginal Australians and the research community. The workshop, entitled 'Research Priorities to Improve Aboriginal Health', was funded by the National Health and Medical Research Council, attended by the Aboriginal, political and research communities and administered by the secretariat of the Menzies Foundation in Melbourne. A true indication of the broad extent of interest in the issues surrounding Aboriginal health. From that Workshop came the recommendation that Aboriginal people should meet to develop ethical guidelines for research being undertaken in Indigenous communities.

A requirement of the Menzies legislation is that an external review of the School's academic performance be undertaken at intervals not exceeding five years. The first such review, chaired by Professor Ross Kalucy of the Flinders Medical Centre, was undertaken in August 1988, just three and a half years after the commencement of operations. General comments from the committee stated that the School had made remarkable progress in the first four years, with the quality of work being high and receiving national and international recognition. Of John specifically, it stated 'the task set the Director in 1985 was a complex and onerous one. His vision has carried the School, and the achievements of the first four years are remarkable.'

A recommendation of the Review Committee was that research development in Alice Springs be a priority for the following quinquennium. By November 1988, just three months following the review, the Central Australia Unit was established with the appointment of Dr David Scrimgeour as Senior Research Officer in central Australia.

In 1989, the National Health and Medical Research Council awarded two grants that were to become the basis of major ongoing research programs within the School: one was to understand the causes of ear infection and hearing disability that occurs in the majority of Aboriginal children; the second was to support kidney research with the Tiwi and other Aboriginal communities. The success of both programs over the 10 years since is in no small way attributed to the drive, vision and determination of John Mathews.

By 1992, the research activities of the School had expanded sufficiently to require the services of a Deputy Director. Dr David Kemp of the Walter and Eliza Hall Institute in Melbourne was the successful applicant for the position and, in moving to Darwin, Dave further expanded the School's activities by setting up the Molecular Parasitology Unit.

The second quinquennial review of the School was undertaken in August 1993. The Committee, this time chaired by Professor Ken Donald, remained 'universally and favourably impressed with the high quality of the research being undertaken

and the obvious enthusiasm and dedication of members of staff'. Of John, the report was glowing: 'The Director has been a central figure in bringing the scientific standing of the School to its present national and international recognition.

The task of developing such an institute in what was and remains, a relatively remote location with a small population base is daunting.

The multiple roles of setting scientific strategy, supervising day-to-day scientific work, obtaining competitive grants, administration and personnel management, dealing with government interactions and the community represent an enormous workload for the development phase of a new institute. The current standing of the Menzies School in Australia is a credit to the multiple abilities, persistence and capacity for hard work of John Mathews. The review team is well aware, through its own personal experiences, as well as from watching the School from a distance that this development is not achieved without difficulties and personal cost to many of those involved. John Mathews has also found time to make a contribution to a number of national committees and has been important in that context for bringing sound science and a north Australian perception to the table.'

The Queen's Birthday Awards of June 1994 provided special significance to the School. Professor John Mathews was admitted a Member of the Order of Australia in the General Division, for services to medical research. This was a timely award, in that it was exactly 10 years since the then Governor-General of Australia, Sir Ninian Stephen, had officially opened the School.

In May 1995, some ten years after he and the Board first envisaged a purpose-built accommodation for the School, John and the staff saw the commencement of a dream come true. The north-west carpark of the Royal Darwin Hospital campus was transformed overnight into a building site. The Commonwealth Government and Northern Territory Government had announced earlier that year combined funding to the tune of \$12 million for a combined health building, to house the Menzies School of Health Research and some sections of Territory Health Services. The new building was officially opened by the Commonwealth and Territory Ministers for Health on 22 November 1996.

John's vision for a cooperative arrangement between research, Aboriginal and public health sectors was realised in December 1996 when funding was announced for the Cooperative Research Centre for Aboriginal and Tropical Health (CRCATH). In July 1997, the inaugural Board Meeting for the CRCATH was held in Darwin, with Dr Lowitja O'Donoghue the designated Chair and Professor John Mathews the Director. Core partners of the CRCATH are Territory Health Services, Flinders University of South Australia, the Northern Territory University, Danila Dilba Medical Service, Central Australian Aboriginal Congress and, of course, the Menzies School of Health Research as the centre agency.

The School underwent its third quinquennial review in October 1998. The review committee, this time led by Professor



Professor John Mathews

Jim Pittard of the University of Melbourne, was again extremely enthusiastic about the research activities of the School and the potential benefits that these activities could have for the quality of life for many Australians currently experiencing extraordinary conditions of ill health. For the Director there remained 'uniformly high praise' of his performance in leading 'an exciting and very productive Institute where the enthusiasm, dedication and general morale is high:

In March 1999, there was the historical signing of the Tiwi Legal Agreement, providing the Tiwi people and, by extension, all Aboriginal people, the right to exercise discretion over research being conducted in their communities. Signing of this agreement indicates just how far we have come since that early workshop convened by John in 1986.

At the School's Annual Oration on 12 November 1999, John was awarded the MSHR Medallion in recognition of his achievements as Director. The Board of Governors, staff and supporters of the School wish John and Coralle every success in their new life in Canberra, where John now heads the National Centre for Disease Control.

Farewell to David Kemp FAA

When David Kemp was appointed Deputy Director of the MSHR in April 1992, he brought a breath of fresh air into the School. His love of science and sense of humour were contagious. The ensuing eight years saw the first real integrations of public health and biomolecular sciences, bringing the terms 'multidisciplinary' and 'molecular epidemiology' to the forefront of the School's research programs. In 1996, Dave was awarded the highest Australian scientific accolade, Fellowship of the Australian Academy of Science and, in 1997, he was invited to present the prestigious Rubbo Oration at the Annual Meeting of the Australian Society of Microbiology.

The malaria research Dave is so well known for continued after his relocation to MSHR and in 1998 resulted in the discovery of the clag gene in *Plasmodium falciparum* malaria. Dave's collaborators — Katharine Trenholme, Don Gardiner and Deby Holt — have produced considerable evidence that the product of this gene, sitting on the red blood cell surface, is involved in cytoadherence. This research has received international recognition and was undertaken with competitive funding from the USA and the UK, as well as the Australian NHMRC and private donations.

In 1994 Dave, Shelley Walton and Bart Currie set out to discover whether dog and human scabies were genetically similar, as the untested presumption that they were underlaid some approaches to scabies control. The answer finally came in 1998 when the mites were shown to be genetically distinct populations. The research now continues with the aim of identifying antigens towards vaccine development and identifying the immune deficit in crusted scabies. This work is being undertaken in collaboration with the Tropical Medicine and International Health Programs (MSHR) and the Cooperative Research Centre for Aboriginal and Tropical Health, and complements the public health and clinical programs being conducted against scabies in the Territory, aiming to assist clinicians in designing long-term preventative measures against the so-called 'itch' mite.

In 1997, Dave was involved in a collaboration with Drs KS Sriprakash (MSHR) and Frank Bowden (THS), which successfully cultured the bacterium causing donovanosis (a sexually transmitted infection leading to gross disfigurement) and identified a rapid PCR technique for its diagnosis. Dave has also been involved with the ear program: a collaboration with Heidi Smith-Vaughan and John Mathews resulted in better understanding of the epidemiology of bacteria causing otitis media.

Dave's contribution to the School's administrative, postgraduate education, and building programs should also be recognised. Dave was Chair of the Postgraduate Studies Committee (1992–2000), Chair of the Institutional Biosafety Committee (1992–99), and played a major role in the construction of the Combined Health Building during 1995–96. He was responsible for production of the School's annual report and, from July 1999 until his resignation in June 2000, was the Acting Director of MSHR.

In shifting to the Queensland Institute of Medical Research, Brisbane, Dave will be ideally co-located with the Cooperative Research Centre for Vaccine Technology, which may assist in bringing to realisation a life-long goal: to achieve a vaccine for cerebral malaria. He will continue to collaborate with MSHR and the CRCATH in the studies on scabies and, perhaps, develop a vaccine against it too.

Welcome to Kerin O'Dea

In June 2000, Professor Kerin O'Dea took up the position of Director of the Menzies School of Health Research.

Between 1971 and 1988 Kerin held full-time research positions in Europe, the USA and Australia. She trained initially in biochemistry and pharmacology, and over the past 20 years her research has focused on lifestyle change and health in Aborigines and Torres Strait Islanders; diet in the pathogenesis and treatment of obesity, diabetes and cardiovascular disease; and public health nutrition. She is best known for her research on the relationship between lifestyle change and risk of diabetes in Indigenous people. Her studies demonstrating the dramatically beneficial impact of temporary reversion to traditional hunter-gatherer lifestyle on the metabolic abnormalities of diabetes, and risk factors for coronary heart disease are particularly well known. Her research continues to focus on what she calls the 'upstream' determinants (social, environmental, behavioural), and 'positive models' of health (healthy individuals/communities).

Deakin University in Victoria appointed her to the position of Professor of Human Nutrition and Director of the Deakin Institute of Human Nutrition in May 1988. At Deakin she also held the positions of Dean of the Faculty of Health and Behavioural Sciences (1993–4) and Pro-Vice-Chancellor (Research) (1995–6). In 1998, she moved to Monash University to a personal Chair in Nutrition and Preventive Medicine and was Head of the Centre for Population Health and Nutrition.

At the national level, Kerin is active on numerous committees advising governments on health and health research and, until early in 2000, was Deputy Chair of the National Health and Medical Research Council's Research Committee. She has been a member of the Board of the Victorian Health Promotion

Foundation and the Howard Florey Institute, and is currently a member of the Board of the Murdoch Institute, and the Council of NHMRC. She has published over 190 papers in national and international peer-reviewed journals.

In accepting the appointment as Director, Kerin recognises the challenges that lie ahead: of developing collaborative links and raising the profile of the School at the local, national and international levels; of developing positive models of health; and, ultimately, to contribute to improvements in Indigenous health.

We welcome Kerin to Menzies.

In Memory of Harry Giese

When Harry Christian Giese AM MBE passed away on 4 February 2000, the Menzies School of Health Research, and indeed the Northern Territory, lost one of its greatest contributors. For had Harry not had the insight and knowledge to make his presence felt at the Menzies National Conference, held in Melbourne in October 1980, many of the health research outcomes so important to many Territorians might still be waiting to be addressed.

It was Harry Giese, then Chairman of the Northern Territory Committee of the Sir Robert Menzies Foundation who, at the first Menzies National Conference, pointed out that only five of the 320 people in attendance came from northern Australia, an area of Australia where there were major health problems. These included the need to adjust to harsh climatic conditions, the traditional diseases due to the climate, the modern disorders due to social isolation in remote mining communities and the continuing problems of Aboriginal health and nutrition. He concluded

There is, I believe, the opportunity here for an early and fruitful collaboration between the Foundation and a Territory university in planning and undertaking research in those fields which are relevant to their respective charters.

As a result, in June 1981, the Sir Robert Menzies National Foundation for Health, Fitness and Physical Achievement conducted its first regional workshop in Darwin. Its theme was 'Living in the North'. The workshop aimed to decide whether the inference that living in the north was somehow different to living elsewhere in Australia or, indeed, in other parts of the world, was true.

In September 1982, a second Darwin seminar entitled 'Towards a School of Health Research in the Northern Territory' was convened. Its objective was 'to examine the range of health



Harry Giese congratulates John Mathews after John's 1999 MSHR Oration, while Annie Bonson looks on.

problems of the North and to determine priorities which a Northern Territory School of Health Research might investigate'. The workshop recognised the need to stimulate additional health research in northern Australia and endorsed the creation of a school of health research in the Northern Territory, recommending that arrangements be made for academic status with an appropriate university and requesting that the matter be brought to the notice of the relevant Federal, State and Territory authorities. The resulting outcome was the Menzies School of Health Research. Initial funding was provided by the Menzies Foundation and the Northern Territory Government and academic affiliation was provided by the University of Sydney.

From 1984-94 Harry served as the Menzies Foundation nominee on the Interim Governing Board (1984-85) and Governing Board (1985-94). He was also a member of the School's Finance Committee (from 1984) and Audit Committee (from 1994) until his death earlier this year.

In November 1994, upon his retirement from the Governing Board, Harry was awarded the MSHR Medallion in acknowledgement of all he had done for the School and, in fact, for the benefit of all northern Australians. Further acknowledgement of Harry's contribution came in January 1997 when, on Australia Day, he was admitted a Member of the Order of Australia (AM) for his service to the community.

To Nan and the Giese family, may the School offer our condolences on the loss of, not only a husband and father, but a gentleman and an inspiration. May Harry Giese's memory live on within the life of the School as it undertakes to improve health conditions in the North.

School Highlights

In a year of many highlights, one single event which stood out above all others was the response by Menzies' staff and students to the East Timor emergency. Darwin received over 1,800 refugees from Dili in the first week of September 1999. The expertise, particularly in respiratory and infectious diseases, of many of the staff and students of the School made a significant contribution to the Territory Health Services–led delivery of health care to the refugees. Many other members of the School contributed as volunteers, together with a large proportion of the wider Darwin community.

Health screening was coordinated by the Centre for Disease Control, Darwin, in collaboration with other areas of Territory Health Services, Royal Darwin Hospital, Darwin Private Hospital, private practitioners and the School. Active screening for tuberculosis revealed an extremely high rate of the disease (point prevalence of 0.5% for smear positive and 2.1% for culture positive *Mycobacterium tuberculosis*). Fortunately, 84% of patients were fully sensitive to TB drugs and no-one had the dangerous multiple drug resistant strain of TB. These data have been widely circulated by the World Health Organization and have assisted planning for the establishment of a national tuberculosis program in East Timor.

Other Highlights

- Mr Joseph (Joe) Fitz was selected as a finalist in the Northern Territory Employment and Training Authority's Northern Territory Vocational Training Awards for 1999. Mr Fitz joined the Health Social Sciences Unit following completion of a traineeship with the CRCATH.
- Robyn Marsh won a Queen's Trust Fellowship to further her work on group B streptococcus at the GBF German Research Centre for Biotechnology in Braunschweig, Germany.
- Mandy Edwards and Paula Hawthorne attended their first international conference, the Molecular Approaches to

Malaria 2000 meeting, held in Lorne in February where, along with the other members of the malaria group, they presented recent research findings.

- Members of the Public Health and Epidemiology Unit commenced a feasibility study of a proposed Northern Territory pneumococcal vaccine trial, with SmithKline Beecham, in March 2000. As part of the study, Geoffrey Angeles of the Aboriginal Policy and Health Education Unit and Megan Counahan of the feasibility study team, visited Apache and Navajo peoples in the USA to discuss issues of informed consent.
- Pearly Harumal cloned the first two scabies-specific antigens, the first showing similarity to a known house dust mite allergen.
- The Central Australian Unit released an important report, *Shifting the Balance*, on mental health resource allocation at the Central Australian Rural Practitioners Association conference.

An exhausted child awaits attention at one of the clinics set up for East Timorese refugees in September 1999.



- Menzies' Central Australian Unit's nutrition project saw significant improvement in child nutrition in remote communities, and a 70% reduction in gastroenteritis-related admissions to Alice Springs Hospital. A draft report was presented to the community in March 2000.
- The Katherine West Coordinated Care Trial ended in December 1999, with a final report published in April 2000.
- A report on liquor problems in Katherine, prepared by the Health Social Sciences Unit, was tabled at a hearing conducted by the Northern Territory Liquour Commission.
- The Tropical Medicine Program raised awareness of the dangers of rheumatic fever with the release of a video and book.
- The International Health Program undertook several training initiatives, with the World Health Organization, AusAID and Territory Health Services in East Timor in October 1999. Work was also carried out to rebuild laboratory capacity and refurbish the Dili Central Laboratory to restore some of that laboratory's functions.
- Work was undertaken in Papua New Guinea into the role of nitric oxide in clinical immunity to malaria.
- The School benefitted from a major upgrade of its information technology hardware. Support Services Group also managed to maintain and even reduce some of the School's running costs, in spite of increased staff numbers and increased research activity.
- The Education and Training Unit included, for the first time, international students in its Public Health Teaching program.



East Timorese refugees were seen at a number of outdoor clinics on the Royal Darwin Hospital campus.

Plans for 2000–01

- The Aboriginal Policy and Health Education Unit will develop an animated video on health research transfer analysis.
- An Environmental Health Handbook is to be published by the Central Australian Unit.
- The Ear Health and Education Unit will commence three major studies. The first, into rhinosinusitis, will commence in August 2000. The second study, into the effectiveness of antibiotics for chronic suppurative otitis media in Aboriginal children, will be undertaken in three Tiwi communities and will commence in October. The third, into improved hygiene measures for children attending child care, will commence in September 2000.
- The Ear Health and Education Unit will also nationally launch its key recommendations for the management of otitis media in Aboriginal children in late 2000.
- The Health Social Sciences Unit plans the publication, in late 2000, of a report into petrol sniffing interventions.
- The Public Health and Epidemiology Unit will submit a report outlining refinements to the National Aboriginal and Torres Strait Islander Health Performance Indicators at AHMAC in October 2000.
- The International Health Program will commence a study into TB drug resistance in West Timor.
- The Education and Training Unit is working with Northern Territory University on the development of a Bachelor and Graduate Diploma of Health Sciences.
- A major strategic planning review will take place in the new financial year to update the current 1996–2000 plan. The review will be carried out by an external advisory group established by the Director.

Research

Aboriginal Policy and Health Education Unit

The members of the Aboriginal Policy and Health Education Unit have been involved in several projects throughout the year. In addition to working on projects as team members, there has been an increased involvement in discussions about project proposals with principal investigators. While this is a step in the right direction, it is anticipated that unit members together with the respective communities be part of the development of proposals with principal researchers. This will ensure that there is more input from the stakeholders in the development of partnerships between MSHR and Aboriginal communities in urban, rural and remote areas. Better project preparation through increased stakeholder involvement will require more funds. Unfortunately, due to fiscal constraints, the unit's ability to carry out this important work is severely restricted, a situation which can only be addressed through increased resources from our funding bodies.

MSHR's conduct of research will come under more scrutiny if partnership arrangements (in the context of development, data collection, priorities of research, understanding the perspective of those studied and their process for decision making within the Aboriginal communities) are not organised. To assist partnership arrangements in research, all institutions and funding bodies need to collaborate on their activities to achieve this end.

The following is a summary of the projects which have been conducted by MSHR with the involvement of Aboriginal unit members:

Feasibility Study for the Northern Territory Pneumococcal Vaccine Trial

Co-Investigators:
Norma Bengler and Geoffrey Angeles
Norma Bengler and Geoffrey Angeles joined this project after being approached by the principal investigator, John Condon. Norma worked with Kaye



As part of information gathering for the Feasibility Study into a Pneumococcal Vaccine project, researchers Geoffrey Angeles and Megan Counahan visited Navajo and White Mountain Apache Fathers/Parenting Project in White River, Arizona. Geoffrey presented their hosts with a yidaki (didgeridoo) decorated with a broлга (a significant totem of northern Aboriginal people), which signifies family, relationship and mateship for life. Below left: Geoffrey Angeles gives an impromptu concert on the yidaki to announce his arrival in the USA.

McGuinness, on matters dealing with acquiring informed consent. Geoffrey joined the consultative team, which consisted of two members from the Top End (Geoffrey and Megan Counahan) and two from central Australia, Helen Little and Tahnja Edwards.

Geoffrey and Megan visited the Navajo and Apache nations in the USA as part of an information-gathering exercise for the Feasibility Study. Geoffrey took cultural artefacts and memorabilia, promoting the Northern Territory and northern Aboriginal people of Australia, with him to the USA. These gifts were given as a token of 'sharing information' and as thanks for their invitation. He also presented a didgeridoo and a dilly bag to the White Mountain Apache and to a senior Navajo woman who were involved in significant projects addressing their own people's health.

Rheumatic Heart Disease Information Package

Investigator: Geoffrey Angeles
Funding: RHSET
This project is significant for the unit as Geoffrey Angeles was a successful recipient of a RHSET funding grant, allowing him to conduct an evaluation of the Rheumatic Heart Disease Information Package. This project has been completed and Geoffrey is in the process of presenting his report, (*A brief report on the efficacy of an information package designed to expand an awareness and help address the control of rheumatic fever and rheumatic heart disease*) to various institutions and Aboriginal communities. The feedback,



so far, has been extremely positive from members who have attended the various workshops.

Angurugu Adult Health Study

Co-Investigator: Norma Bengier

Funding: NHMRC, Community Health and Anti-TB Association, AMA-APMA Aboriginal Health Initiative, NT NHMRC Centre for Clinical Excellence, Ramaciotti Foundation

The study was a multi-dimensional health survey of the residents of Angurugu, an Aboriginal community on Groote Eylandt. The study involved 237 people, of whom 55% were women and 45% men. The major focus was on cultural issues and consent (i.e. language barriers and medical terminology) ensuring that the participants understood unfamiliar concepts. This was made easier by family links in the clinic and the community. The team also developed a video, with the support of the Angurugu Council to provide a better understanding of the study and for the community to make an informed choice regarding their participation. The video commenced with the Council president addressing his community in Andyiliakwa about the study. A poster containing information of the results of the survey is currently being developed in consultation with the community.

Videos are being used to present and better inform communities on all stages of research.

Health Social Sciences

Co-Investigator: Joe Fitz

During the past 12 months Joe Fitz has been working as part of the Health Social Sciences Unit on the Katherine West Coordinated Care Trial Evaluation and the NHMRC-funded project, Determinants of Sustainability in Community-Based Action to Reduce Alcohol Problems. His work on the Katherine West Trial involved fieldwork in the communities west of Katherine and also drawing up visual reports about the evaluation's findings, including graphic representations of the clinical audits and the evaluation model. Joe has been involved in presenting these visual reports to the Health Board to assist in their understanding of the research findings.

Education and Health: Exploring the Connections

Co-Investigators: Elaine Maypilama, Dianne Britjalawuy, Ruth Cahill and Mai Katona

Funding: CRCATH

This project explored the connections between health and education in one remote and one urban Aboriginal community in the Northern Territory. Aboriginal women were employed to work in their communities, assisted by Dr Anne Lowell. Informal interviews, discussions, and workshops were considered appropriate for each site by the Aboriginal researchers. Feedback and evaluation has been continuous throughout the project.

Proposed Projects

The following proposed projects have resulted from a recently completed project, Education and Health: Exploring the Connections, which was conducted both in remote and urban sites in the top end of the Northern Territory. That study was funded by the CRCATH, with the final report due for completion by the end of November 2000.

Health research transfer analysis

Many Aboriginal research participants have expressed concern over the outcomes of research in which they have been involved. Participants are often unaware of research findings, do not know how or where to access information, and find that the information is difficult to understand in its current format.

A central database of research conducted in Aboriginal communities does not exist. The Aboriginal Policy and Health Education Unit has identified this gap and will submit a research proposal to the CRCATH to secure funding to establish a database for all MSHR research conducted in the fifteen-year period 1985-2000. A social

analysis of the research will then be conducted to develop a greater understanding of the research processes conducted within Aboriginal communities. Further research will develop knowledge of outcomes which

can be utilised in current projects, create a framework for partnerships in research, and, finally, provide a basis for future development of research priorities. This database will continue to be maintained and expanded.

Videos

Proposals are being developed for two videos. The first concerns external objectives of various programs which have and continue to be developed for Aboriginal peoples and communities. The second is an animated educational video.

Central Australian Unit

The Central Australian Unit has developed expertise in the areas of health service evaluation, program planning, monitoring and evaluation, mental health, Aboriginal health worker education, health economics and the links between education and health. The unit uses this expertise to research and disseminate health and other information that will assist communities, service providers and policy-makers to address the health inequalities between the region's Indigenous and non-Indigenous populations.

Most of the research undertaken by the unit has arisen directly from needs identified by service providers. The unit was involved in the activities of the Cooperative Research Centre for Aboriginal and Tropical Health, mainly through its education program. We also enhanced the capacity of primary health care in central Australia through our analysis of health services and models of health service delivery in the region.

Staff of the unit also make significant contributions on an informal level by providing important research-related advice and support to organisations and communities throughout the region. We continue to contribute to teaching courses of the staff development unit of Territory Health Services.

Analysis of Mental Health Services in Central Australia

Investigators: Ann O'Kane, Komla Tsey, Eva Briscoe, Mathew Fowler and members of Heritage Clubhouse

Funding: CGRDG

Mental illness is a critical area of health that needs to be properly

addressed. Approximately one in twenty people experience mental illness during their lifetime. Within the next decade the disability associated with living with mental illness will be a national and international health priority. There has been very little investigation of the mental health issues and service needs of remote area residents in Australia. In 1998 the Central Australian Unit released a report outlining the major concerns of key stakeholders in this region. This consultation was followed by a thorough investigation into the two issues of most concern, these being: the level of resource allocation required to provide an adequate level of service in this remote, cross-cultural region; and the type of services/ support required for people experiencing mental illness.

The major findings were that a significant gap existed in resources available for Aboriginal residents, particularly people living in the most remote regions. There was also an under resourcing for non-medical interventions such as advocacy, health promotion and rehabilitation. Children and young people across the region were the most neglected groups. People experiencing mental illness were not accessing adequate housing, had minimal access to appropriate training and employment support services, were not using community resources (such as recreational and disability support services) and overall were socially isolated and in poverty.

The final report, released in September 1999, is *Shifting the balance: services for people experiencing mental illness in central Australia: A framework for planning and resource allocation*. A further report, *Community Resource Project, Alice Springs*, accompanies the main report. Together, the reports outline innovative strategies to combine the strengths of collaboration between a research organisation and a consumer organisation. These methodologies can be used by stakeholders in the mental health sector in regions across Australia to work out appropriate levels of resource allocation and service mix for this health issue.

The two reports were released at a CARPA conference held in November 1999 which was dedicated to the range of issues in the mental health/social and emotional well-being sector in this region. The conference was very well attended with speakers from remote health services, Aboriginal organisations, consumer and carer organisations as well as mental health professionals. The two key note speakers were Mr William Tilmouth, CEO Tangentyere Council and Professor Ernest Hunter, University of Queensland.

There have been a number of positive outcomes from this research project. The central Australian mental health program is improving the level of resource allocation in remote regions. The Centre for Remote Health in Alice Springs is commencing a project to provide a mental health section to the next edition of the *CARPA Standard Treatment Manual*. The Mental Health Association of Central Australia is working on a project to establish partnerships to improve access to adequate housing and disability support service for people experiencing mental illness.

Developing a Preventative Approach to Nutrition Problems in a Remote Community

Investigator: Ilan Warchivker

Funding: RHSET

This study resulted from a community initiative to address nutrition problems identified by an earlier study conducted by Menzies School of Health Research. The project commenced in July 1998 for a three-year period.

Results from the program activities so far indicate a 70% reduction in hospitalisation related to gastroenteritis and nutritional problems in the first year of operation. In the year 1999–2000 (until March 2000), there were only two admissions of children under five to Alice Springs Hospital related to gastroenteritis or nutritional problems. Generally, there is an improvement in the growth pattern of children in the community compared to the growth pattern of children prior to commencement of the program.

The introduction of solid food to children age four to five months, and the education sessions related to this issue, eliminated a common kink in the growth curve at the age of five to eight months. The period of slow growth is shorter, mainly because we are able to refer mothers whose children suffer slow growth to the program.

A bi-monthly report is sent to the health staff with detailed information about all the children requiring attention. The aim is to initiate a rapid response by the clinic and nutrition workers when children are showing signs of weight loss.

There are 29 children under three years in the community, 11 of them are dual residents, that is, children who spend extensive periods of time in another community. There are eight children under the age of 12 months; all these children are gaining weight steadily.

A draft community report was presented to the community at a meeting in March 2000. This document has been modified in view of community members' opinion and will be presented as a final community report. This report will be used as an education resource by the clinic and the women's centre. An interim report was presented to the community in June 2000.

Central Australian Remote Health Training Unit (CARHTU) Evaluation

Investigators: Jayne Schofield, Bob Boughton, Ilan Warchivker and Komla Tsey

Funding: CARHTU

The research found that Central Australian Remote Health Training Unit has had significant successes. Through this pilot program of training delivery, it has established itself as a valued provider of training in the primary health care industry in the region, and won strong support from its funding bodies and major stakeholders, including Aboriginal health workers and health service managers. It has developed the capacity of its staff to provide more effective training and assessment services, and has developed and delivered training programs which address identified needs at the service and system level.

The research has also identified areas requiring improvement. The main problem is the low amount of direct training — especially on-the-job training — provided over the period, relative to the resources expended. Inadequate accountability and reporting to the Management Committee on this issue exacerbates the problem. Assessment of training outcomes against industry competency standards has also been inadequate and there have been inefficiencies in the allocation of staff resources to non-training activity in specialist areas, such as literacy and numeracy, and curriculum development.

Evaluation of Primary Health Care Services in the Balgo Region of the Kimberley

Investigators: John Wakerman, Ilan Warchivker and John Tregenza
 Funding: OAH HDWA

This project is a collaboration between the newly established Centre for Remote Health and Menzies School of Health Research in Alice Springs. The Kutjungka (Balgo) region applied for funding to establish a community-controlled health service in 1995. The communities incorporated Palyalatju Maparnpa Aboriginal Corporation Health Committee to achieve this goal. Their negotiations with government agencies thus far have not achieved this goal. The review has aimed to assist the communities to establish a service adequately funded and responsive to community needs.

The final report was presented to the community and included a description of current health services. The report was used in conjunction with community consultation and a detailed health expenditure analysis to provide an outline of the main health service issues in the region. This was used to develop a health service model for the region. A process of implementation including training of the health committee has commenced. At the moment there are negotiations between the stakeholders, and infrastructure development has been completed.

Environmental Health Handbook

Investigators: Geoff Harris and David Scrimgeour
 Funding: RHSET

The Environmental Health Handbook is due to be published by late 2000. Written by authors with experience in the field, the handbook covers a wide range of environmental health topics including sewage, energy, water, solid waste management, dog health, community management and administration, house construction and land management. The handbook provides a framework for administrators and community decision-makers to avoid common mistakes and develop infrastructure that is appropriate for remote communities.

Ear Health and Education Unit

Otitis media (middle ear infection) continues to be an important and complex public health problem for both Aboriginal and non-Aboriginal Australians. An evidence-based approach to research (that combines systematic reviews, randomised controlled trials and program evaluations) is most likely to maximise the benefits of improved health care and population health strategies. This has been supported by both the National Health and Medical Research Council (NHMRC) and the Office of Aboriginal and Torres Strait Islander Health (OATSIH) and has resulted in several successful grant applications over the last 12 months. However, we also acknowledge the importance of ensuring sustainability, transferability and community participation for those projects involving Aboriginal Australians. This represents a major challenge and we are very grateful to the Tiwi Health Board (THB) for its assistance in these areas. The joint appointment of Marius Puruntatameri by the THB and the Ear Team emphasises the commitment of both parties to more collaborative research.

While our first NHMRC-funded randomised controlled trial is

now in its final 12 months (COMIT 1), three new trials have been funded (two involving the Tiwi Islands and one in Darwin child care centres). Since relatively few trials have been conducted in the Northern Territory, we believe this represents a major development for research in the region. Furthermore, the ongoing support of Territory Health Services will increase the likelihood that the results of these studies are effectively implemented.

Chronic Otitis Media Intervention Trials (COMIT)

Aetiology treatment and prevention of chronic otitis media in Aboriginal infants: A randomised controlled trial (COMIT 1)

Investigators: Amanda Leach, John Mathews, Peter Morris, Al Yonovitz, Heidi Smith-Vaughan, Bev Hayhurst, Liz Stubbs, Yvonne Wood, Una Pilakui, Marius Puruntatameri, Angela Melder, Harold Koops, Melita McKinnon, Naomi Sauverain, Sylvester Black, Carla Kerinauia, Rhonda Kerinauia, Vicky Punguatji and Camilla Tipiloura

Funding: NHMRC

Collaboration: Tiwi Health Board (THB)

Infants less than 12 months of age with an asymptomatic middle ear effusion will continue to be randomised to either amoxicillin or placebo for a period of up to six months until October 2000. At this stage we anticipate that around 100 Tiwi babies will complete the intervention period. While we have been able to document a reduction in chronic suppurative otitis media in infants who took part in the study, rates of acute otitis media with perforation and otitis media with effusion remain high and persistent disease still commences in early life. The extent to which increased antibiotic use in high-risk populations increases antibiotic resistance is uncertain. However, the use of nasopharyngeal swabs as a secondary outcome measure means that this will be one of the few studies able to document such an effect. Yvonne Wood has been able to organise the inclusion of Melville Island's Pirlamgimpi and Milikapiti communities, so that, with Bathurst Island, both Tiwi Islands are now involved in the study. Eleven Melville families consented to take part at the first visit and we are hopeful that 15-20 families will be enrolled before the study is terminated.



Heidi Smith-Vaughan and Liz Stubbs of Menzies' Ear Health and Education Unit stain slides from Bathurst Island children for signs of middle ear infection, or otitis media.

Antibiotics for persistent nasal discharge in Aboriginal children: A randomised controlled trial (COMIT 3)

Investigators: Bev Hayhurst, Amanda Leach, Peter Morris, Ross Baillie, John Mathews, Al Yonovitz, Heidi Smith-Vaughan, Liz Stubbs, Yvonne Wood, Cate Wilson, Naomi Sauverain, Una Pilakui, Marius Puruntatameri, Camilla Tipiloura, Carla Kerinauia, Rhonda Kerinauia, Vicky Punguatji and Elizabeth Tipiloura

Funding: NHMRC

Collaboration: Tiwi Health Board (THB)

In this NHMRC-funded trial, children who have excessive nasal discharge (rhinosinusitis) for at least 10 days will be randomly assigned to receive amoxicillin or placebo for a period of two to four weeks. The primary outcome measure will be resolution of nasal discharge at two weeks. Rates of bacterial eradication will be the secondary outcome measure. A smaller nested study will assess rates of transmission between family members of school children. A pilot study in March documented rhinosinusitis in more than 50% of young primary school children. The full study will begin in August 2000.

An evidence-based approach to research (that combines systematic reviews, randomised controlled trials and program evaluations) is most likely to maximise the benefits of improved health care and population health strategies.

Antibiotics for chronic suppurative otitis media in Aboriginal children: A randomised controlled trial (COMIT 4)

Investigators: Yvonne Wood, Amanda Leach, Peter Morris, and Al Yonovitz

Funding: NHMRC and OATSIH

As part of their otitis media strategic research initiative, the NHMRC and OATSIH have also funded a randomised controlled trial of ciprofloxacin drops versus dexamethasone-framycetin-gramicidin drops in children who have discharge through a hole in their eardrum for prolonged periods (chronic suppurative otitis media, or CSOM). CSOM represents the most severe form of otitis media and is a major problem in rural and remote Aboriginal communities. The study will occur in all three major Tiwi communities. A longitudinal study will commence in October 2000. Randomisation is planned to begin in March 2001.

The Clinical Course of Acute Otitis Media in Aboriginal Children: The AOM Video Study

Investigators: Katherine Gibney, Peter Morris, Amanda Leach, Heidi Smith-Vaughan and Liz Stubbs

Funding: CRCATH

After a pilot study in Ward 7B of the Royal Darwin Hospital, Katherine Gibney moved her research to Bathurst Island. Here she enrolled 32 babies with acute otitis media in a study using daily video-otoscopy and tympanometry to document the clinical course in the first two to three weeks after diagnosis. Katherine was able to clearly demonstrate, for the first time, that the time to resolution of suppurative infection is prolonged compared to other populations even when high doses of antibiotics are used. The clinical importance of resistance will be assessed using the culture results from nasopharyngeal swabs. It would appear that, in this population, persistence of the original infection despite treatment is more important than re-infection after treatment has been completed. Microbiological studies needed to confirm this hypothesis are underway.

Improved Hygiene Measures for Children Attending Child-care: A Randomised Controlled Trial (CCIT 1)

Investigators: Cate Wilson, Ross Baillie, Karen Edmond, Amanda Leach, Peter Morris, Heidi Smith-Vaughan, Zhiqiang Wang, John Mathews, Coralie Mathews, Sue Skull and Leslee Roberts

Funding: NHMRC

After the highly successful THS–MSHR longitudinal study coordinated by Sue Skull in 1997, the NHMRC have funded a hygiene intervention study (2000–02). Twenty child-care centres will be randomly assigned to receive an enhanced hygiene implementation program or the standard recommendations provided by the Commonwealth. The primary outcome measures will be rates of respiratory tract infections (and otitis media in particular), nasopharyngeal carriage and environmental contamination. Cate Wilson has started negotiations with the centres and so far the response has been enthusiastic. The study will be launched in September

2000, and the randomised trial will occur throughout 2001. Data collection will continue until the end of the year. This will be only the second intervention study to be conducted in Australian child-care centres and it is wonderful to see Darwin making a major contribution to this important public health issue.

Recommendations for Guidelines on the Management of Otitis Media in Aboriginal and Torres Strait Islander Populations

Investigators: Peter Morris, Deidre Ballinger, Amanda Leach, Jeanette Scott, Armajit Anand, Al Yonovitz, Joe Daby, Barbara Paterson, Harold Koops, Liz Stubbs and Bev Hayhurst

Funding: OATSIH

Collaboration: Darwin Otitis Guidelines Group

Designed to produce evidence-based recommendations for guidelines on the management of otitis media in Aboriginal and Torres Strait Islander populations the project coordinated input of Darwin Otitis Guidelines Group members from Menzies, Northern Territory Hearing Services (THS) and Australian Hearing. The recommendations will be launched nationally later this year. Hopefully, they will be seen as an important addition to the information on best practice available to health care providers looking after Aboriginal children. Seven key messages (listed below) have been chosen from a total of 89 recommendations relevant to prevention, diagnosis, prognosis, treatment and service delivery for otitis media:

- Families should be informed that Aboriginal children are at greatly increased risk of severe otitis media.
- Families should be encouraged to attend the local health clinic as soon as possible whenever a child develops ear pain or discharge.
- Frequent ear examinations are recommended even when the child is well. Use pneumatic otoscopy or tympanometry whenever possible.
- Antibiotics (amoxicillin) are recommended for Aboriginal

children with acute otitis media (identified by bulging eardrum or recent perforation). Antibiotics should be continued until the bulging and discharge has resolved.

- Chronic suppurative otitis media (CSOM) should only be diagnosed in children who have persistent discharge through a perforation despite appropriate treatment for acute otitis media with perforation. Effective treatment of CSOM requires a long-term approach to regular dry mopping of ear discharge followed by the application of topical antibiotics.
- All children with persistent bilateral otitis media (all types) for greater than three months should have their hearing assessed.
- Families of children with significant hearing loss (>20dB) should be informed of the benefits of improved communication strategies and hearing aids.

Conjugate Pneumococcal Vaccine for Northern Territory Infants: A Feasibility Study

Investigators: Amanda Leach (representing the Ear Health and Education Unit), John Condon, Kerry-Ann O’Grady, Jonathan Carapetis et al.

Funding: CRCATH

Advising on the development of a research protocol that is able to document the impact of the newly developed conjugate pneumococcal vaccine on the rates of severe otitis media in Aboriginal children. This is an extremely

important issue and, whether the proposed trial goes ahead or not, we will support further research initiatives in this area.

Links Between Ear Health and Education

Investigators: AI and Leslie Yonovitz (Australian Hearing and MSHR)

Funding: DETYA

The investigators have been promoting the results of their study, *Advancing Indigenous Literacy through Intervention for Hearing Disabilities*, throughout the year. The critical importance of hearing in education was highlighted in *Learning Lessons: Independent review into Aboriginal education in the Northern Territory* (also known as the *Collins Review*) last year (along with several references to this work). The researchers are hopeful that further collaborative projects between health and education professionals will be forthcoming.

Ear Health Training Workshops

Investigators: Peter Morris, Bev Hayhurst, Amanda Leach, Liz Stubbs, Heidi Smith-Vaughan and Yvonne Wood

Funding: MSHR Ear Health and Education Unit

Coordinated workshop on the medical diagnosis and management of otitis media for Tiwi and non-Tiwi service providers. Over a two-day period, the highlights were the presentations by Joe Daby of the Aboriginal Hearing Program, testing of hearing by the Northern

MSHR research often means fieldwork in remote and inaccessible areas. As a wet season storm approaches, La Trobe PhD student Mr Alex Collie, Associate Professor Bart Currie and Dr Stephen McDonald (left to right) prepare to depart Arnhem Land after conducting research into kava use on Aboriginal communities.



Territory Hearing Services (NTHS), visits to the laboratory organised by Liz Stubbs, and a chance to try the various types of hearing aids provided by Australian Hearing. A similar format was used for an in-service for NTHS and the rural and remote area nurses. All of these were well attended and feedback was positive. While the NHMRC have not funded this type of activity in the past, we are optimistic that changes in the preferred outcomes of Aboriginal health research will mean that even more dissemination activities will be possible. Further workshops are planned for October 2000 and March 2001.

Acknowledgments

The Ear Team wishes to thank the participating Tiwi families, the Tiwi Health Board, the Julanimawu Health Centre, Xavier Catholic Education Centre, and Murrupurtyanuwu Catholic School for their ongoing support. Funding has been provided by the NHMRC, DETYA and the Northern Territory Government. Additional in-kind contributions have been provided by the Cooperative Research Centre for Aboriginal and Tropical Health.

Health Social Sciences Unit

The unit has been involved in four major research activities during the year: an the evaluation of the Katherine West Coordinated Care Trial (one of four Aboriginal coordinated care trials underway nationally); further work on the NHMRC-funded project Determinants of Sustainability in Community-based Action to Reduce Alcohol Problems; an associated consultancy on measures to address alcohol problems in Katherine, conducted in collaboration with the Perth-based National Drug Research Institute (Curtin University of Technology); and finalisation of a review of interventions into petrol sniffing in Aboriginal communities, under the auspices of the Cooperative Research Centre for Aboriginal and Tropical Health (CRCATH).

Unit head Dr Peter d'Abbs has continued his involvement in the Master of Public Health teaching program, coordinating units in sociology and program evaluation (with Dr Peter Morris) and introducing a new unit, Qualitative Research Methods.

Coordinated Care Trial Evaluation

Investigators: Peter d'Abbs, Samantha Togni, Joe Fitz, Letitia Del Fabbro and Ross Baillie

Funding: Commonwealth Department of Health and Aged Care through THS

The Katherine West Coordinated Care Trial, one of two such trials conducted in the Northern Territory, commenced in July 1998 and ended on 31 December 1999. The trial combined a number of major health service reforms: transfer of funding-holding responsibility from the Northern Territory Government's Territory Health Services to an Aboriginal-controlled regional health board (Katherine West Health Board); additional funds from the Commonwealth Government in the form of a capitation-based

'cashout' to compensate for lack of access to medical and pharmaceutical benefits; and introduction of new best practice clinical protocols as well as a new IT system designed to bring about care coordination.

The evaluation team completed a mid-term report in July 1999 and a final report in April 2000. The latter is publicly available. Fieldwork in communities included the conduct of clinical chart audits to monitor delivery of services in the health centres. Subsequently, Joe Fitz produced visual reports of the clinical audit results, and of the evaluation design and findings as part of a strategy to make the evaluation outcomes genuinely accessible to Health Board members and other Aboriginal participants.

Following completion of the trial, the unit has been engaged by the Commonwealth Department of Health and Aged Care to evaluate events during a 'transition year', i.e. year 2000, which the Commonwealth has instituted while it assesses the outcomes of the trial and decides whether or not to retain the reforms.

Determinants of Sustainability in Community-based Action to Reduce Alcohol Problems

Investigators: Peter d'Abbs, Samantha Togni, Joe Fitz, Nonie Wales and Natasha Stacey

Funding: NHMRC

This project builds on research previously conducted by members of the unit in a number of northern Australian settings where community groups have succeeded in introducing restrictions on alcohol availability as well as other measures designed to reduce alcohol problems in the local community. Earlier work demonstrated that these measures were effective and had widespread community support — at least in the first three or six months following their introduction. Little is known, however,

about whether or not the beneficial outcomes are sustained over a longer period, and whether or not they retain community support. Further work has focused on conceptual and theoretical issues associated with 'sustainability' and 'capacity building'. A paper published in

the *Australian and New Zealand Journal of Public Health* 24(1) by Peter d'Abbs and Samantha Togni summarises findings and progress to date.

Liquor Problems and Measures in Katherine: Consultancy

Investigators: Peter d'Abbs and Joe Fitz

Funding: Northern Territory Liquor Commission

In 1999, the unit was engaged by Morgan Buckley, lawyers acting for the Northern Territory Liquor Commission, to prepare a report on alcohol problems and measures to address these problems in Katherine, Northern Territory. The research was conducted in collaboration with a team from the National Drug Research Institute in Perth, and the resulting report was tabled at a hearing conducted by the Liquor Commission in December 1999. Following the hearing a trial of licensing restrictions was introduced in Katherine. The report is available for downloading from the MSHR website.

Visual reports of the findings of the Katherine West Coordinated Care Trial clinical audit make the outcomes genuinely accessible to Aboriginal participants.

Review of Petrol Sniffing Interventions

Investigators: Peter d'Abbs and Sarah MacLean

Funding: CRCATH

During the year, work was almost completed on a review of interventions into petrol sniffing in Aboriginal communities. The authors have conducted the review as an in-kind contribution to the activities of the Cooperative Research Centre for Aboriginal and Tropical Health on behalf of the Menzies School of Health Research and Territory Health Services.

The review was scheduled for publication in August 2000, and will be released on the CRCATH's website at the same time.

Teaching and Supervision

During the year Peter d'Abbs designed and taught a new unit, Qualitative Research Methods, for the Master of Public Health program. In addition, he coordinated two existing units: Sociology and Health, and Evaluation of Health Programs (with Peter Morris).

Molecular Genetics Unit

The main aim of this unit is to provide a long-term basis for effective and specific control of some human pathogens. For this, it is absolutely essential to understand how pathogens overcome host immune surveillance, pathogen strain structure and its association with various diseases, mechanisms by which pathogenesis occur, and how the organism persists in the host even after antibiotic treatment. Such studies may lead to identification of novel vaccine antigens or novel strategies of pathogen detection and control.

We have carried out work on five pathogens. Group A streptococcal research encompasses molecular epidemiology, studies on disease mechanism and searching for vaccine candidates. Group B streptococcus work is aimed at development of rapid detection of the organism during labour. We have worked on a possible persistence mechanism of *Chlamydia trachomatis*, and diagnosis of *Calymmatobacterium granulomatis*, two organisms that are sexually transmitted. Finally, we continued our investigations toward understanding the epidemiology of melioidosis

caused by *Burkholderia pseudomallei*.

Our long-term collaborations with different units in the School, and with experts nationwide and worldwide, have continued. The Australian Academy of Science has awarded Dr Sriprakash a travelling fellowship to Germany to consolidate ongoing collaborative work with Professor GS Chhatwal's group and initiate new areas of research with the GBF German Research Centre for Biotechnology in Braunschweig, Germany. Ms Robyn Marsh has won a Queen's Trust Fellowship to extend her work on group B streptococcus, also in Germany.



Ms Robyn Marsh has won a Queen's Trust Fellowship to extend her work on group B streptococcus.

Group A Streptococcus (GAS)

This bacterium can cause self-limiting infection or, if ineffectively treated, can lead to serious sequelae such as acute rheumatic fever (ARF) and acute glomerulonephritis (AGN). *Streptococcus pyogenes* also causes life-threatening invasive diseases like streptococcal toxic shock-like syndrome and necrotising fasciitis. We are working on several separate projects in this organism.

Studies on fibronectin binding proteins

Investigators: Mark Walker, KS Sriprakash, Bart Currie, Jason McArthur and Armando Del Vecchio

Funding: NHMRC

Adherence of bacteria to host cells is the first step of pathogen colonisation. In group A streptococcus, adherence is mediated by a multitude of fibronectin binding proteins. The search for candidate antigens for an effective vaccine based on these adherence molecules is currently in progress in collaboration with Professor Chhatwal of Germany.

M protein diversity

Investigators: KS Sriprakash, Megan Hibble and Alison Goodfellow

Funding: National Heart Foundation

M protein is a major virulence factor found on the surface of all group A streptococcal isolates. Antibodies to multiple M types have been found in residents of a community. Correlation between serology and circulating GAS was investigated. Our work has contributed to the optimisation of an M-based vaccine being developed by Professor Michael Good at the Queensland Institute of Medical Research.

AGN disease mechanism

Investigators: KS Sriprakash, Jon Hartas and Michael Binks

Funding: NHMRC

As pointed out above, although group A streptococcal infection may lead to AGN, the exact mechanism of AGN pathogenesis is not understood. We have recently characterised proteins that are made by the strains associated with AGN. The possible role of this protein in AGN pathogenesis is being studied.

Studies on tissue tropism

Investigators: KS Sriprakash

Funding: Channel 7 Children's Research Foundation of SA

Our earlier work showed that the Northern Territory has a very high per capita diversity of group A streptococcal strains. Further work on molecular epidemiology is underway, specifically studying the relationship of the Northern Territory strains and tissue tropism. This work is undertaken in collaboration with Associate Professor Debra Bessen, Yale University, USA and Assoc Prof Bart Currie of MSHR.

Characterisation of the lactoferrin-binding-region on group A streptococcus

Investigators: GS Chhatwal, Sven Hammerschmidt, KS Sriprakash and Christine Elm

Funding: GBF and MSHR

Lactoferrin is an iron-binding glycoprotein found in milk and exocrine secretions of mammals. It can serve as a source of iron for group A streptococcus growing in the human host. We are working to characterise the lactoferrin-binding-protein of GAS. Christine Elm,

a student from the GBF German Research Centre for Biotechnology at Braunschweig, is working on this at Menzies for 10 months.

Other Projects

Study towards a simple and rapid test to detect group B streptococcus in labour

Investigators: KS Sriprakash, Robyn Marsh and Karl Gundersen

Funding: CRCATH

Another streptococcal organism, called group B streptococcus (GBS), is the most common cause of neonatal infection. Infants born to GBS-colonised mothers are at risk of developing life-threatening disease. Rapid screening of mothers for GBS colonisation and subsequent management may drastically decrease the incidence of such diseases.

Factors influencing the epidemiology and virulence of the agent of melioidosis, Burkholderia pseudomallei

Investigators: KS Sriprakash, Bart Currie, Heidi Smith-Vaughan, Paula Lawrie, Mark Mayo and Daniel Gal

Funding: NHMRC

Melioidosis, an infection caused by the bacterium *Burkholderia pseudomallei*, is endemic in South-East Asia and northern Australia. In the Top End of the Northern Territory, it is the most common cause of fatal community-acquired bacteraemic pneumonia. We are working on the molecular epidemiology of this organism in collaboration with Prof David Kemp and Dr Garry Myers.

Donovanosis

Investigators: KS Sriprakash, David Kemp, Frank Bowden and Michael Binks

Funding: NHMRC

Donovanosis is a genito-ulcerative sexually transmitted disease that occurs throughout central and northern Australia and in many regions around the world. Although entirely curable, if undiagnosed the disease can lead to severe scarring, mutilation and infertility. The condition is also associated with an increased risk of HIV transmission. Our work on detection of this organism in clinical specimens is continuing in collaboration with members of Centre for Disease Control in Darwin.

Previously uncharacterised membrane associated proteins of Chlamydia trachomatis

Investigators: KS Sriprakash, Garry Myers, Richard Grinvalds, Michael Binks, Susan Hutton and Susanne Booth

Funding: NHMRC

This bacterium causes eye and genital infections. Several studies have focussed on the major outer membrane protein as a possible candidate antigen for a vaccine. We have described novel membrane-associated proteins. Our results suggest that these proteins are expressed in natural infection. Further work to determine the role of these proteins is in progress.

Molecular Parasitology Unit

The aim of the Molecular Parasitology Unit is to apply modern molecular methods to the study of important health problems of our region in a manner which is not possible using older more traditional approaches. We collaborate

with several other units as well as with colleagues from Territory Health Services, and the CRCATH. The unit also works in cooperation with communities, providing them with feedback on programs such as scabies.

Clag: A Malaria Gene Required for Cytoadherence to Melanoma Cells

Investigators: David Kemp, Katharine Trenholme, Donald Gardiner, Paula Hawthorne and Mandy Edwards

Funding: NHMRC; private donations from Mark Nicholson, Alice Hill and The Tudor Foundation

An often fatal complication of infection with the malaria parasite is severe malaria, associated with the cytoadherence (or sticking) of infected red blood cells to the cells lining capillaries of various tissues including the brain. Our program, aimed at understanding this process, has previously identified the clag gene family (cytoadherence-linked asexual genes) and implicated it in cytoadherence. We have continued these studies this year and our efforts have resulted in the publication of three manuscripts.

Antigens, Allergens and Immune Responses in Normal and Crusted Scabies

Investigators: David Kemp, Bart Currie, Shelley Walton, Pearly Harumal and Melita McKinnon

Funding: NHMRC, Ramaciotti, CRCATH

Scabies is endemic in remote northern and central Australian Aboriginal communities, in which up to 50% of children may be infested with the scabies mite *Sarcoptes scabiei*. These infestations often lead to bacterial skin infections and serious complications, including blood poisoning and kidney damage. Aims of our program include the identification of potential scabies vaccine molecules using molecular techniques and determining how the immune response differs between people with ordinary scabies and those with the severe 'crusted scabies'. We have made substantial progress with the isolation of the first two cloned antigens, which appear to be located on the internal organs of the scabies mite.

Genetic Variation and Host-Parasite Interactions of *Sarcoptes scabiei*

Investigators: Shelley Walton, David Kemp, Bart Currie and Naomi Sauverain

Funding: CRCATH

The aims of this project include the confirmation of evidence of genetic separation between dog and human host-associated populations of *Sarcoptes scabiei*, and monitoring for any emerging evidence of *S. scabiei* drug resistance in the community. Our recent work on treatment efficacy indicated *S. scabiei* mites were becoming increasingly tolerant to permethrin, the current treatment of choice in northern Australia. Recent clinical observations and *in vitro* testing in a patient with sequential infestations of crusted scabies, who has received multiple doses of ivermectin as treatment, show strong evidence for *S. scabiei* ivermectin resistance. From the perspective of scabies control, it is critical to know about levels of gene flow and mechanisms of drug resistance, both within and between dog and human *S. scabiei* populations, in order to design rational policies to prevent the development and spread of resistance.

Public Health and Epidemiology Unit

The members of the unit have a great range of interests and are involved in many projects, generally with other units at the Menzies School of Health Research or government departments, rather than conducting research in isolation. The unit has expanded greatly over the year with major funding received by the CRCATH for two projects and ongoing funding from the Colonial Foundation for the 10-year follow-up of the Aboriginal Birth Cohort.

Dr Ross Baillie, in addition to co-ordinating the graduate coursework program in public health, is also the Public Health Research deputy program leader for the CRCATH. During the year, Dr Dorothy Mackerras retired from the position of Education and Training Coordinator for the CRCATH to do more research-based work with the CRCATH and to be on an NHMRC expert panel overseeing the revisions of a document on Aboriginal and Torres Strait Islander nutrition. Dr John Condon joined the unit to conduct the feasibility study of the pneumococcal vaccine trial and Dr Joan Cunningham took up a Menzies Fellowship at the end of the year.

Evaluation of the Katherine West and Tiwi Coordinated Care Trials

Investigators: Peter d'Abbs, Samantha Togni, Joe Fitz, Ross Baillie, Suzie Adsett, Letitia Del Fabbro, Nonie Wales, Gary Robinson, Sue Morley, Christine Edwards, Jayne Curnow, Kerin Coulahan, Maree Donovan and John Deeble

Funding: Commonwealth Department of Health and Aged Care through THS

The trials are complex health reform initiatives, and the evaluations are multidimensional. The contribution of this unit to these trials has been through the involvement of Dr Ross Baillie, particularly in monitoring of clinical care and health outcomes. The trials were completed in early 2000 and comprehensive evaluation reports have been published. The initiatives introduced through the trials are in a transition phase over the 2000 calendar year and the evaluations will continue during this period.

Evaluation of Housing Survey Data for the Northern Territory Department of Local Government

Investigators: Myfanwy Runcie and Ross Baillie

Funding: Northern Territory Department of Local Government
Data from the first round of a Northern Territory-wide housing survey of environmental health conditions in all houses funded by the Indigenous Housing Authority of the Northern Territory has been evaluated with a view to providing a baseline measure of housing conditions and informing the development of the survey process. The survey is to be repeated on an annual basis and is expected to provide data that will guide the improvement of environmental health conditions across the Northern Territory.

An Indigenous Approach to Sexual Health Care Literature Review

Investigators: Jayne Curnow and Ross Baillie

Funding: Northern Territory Sexual Health Advisory Committee of the Northern Territory Aboriginal Health Forum

This review aims to provide a comprehensive bibliography of

material available for review. The areas covered include Indigenous concepts of sexual health; contrasts between the medical models of sexual health and contemporary Indigenous models; approaches to health promotion and education in Indigenous communities; best practice in health promotion and education in Indigenous communities; and links and barriers between Indigenous views of health and health services providing primary health services to Indigenous communities. The compilation of this bibliography is the first stage of a project that will provide a comprehensive review of the literature on this subject.

Evaluation of the Specialist Outreach Service in the Top End of the Northern Territory

Investigators: Russell Gruen and Ross Baillie

Funding: Principal author supported by an NHMRC Scholarship and RACS Scholarship

A pilot Specialist Outreach Service (SOS) funded by OATSIH and THS was initiated in mid-1997 to provide specialist surgical consultation services in remote Aboriginal communities in the Top End. The evaluation of this pilot combined qualitative and quantitative approaches to address a range of issues relating to the service, including access, service outputs, impact on patient travel, costs, doctor-patient interaction, follow-up, support for remote staff, education and skills transfer, and effects on regional hospitals. The evaluation showed a reduction in costs and inconvenience associated with patient travel, improved access to surgical services, more informed and participatory decision making by patients, and an improved understanding by hospital-based surgical staff of the living conditions and services for people living in remote communities.

Feasibility Study of a Proposed Northern Territory Pneumococcal Vaccine Trial

Investigators: John Condon, Kerry-Ann O'Grady, Megan Counahan, Trish Hurley, Tahnia Edwards, Helen Liddle, Kaye McGuinness, Liesa Clague and Bronwyn Skerritt

Funding: SmithKline Beecham through the CRCATH

The bacterium *Streptococcus pneumoniae* (also called pneumococcus) causes serious illnesses in children, including meningitis and pneumonia. It is also one of the main causes of the



The Feasibility Study of a Proposed Northern Territory Pneumococcal Vaccine Trial is a major initiative for Menzies with staff employed throughout the Territory. In May, the group, including project workers (left to right) Kerry-Ann O'Grady, Bronwyn Skerritt and Trish Hurley, came together in Darwin to plan work for the second half of 2000.

Photograph courtesy David Hancock & CRCATH

ear disease otitis media. Pneumococcal disease is far more common in the Northern Territory, particularly in central Australia, than elsewhere in Australia. The existing vaccine (Pneumovax) does not work in children under two years of age.

In mid-1999 the pharmaceutical company SmithKline Beecham proposed that an effectiveness trial of their new childhood pneumococcal vaccine be conducted in the Northern Territory. The new vaccine protects children against eleven serotypes of *Streptococcus pneumoniae*, with the first vaccination at two months of age.

Because of the size and complexity of the proposed trial, the Board of the CRCATH requested that a feasibility study be conducted to assess whether and how the trial could be conducted. The feasibility study commenced in March 2000 and is due to be completed towards the close of 2000.

Aboriginal Birth Cohort Study

Investigators: Sue Sayers, Ingrid Bucens, Kath Flynn, Dorothy Mackerras and Gurmeet Singh

Funding: Colonial Foundation

A follow-up of 75% of the living children of a 10–12 year Aboriginal cohort of 686 babies examined in detail at birth has been achieved. Cardiovascular risk factors, lung function, renal size and function and complete anthropometry are being examined. Concomitantly, information relating to socioeconomic and environmental factors is being collected on each child. Preliminary results indicate significant differences for cardiovascular risk factors between rural and urban dwellers. Further analysis will confirm if these rural and urban differences exist throughout the cohort. At the completion of field work (planned for October 2000) all outcomes will be related to the perinatal variables of gestation and birth weight and indices of body symmetry and placenta weight.

Review of the Implementation of the Northern Territory Food and Nutrition Policy

Investigators: Dorothy Mackerras and Elissa Mortimer

Funding: THS

Funding for the implementation of the Northern Territory Food and Nutrition Policy over five years by the Northern Territory Government began in the 1995–96 financial year. During 1999, Dorothy Mackerras and Elissa Mortimer reviewed its implementation as part of THS preparations for the submission of a second phase of funding. Compared to the only benchmark available — the first phase of the implementation of the National Food and Nutrition Policy — the Northern Territory has performed well. In general, both national and Territory policies have tended to focus on resource development. However, the Northern Territory has also developed and implemented training and has started to implement the use of some of the resources. Recommendations were made about a number of tasks which need to be completed in order to finalise the first phase of current projects. Further recommendations were made on the need to document the extent to which funding of the policy has generated other funding which, in turn, address policy objectives and also the direction for a second phase of implementation.

MSHR research aims for seamless collaborations across disciplines, and professional and cultural boundaries.

National Nutrition Survey in Samoa

Investigator: Dorothy Mackerras

Funding: World Health Organization (WHO)

In 1998, Dorothy Mackerras carried out a consultancy in Samoa for WHO to help plan a national nutrition survey examining child

growth, breastfeeding rates and anaemia. She provided support via email during the year while the survey was being conducted and is currently analysing the data for WHO.

Refinement of the National Aboriginal and Torres Strait Islander Health Performance Indicators

Investigators: Tony Barnes and Dorothy Mackerras

Funding: AIHW through the CRCATH

Through the CRCATH, Tony Barnes, Dorothy Mackerras and a team of others were contracted to refine the existing set of performance indicators for Aboriginal and Torres Strait Islander health. The indicators themselves were endorsed by AHMAC and have been reported against by Commonwealth, State and Territory governments for several years. The project involved a national round of consultations, technical drafting of the indicators and development of a proposed set of indicators for mental health. The report will be submitted in time for endorsement by AHMAC at their October 2000 meeting.

Tropical Medicine Program

The emphasis for the unit is on collaboration with both local health professionals and experts outside the Northern Territory to address health issues important to the region. Studies are targeted at improving prevention and treatment of specific illnesses, usually through a better understanding of the underlying disease processes. Epidemiology, clinical observations and basic laboratory work are all involved. Many of the unit's long-term projects on various infectious diseases and toxinology have continued to be productive and the close links with the expanding Northern Territory Clinical School (Flinders University) at Royal Darwin Hospital have facilitated this. We aim for seamless collaborations across disciplines and professional and cultural boundaries. This report covers projects specific to our Tropical Medicine Program; international projects are detailed separately. A major and ongoing involvement for many people on the campus and in the larger Darwin community was the Timor crisis and subsequent development programs. This is covered in the International Health Program report.

Melioidosis and Pneumonia

Investigators: Bart Currie, Susan Jacups, Nick Anstey, Paula Lawrie, Mark Mayo, Heidi Smith-Vaughan, Daniel Gal, KS Sriprakash, Dale Fisher, Gary Lum, Dianne Stephens and Royal Darwin Hospital colleagues

Funding: NT NHMRC Centre for Clinical Excellence, NHMRC, THS
Since late 1989 there has been a continuing prospective study of community-acquired pneumonia and melioidosis coordinated by the unit. We have now documented 300 culture-confirmed cases of melioidosis, by far the largest study in Australia. Melioidosis is

the commonest cause of fatal bacteraemic community-acquired pneumonia in the Top End and at Royal Darwin Hospital. In collaboration with hospital laboratory staff (directed by Dr Gary Lum), clinical staff and the Northern Territory Centre for Disease Control we have devised improved diagnosis and treatment protocols and education packages for health staff and the public. Through NHMRC funding for the Royal Darwin Hospital Clinical School and support from the Dean, Professor David Brewster, Susan Jacups is assisting with analysis of the epidemiological features of melioidosis in the Top End. The importance of diabetes, alcohol and kava as risk factors for disease and mortality is being quantified. Although melioidosis remains a devastating infection in certain circumstances, the mortality of those infected has been significantly reduced in the Top End with new treatments introduced for the first time at Royal Darwin Hospital Intensive Care Unit looking extremely promising. Our clinical study has also enabled various collaborative projects on epidemiology and pathogenesis both within Menzies and externally.

Molecular Epidemiology of Melioidosis

Investigators: Mark Mayo, Daniel Gal, Paula Lawrie, Heidi Smith-Vaughan, Susan Jacups and Bart Currie
 Funding: NHMRC, CRCATH, DETYA (Mark Mayo), Stuart McAlister bequests

Burkholderia pseudomallei is a soil bacteria prevalent across tropical regions of northern Australia, including the Top End. The diversity of *B. pseudomallei* strains across northern Australia is largely unknown. Pulsed Field Gel Electrophoresis is a powerful tool in genetic fingerprinting and has given us a new insight into the molecular epidemiology of melioidosis. We have new evidence of the clonality in human and animal isolates in previous epidemics, but there is large diversity across the Top End. We are in the process of establishing a genetic fingerprint database from our collection of 1000+ isolates (the largest in Australia) to track melioidosis epidemics and draw inferences into the epidemiology and pathogenesis of *B. pseudomallei*. Eventually, the genetic fingerprint database can be applied with geographical information systems (see below) to enhance strategies in reducing incidences of melioidosis across northern Australia.

Neutrophil Killing of *Burkholderia pseudomallei*

Investigators: Paula Lawrie, Heidi Smith-Vaughan and Bart Currie
 Funding: NHMRC

Melioidosis is the most common cause of fatal community-acquired bacteraemic pneumonia in the Top End of the Northern Territory. Although apparently healthy individuals can become infected with *Burkholderia pseudomallei*, infection is generally associated with underlying disease, most commonly diabetes, kidney disease and heavy alcohol consumption. Our specific aim is to collect blood from patients with risk factors for melioidosis and from healthy controls and measure how well neutrophils (white blood cells of the immune system that engulf bacteria) take up and kill the causative bacterium of melioidosis, *B. pseudomallei*. We are testing the hypothesis that the neutrophils from patients with risk factors for melioidosis do not engulf and kill *B. pseudomallei* as well as those from people with no risk factors. This may lead to better treatment of melioidosis in the future.

Melioidosis and Geographical Information Systems (GIS)

Investigators: Susan Jacups and Bart Currie
 Funding: NHMRC, NT NHMRC Centre for Clinical Excellence
 In collaboration with Philippe Puig (Airesearch), and Clive Whitworth (Bureau of Meteorology), we are investigating the relationship between *Burkholderia pseudomallei*, the soil and water organism causing melioidosis, and environmental conditions, such as soil type and rainfall, in the Top End of the Northern Territory. Using GIS technology, we can map rainfall across the Top End either as cumulative total for an entire wet season or a week-by-week total. This is overlaid with a map of soil types, and over that another map of locations of melioidosis cases. We suspect that correlations will arise where rainfall pattern and soil type play a role in predicting melioidosis cases and possibly severity of disease. There also may be additional information obtained on conditions or locations where melioidosis is less frequent.

Optimising Chronic Lung Disease Care for Indigenous Australians

Investigators: Graeme Maguire and Bart Currie
 Funding: CHATA and others (in process)
 This multi-centre prospective study investigating health service utilisation, management protocol implementation and the role of prophylactic antibiotics in chronic non-specific lung disease (CNSLD) is being developed as part of a multifaceted study evaluating the impact of CNSLD on Indigenous Australians. It will be one of the few randomised controlled trials that have been developed to address the health of Indigenous Australians. Further, we plan to investigate the dynamics, associated airway inflammation, antibiotic susceptibility and molecular epidemiology of airway bacteria associated with CNSLD, an important prelude to future antibiotic and vaccine development and trials.

Melita McKinnon is part of the Menzies team researching treatment of scabies, a disease endemic in Aboriginal communities in the Northern Territory.



Tiwi Ear and Lung Follow-up Study

Investigators: Graeme Maguire, Peter Morris, Amanda Leach, Monica Pilakui, Camilla Tipiloura, Vicky Punguatji and Bart Currie
 Funding: NHMRC, Community Health and Anti-TB Association, NT NHMRC Centre for Clinical Excellence, Ramaciotti Foundation

The aetiology of chronic disease may extend back to *in utero* and early childhood events. The role of these early life events in contributing to chronic non-specific lung disease (CNSLD) has been investigated in the Tiwi Ear and Lung Health Follow-up Study. This study involves the review of a birth cohort of Tiwi Islanders who are now 19–21 years old. Using sensitive measures of lung size and function that have previously not been used in community-based studies we are investigating the influence of birthweight and respiratory infection in the first year of life on subsequent adult lung function and immune priming for the later onset of asthma. In so doing, we aim to identify potential targets for preventative measures particularly in early childhood and during pregnancy.

Angurugu Adult Health Study and Angurugu Lung Health Study

Investigators: Graeme Maguire, Stephen McDonald, Norma Benger, Mary Amagula, Paul Lalara and Bart Currie
 Funding: NHMRC, Community Health and Anti-TB Association, AMA-APMA Aboriginal Health Initiative, NT NHMRC Centre for Clinical Excellence, Ramaciotti Foundation

This program investigating factors in the cause and progression of chronic non-specific lung disease (CNSLD) has now been completed. The Angurugu Adult Health Study was a multi-dimensional cross-sectional survey of health involving residents of Angurugu on Groote Eylandt. The respiratory component of this study (Angurugu Lung Health Study) demonstrated that respiratory function in health and respiratory disease is due to an interplay of biologic, environmental and social factors. From this study a model has emerged of respiratory health in Indigenous Australians in which factors associated with social disadvantage (education and housing) are acting in concert with tobacco and alcohol use and thus providing additional targets for preventative programs.

Mathematical Models to Inform Public Health Decisions on Pneumococcal Vaccination

Investigators: Susan Jacups, Bart Currie, James McBroom and Vicki Krause
 Funding: NT NHMRC Centre for Clinical Excellence
 Infection with *Streptococcus pneumoniae* causes significant morbidity and mortality worldwide. It is important locally as the Northern Territory has the highest rates nationally and *S. pneumoniae* causes 40% of adult community-acquired bacteremic pneumonia. Alcohol abuse is the main risk factor. Multi-resistant strains are increasing internationally and have been documented in the Northern Territory. Presently the 23-valent polysaccharide vaccine is recommended for anyone over two years of age who displays any of the following: exposure to risk factors, chronic illnesses, lung/liver/renal disease, diabetes, previous invasive pneumococcus, asplenia, are immunocompromised, are Aboriginal adults aged 50 years or over, and non-Aboriginals of 65 years and over. In the Northern Territory, disease is particularly common in younger males and it has been suggested that all

remote area Aboriginal adults be immunised. We have created a mathematical model of pneumococcal disease, to use as a public health tool for predicting future rates of the disease with vaccination at various ages. Using the model we found that the current protocol is insufficient to combat invasive disease. A policy that vaccinated all Aboriginal people from the age of 15, with revaccination every five years, was the most successful policy for reducing morbidity and delaying resistance to *S. pneumoniae*.

Scabies

Investigators: Bart Currie, Shelley Walton, Nick Anstey, Pearly Harumal, Paula Lawrie, Melita McKinnon, Naomi Sauverain, Dave Kemp, Grant Morahan and RDH colleagues
 Funding: NHMRC, THS, CRCATH

Protocols of scabies programs for community and hospital use are being refined. The role of oral ivermectin therapy in refractory crusted (Norwegian) scabies is being studied. Failure of ivermectin to give sustained benefit in some cases, despite repeated doses, emphasises the need for a community approach to treat contacts who are potential sources of reinfestation and to support hygiene measures and household environmental cleaning. (See also the Molecular Parasitology Unit report on Shelley Walton's studies developing molecular typing of scabies mites on page 23.) An NHMRC grant is now enabling Shelley Walton to look at the immunological basis of crusted scabies in Aboriginal communities — a devastating illness with high mortality. We are also looking at *in vitro* resistance of scabies mites taken from patients. The concern noted in last year's annual report — that increasing use of scabies therapies may result in emergence of drug resistance — has unfortunately been realised, with one patient documented as having persisting severe scabies despite repeated ivermectin therapy. Laboratory testing confirmed the ivermectin resistance in mites collected from the patient's skin. This only further emphasises the critical need for a coordinated scabies intervention on a large scale, to break the cycles of transmission within and between remote communities. A feasibility study to assess whether such a program might be undertaken has begun with CRCATH funding.

Acute Rheumatic Fever (ARF) and Rheumatic Heart Disease (RHD) and Rheumatic Fever Information Packages and Education

Investigators: Bart Currie, Geoffrey Angeles, Loyla Leysley, Norma Benger, Paula Lawrie, Armando Del Vecchio, KS Sriprakash, Sara Noonan, Karen Edmond, Vicki Krause and Jonathan Carapetis
 Funding: NHF, NHMRC, AIHW, THS, RHSET, CRCATH

Menzies remains one of very few institutions around the world undertaking the combination of field epidemiology and molecular biological research together with community education regarding ARF/RHD/streptococcal pathogenesis and control. The Commonwealth-funded Top End RHD Control Program is based around the establishment of a computerised register of all ARF and RHD patients and a series of educational packages (see below). The program began in early 1998 and has drawn together many different people involved in education and health provision. It is now run by THS Centre for Disease Control, using Menzies resources for educational activities and ongoing evaluation. It represents the ideal of moving from applied research to improved

service delivery. These programs also get strong support from Dr Chris Burns, formerly with Menzies, who is Director of the Northern Territory Division of the National Heart Foundation. Our field and laboratory work has also led to new approaches to primary prevention. The pioneering studies of the Molecular Genetics Unit in developing rapid, cheap methods for molecular typing of field isolates, has clarified streptococcal epidemiology in this region, and is helping to show how it is very different from that in industrialised countries. It is clear that the load of infection with numerous distinct streptococcal strains, at the individual and community level, is enormous. Moreover, the traditional distinction between 'skin' and 'throat' isolates appears to be blurred. We are promoting strategies for reducing rates of streptococcal pyoderma (skin sepsis) as one aspect of primary ARF prevention (see below). Primary prophylaxis for streptococcal sore throat remains extremely important, and further work is needed to understand the epidemiology of sore throat and GAS pharyngitis in this region.

Geoffrey Angeles, Loyla Leysley and Norma Bengner have continued to promote community consultation, including use of the educational booklets about rheumatic fever. These have included *The Rheumatic Fever Story*, a book for adults, *Rheumatic Fever: Questions and answers* and the Rheumatic Fever video. Loyla is funded by the CRCATH to work with hospital staff and health staff in communities on individual patient initiatives to improve understanding of ARF and RHD. She is now working towards a degree at Batchelor Institute of Indigenous Tertiary Education, while also making several important trips to, and connections with, colleagues in remote communities in Queensland, disseminating the findings of work done at Menzies.

Geoffrey Angeles has successfully completed his RHSET grant to evaluate the ARF/RHD information package.

Health Effects of Heavy Kava and Alcohol Use in Eastern Arnhem Land Aboriginal Communities

Investigators: Alan Clough, Chris Burns, Bart Currie and Peter d'Abbs

Funding: NHMRC

Heavier and longer-term users of kava and alcohol may be at increased risk of serious infectious disease and ischaemic heart disease. Selected biochemical, haematological, immunological, cardiovascular and neurocognitive indicators are now being assessed in one community, accounting for the use of other substances and the participants' background health status. A recent highlight of this study was a collaborative effort where 101 people participated in a cross-sectional screening. Local health service personnel and Aboriginal health workers worked with the team. Indicators of morbidity found by

Professor John Mathews and others in 1987 in another east Arnhem community are confirmed. Preliminary analyses show that heavy kava use alone correlates with indicators of changes in immune status but not with indicators of coagulation in the blood and not with measures of neurocognitive function. Expanding from this study, Alan Clough has recently won a NHMRC grant to examine some aspects of illicit drug use in eastern Arnhem Land.

The Top End Snakebite Study

Investigators: Bart Currie, Geoff Isbister, Paula Lawrie and RDH colleagues; David Warrell, Oxford University; David Theakston and Alison Richards, Liverpool School of Tropical Medicine

Funding: The Wellcome Trust, THS

The study of snakebites continues, with refined protocols of management of bitten patients and an improved understanding of the snakes present in the tropical north and the effects of their venom. It is clear that first aid is often applied incorrectly and/or too late to prevent venom absorption. There remain a number of important questions to address regarding antivenom use and first aid. There is interest in a collaborative study across the country to assess serial venom levels in patients' blood to help resolve these issues.

The Top End Spider Bite Study

Investigators: Geoff Isbister, Bart Currie and RDH colleagues; Tracy Churchill, CSIRO Darwin

Funding: THS

Geoff Isbister has undertaken an 18-month prospective study of spider bites in the region. By only including definite bites, where the spider is captured and brought for formal identification by CSIRO arachnologist Tracy Churchill, an accurate attribution of clinical findings can be made.

En route to East Arnhem Land, kava project researchers traverse the Blythe River.



There have been no serious bites and no evidence of necrotic arachnidism. Bites from a number of species of local spider are being described for the first time, including the local mouse spider, which has been considered potentially dangerous because of some similarities to funnel-webs. However, it now appears that, unlike many other 'creatures' and infections, Darwin is a safe place relative to eastern Australia as far as spider bites are concerned.

The Top End Jellyfish Study

Investigators: Gerard O'Reilly, Geoff Isbister, Paula Lawrie, Bart Currie and Phil Alderslade

Funding: THS

Gerard O'Reilly has undertaken a 12-month study of jellyfish stings presenting to RDH. Paula Lawrie identifies the species involved from microscopy of the stinging cells (nematocysts) left on the skin and removed by the 'sticky tape' test pioneered at Menzies. The main jellyfish is the major box-jellyfish — *Chironex fleckeri* — which causes severe pain and sometimes scarring from blistering. There has been no death from a jellyfish sting in the Northern Territory since 1996 and during the 12-month study no patient required antivenom; in all cases pain was reduced by ice packs plus narcotics if necessary. A number of other stings were documented, including some with the Irukandji syndrome (mimicking 'the bends') and some from a local jellyfish, the 'Darwin carybdeid' (a four-tentacled box-jellyfish which causes less severe tentacle marks and pain). An important message resulting from the study is clear and simple: you won't get stung if you don't enter the water.

Antibiotic Guidelines, Treatment Protocols and Health Information

Investigators: Bart Currie, MSHR and THS colleagues

Funding: THS, Paul Carlson bequests

The national *Antibiotic Guidelines* are revised and published every two years. There continues to be a major input from work carried out in the Territory. The 2000–01 edition has sections written in the Northern Territory on skin sepsis, scabies, rheumatic fever prophylaxis, trachoma, melioidosis, worms, malaria and biological warfare agents. Protocols for pneumonia, malaria, melioidosis, crusted scabies, rheumatic fever and rheumatic heart disease, snakebite and jellyfish stings are being revised. Various public health information initiatives are being undertaken collaboratively, including information about arboviruses and other important infections in the tropical north.

International Health Program

The International Health Program was established in 1996 during a Heads of Government Meeting between the Chief Minister of the Northern Territory and the President of the Republic of Indonesia. To mark the fiftieth anniversary of Indonesian independence, and with the support of the Indonesian Ministry of Health, the Northern Territory Government provided funding for two fellowships for research (in cooperation with Indonesian authorities) towards the better understanding, prevention and treatment of malaria and tuberculosis in the eastern provinces of Indonesia. Over the last four years we have worked with colleagues in Indonesia and



Part of life in remote northern Australia is close contact with wildlife. Menzies is involved in a number of studies surrounding managing bites and stings from snakes, spiders and jellyfish. Top: Susan Jacups Middle: Assoc Prof Bart Currie Bottom: Menzies researcher and snakebite victim Ruth Cahill takes a closer look at the snake that bit her!

elsewhere in undertaking a number of collaborative malaria and tuberculosis studies to achieve these aims.

Highlights of the year include:

- a randomised controlled trial of new artesunate combination therapy for malaria in eastern Indonesia;
- major field studies of malaria immunity in both eastern

- Indonesia and Papua New Guinea;
- new collaborative malaria studies with Mimika Hospital in Papua province (formerly Irian Jaya) and with the PNG Institute of Medical Research;
- a significant contribution by the whole School to the humanitarian response for East Timorese evacuees in Darwin;
- assistance with tuberculosis control and treatment programs in both eastern Indonesia and East Timor; and
- assistance with rebuilding laboratory capacity in East Timor.

Indonesian Projects

Towards the better diagnosis and treatment of malaria in eastern Indonesia

Investigators: Emiliana Tjitra, Nick Anstey, Bart Currie, Mary Dyer, Peter Morris and Sri Suprianto
 Funding: Northern Territory Government Malaria–TB Research Fellowships; Mark Nicholson and Alice Hill: Tudor Foundation

Dr Emiliana Tjitra has been seconded from the National Institute of Health Research and Development in Jakarta and is undertaking her PhD with the unit.

Following extensive health-centre-based field studies in Sumba and Papua province, Indonesia, Emiliana is evaluating current Ministry of Health clinical case definitions for malaria and deriving and evaluating new case definitions

suitable for regions of both high and low malaria transmission. She has also evaluated the usefulness of new antigen detection tests for rapid diagnosis of malaria, including their ability to predict treatment failure. With support from the Indonesian Ministry of Health, she has also evaluated the efficacy of current treatment regimens for malaria in eastern Indonesia, and has evaluated newer treatment regimens, including a randomised controlled trial in Papua of artesunate plus sulfadoxine-pyrimethamine versus sulfadoxine-pyrimethamine alone. These studies will contribute to the Ministry of Health's efforts towards the better diagnosis and treatment of malaria in eastern Indonesia.

Do nitric oxide and other molecules protect against severe malaria?

Investigators: Nick Anstey, Emiliana Tjitra, Helena Maniboe, Craig Boutlis, Jocelyn Saunders, Ating Solihin, Estelle Gray, Kevin Baird, Maurine Hobbs, Don Granger and Brice Weinberg

Funding: NIH

This study is extending our previous work into the role of nitric oxide and other important molecules produced by the immune system in protecting against life-threatening malaria. In collaboration with the Ministry of Health and Jayapura and Timika Hospitals in Papua, Indonesia, we have recruited over 250 patients suffering from, and free from, severe malaria. We have measured nitric oxide production in these patients and will extend this to how their white cells make nitric oxide and other molecules. In collaboration with colleagues at Duke University and the University of Utah we are examining how differences in the ability to make these molecules affects the risk of developing severe

malaria. This work may have important therapeutic implications in the management and prevention of severe malaria.

AusAID–WHO intensified support for the National TB Control Program (NTP) in Indonesia

Investigators: Paul Kelly, Kay Withnall, Stuart Collins, Cyrus Simanjuntak, Nick Anstey, Roosyana Hasbullah, Gunawan Yamin, Ichie Listiani, Tjandra Yoga Aditama, Richard Lumb, Ivan Bastian, Servasius Parriera and Vicki Krause
 Funding: AusAID (via WHO)

The School continues to collaborate with WHO to support the Indonesian Ministry of Health's NTP. The AusAID funded TB project concentrates on the eastern provinces of Indonesia. Despite disruption by political events in the region in 1999, several initiatives in the broad areas of programmatic support, supervision and training were advanced in West Timor and Flores. Dr Stuart Collins continues to work with WHO in Kupang. He assisted in the coordination of the international humanitarian response to the East Timorese refugees who arrived in West Timor in September 1999. As recognition for his efforts, he received an award from the United Nations High Commissioner for Refugees. A TB drug-resistance

study will commence in West Timor in 2000–01 and will provide vital information to inform TB policy in Indonesia.

The relationships between Menzies, WHO and AusAID formed the basis for the collaborative work, in association with THS, which

commenced in East Timor in October 1999.

Training for overseas health professionals and students

Investigators: Nick Anstey, Emiliana Tjitra, Kay Withnall, Anne Arthur, Pam Bowstead, Jocelyn Saunders, Estelle Gray, Paul Kelly, Bart Currie and Ross Baillie

Funding: Northern Territory Government Research Fellowships, NIH
 A number of training initiatives for overseas health professionals and students have been undertaken by the School over the last year. We were pleased to host Pak Syarial Harun from the National Institute of Health Research and Development in Jakarta who spent a month working in the Menzies malaria laboratories. Aang Sutrisna from Papua became the first Indonesian student enrolled in the Public Health coursework program. While in Darwin, he also received training in infection control with Anne Arthur at Royal Darwin Hospital. In collaboration with Indonesian colleagues, a number of Indonesian laboratory technologists in Balikpapan, Jayapura and Mimika Hospitals have received Menzies' Certificate of Laboratory Training for their on-the-job training, including biosafety, sterile techniques and cell separations. Emiliana Tjitra and Nick Anstey have trained local staff in research methodology during the course of their malaria field studies in eastern Indonesia. Details of tuberculosis training activities in Indonesia and East Timor are included in other reports.

East Timor Projects

The International Health Program, in collaboration with THS, WHO, AusAID, UNICEF, Caritas East Timor and several international NGOs,

MSHR studies will contribute to the better diagnosis and treatment of malaria in eastern Indonesia.

has been actively involved with the development of the health system in the new nation of East Timor.

Collaborative TB and malaria activities in East Timor

Investigators: Paul Kelly, Vicki Krause, Kay Withnall, Nathan Zweck, Stuart Collins, Nick Anstey, Bart Currie, Chris Evans, Nelson Martins and staff of Caritas East Timor; Elio Giombini, Alex Andjaparidze, Jim Black and other WHO Dili staff; Jim Tulloch, Sergio Lobo and other Interim Health Authority, Dili staff; Einar Heldal, Jan Voskens, Frankie Loprang, Senhor Visente, Senhor Estanislaus and other Dili Central Laboratory staff

Funding: THS: WHO assessment mission, October 1999; AusAID (via WHO) to MSHR: technical assistance, November 1999–February 2000; AusAID (via WHO) to THS: technical assistance, March–June 2000

In October 1999, Nick Anstey and Kay Withnall were invited to join Vicki Krause and Chris Evans from Territory Health Services in a preliminary assessment mission to East Timor on behalf of WHO. The resulting report outlined an approach for the new territory to tackle two of their major public health problems: tuberculosis and malaria. In collaboration with Vicki Krause and Nathan Zweck of THS Centre for Disease Control in Darwin, Paul Kelly and Kay Withnall have worked to convert the mission's preliminary findings

into a wide-ranging program of tuberculosis control in East Timor. The major focus of the work has been collaboration with Caritas East Timor, WHO, UNTAET and international NGOs to establish a National TB Control Program (NTP) based on international best practice, adapting where necessary to local circumstances. Assistance has included procurement of TB medications and equipment, protocol development and planning and executing training courses.

The unit has also given technical advice on malaria, dengue fever, tuberculosis and other infectious diseases to health care providers in East Timor.

Rebuilding laboratory capacity in East Timor

Investigators: Kay Withnall, Paul Kelly, Samhari Baswedan, Senhor Visente, Senhor Estanislaus and Dili Central Laboratory staff in East Timor

Funding: UNICEF

This project arose from one of the recommendations of the THS-funded WHO assessment mission. The main objective was to refurbish the Dili Central Laboratory to allow the restoration of some of the functions undertaken by the laboratory prior to August 1999. In addition, technical assistance and training for installation and use of the equipment and reagents was provided. Sustainable benefits also included the establishment of a line of supply for reagents and equipment, identification of future training opportunities for the Dili Laboratory staff, and the establishment of a framework for future laboratory management.

In collaboration with the Central Laboratory in Dili, Kay Withnall arranged separate AusAID funding and has coordinated the development of a microbiological service for East Timor, including a microbiology training course.

As part of fieldwork in East Timor, THS and Menzies staff conducted a refresher course in Dili for tuberculosis technicians.



Papua New Guinea Project

The role of nitric oxide and other antidisease molecules in clinical immunity to malaria

Investigators: Craig Boutlis, Nick Anstey, Charles Mgone and Moses Bockarie

Funding: Tudor Foundation, Mark Nicholson and Alice Hill, NHMRC PhD Scholarship (to Craig Boutlis), with logistical support from the Papua New Guinea Institute of Medical Research (PNGIMR)

The MSHR–PNGIMR collaboration was established in 1999 with the support of the retiring PNGIMR Director, Dr Michael Alpers. The present work is based on a pilot study conducted in Papua Province, Indonesia in 1999. The aim of this collaborative project is to better understand clinical immunity to malaria, and to test the general hypothesis that nitric oxide and other molecules are produced by the body in response to infection with malaria and in turn prevent illness through their anti-disease effects. With the assistance of field workers in Madang, notably Moses Lagog and Erwin Ibam, Craig Boutlis enrolled over 200 adults and children from villages in Madang Province, between February and May 2000. Baseline and follow-up blood and urine samples were collected in the field, processed in the PNGIMR laboratory, and will be analysed at MSHR over the coming year.

Australian-based Projects

Do nitric oxide donors stop malaria parasites from sticking to blood vessels?

Investigators: Nick Anstey, Jocelyn Saunders, Estelle Gray, Craig Boutlis and Katharine Trenholme

Funding: NHMRC

In collaboration with the Molecular Parasitology Unit, we are examining whether nitric oxide, an important molecule made by the body, prevents processes linked to the pathogenesis of severe and cerebral malaria. So far, we have shown that nitric oxide makes cells lining blood vessels less sticky, despite being stimulated by molecules that are known to make them very 'sticky' in severe malaria. It also prevents malaria-infected red cells from sticking to these cells. We are also looking at how nitric oxide stops white cells from making disease-causing molecules like TNF. These, and our related field studies, are important in understanding the potential role of nitric-oxide-related molecules in protection from disease, and may have therapeutic implications.

Understanding how malaria affects the lungs

Investigators: Nick Anstey, Susan Jacups, Travis Pearson, Dale Fisher, Bart Currie, Tim Cain, Paul Marks and Graeme Maguire

Funding: The investigators, and Northern Territory Imaging

Of the tens of thousands of adults who die of severe malaria each year, a large proportion die as a result of the disease making their lungs 'leaky' causing them to fill with fluid. There is no specific treatment available for this grave complication. How and why this happens is not well understood. Until it is understood, it will be difficult to design specific treatments. We have, thus, undertaken a number of studies of lung function and inflammation in patients with malaria presented at Royal Darwin Hospital. Preliminary data suggests mechanisms of disease that are now under further exploration.

Nitric oxide and gut damage in diarrhoeal disease

Investigators: David Brewster, Renata Kukorozovic, Estelle Gray, April Bright, Antje Haase and Nick Anstey

Funding: NT NHMRC Centre for Clinical Excellence, NIH

The project is collaborating with David Brewster's team based at the Northern Territory Clinical School (NTCS) of Flinders University on their studies of gut damage in gastroenteritis and tropical

enteropathy, both major problems in Top End Aboriginal children. We have measured nitric oxide production as both a marker and mediator of inflammation in children with and without diarrhoeal disease. Results show extremely high levels of nitric oxide production in gastroenteritis, which is strongly associated with the potassium depletion found in the sickest children. Examinations are now under way (being measured at the NTCS) as to how nitric oxide production relates to the amount of gut damage, the infecting organism, and how the rate of decline relates to clinical recovery. Similar studies will be undertaken as part of forthcoming NTCS trials examining whether different feeding formulae hasten recovery of gut damage and inflammation.

Genes protecting from severe malaria

Investigators: Grant Morahan, Maurine Hobbs, Don Granger,

Brice Weinberg, Emiliana Tjitra, Craig Boutlis and Nick Anstey

It is not known why some people infected with the malaria parasite contract life threatening or fatal malaria and why others just get a febrile illness. We are collaborating with colleagues at the Walter and Eliza Hall Institute, Duke University and the University of Utah, to examine whether novel genetic variations protect against or predispose to the development of severe and cerebral malaria. This is important in understanding mechanisms of protection from severe disease, the design of vaccines, and in designing prophylactic and treatment strategies to prevent death from malaria.

Renal Unit

The last year has seen several important projects come to fruition, the near-completion of two theses, some publications and many presentations — at national and international meetings — especially by our graduate students. Projects currently underway are described below.

A Community-based Study of Renal Disease and Evaluation of the Treatment Program on the Tiwi Islands

Investigators: Wendy Hoy, Zhiqiang Wang, Jiqiong You, Phillip Baker, Andrew White, Gurmeet Singh, Stephen McDonald, Alan Cass and Angela Kelly

Funding: NHMRC, Rio Tinto, Australian Kidney Foundation, Servier Australia, Australian Kidney Foundation, Australian Pharmaceutical Association, Janssen Cilag

Collaborators: John Bertram (Monash University)

The study has seen the delineation, for the first time, of the natural history of renal disease in Aboriginal people, and determinants of its progression. With this information in hand, we will be able to evaluate changes in disease behaviour over time, and the effects of interventions. We have also shown in greater detail the powerful predictive value of increasing albuminuria for premature natural death, which has powerful diagnostic and therapeutic implications. Nearly all the excess risk of natural death in Tiwi adults is marked by pathologic albuminuria.

This year has also seen the publication of the results at two and three years of the Tiwi Kidney Treatment Program. This program has centred on the use of the long-acting angiotensin converting enzyme inhibitor perindopril (Coversyl, Servier), vigorous blood pressure control and attempts at better metabolic management



Erwin Ibam at work in MSHR International Health Program's malaria project at the Papua New Guinea Institute of Medical Research.

for people with diabetes and renal disease or diabetes and high blood pressure. Of the participants enrolled, the numbers needing dialysis and dying from natural causes were reduced by about 50% at three years, when compared with a historical control group. Community trends in dialysis commencement and death confirm these estimates. No Tiwi person has started dialysis in the last 18 months, down from a peak of five per year in 1994–95. We thank Servier, Rio Tinto and the Australian Kidney Foundation for their support for this program.

Outreach Program

Investigators: Wendy Hoy and Kiernan McKendry

Funding: OATSIH, Rio Tinto

On the basis of the findings from the community-based study of renal disease and evaluation of the treatment program on the Tiwi Islands, Dr Wendy Hoy has designed this program to extend the principles of heightened awareness and better management of chronic diseases to other Aboriginal communities. These 'diseases' include diabetes, high blood pressure, cardiovascular disease and renal disease. They are intimately related and share a broad menu of risk factors. The diseases are easily diagnosed, and exquisitely susceptible to intervention. The 'action' arm is placed in a company called Kidney Disease Research and Prevention, which works closely with THS and independent Aboriginal health care organisations. Evaluation is an essential and integral part of this program. We will place the epidemiological profiling and process and outcomes analyses within the Renal Unit at Menzies. Thus far, contracts have been signed and/or negotiations are well advanced, with Daly River, Boroloola, Port Keats and Katherine West, and we are evaluating opening an operation on the western Cape in Queensland.

An Evaluation of the Association of Streptococcal Infections and Renal and Cardiovascular Disease with Chronic Renal Disease

Investigators: Andrew White and Zhiqiang Wang

Funding: Australian Kidney Foundation, Rio Tinto

Collaborators: Katie Coles (University of Western Australia)

As well as streptococcal infections, chlamydia, helicobacter and organisms causing gum infections are under evaluation for potential association with chronic renal disease and cardiovascular disease. Results should be analysed by the end of 2000.

Morphologic Studies of Renal Disease

Investigators: Wendy Hoy, Alan Cass and Zhiqiang Wang

Funding: NHMRC and Janssen Cilag

Collaborators: John Bertram, Kelli Johnson and Richard Young (Monash University) and Michael Hughson (Jackson, Mississippi)

In this international study, we are analysing the contributions of nephron underendowment and compensatory hypertrophy to renal disease susceptibility in high-risk populations. We are collating a series of biopsies of Aboriginal people with clinical renal disease, and counting and sizing glomeruli in autopsy kidneys. Trends will soon emerge, as a substantial number of samples from caucasians in the USA and Australia, and of USA Blacks and Australian Aborigines have already been studied, representing the largest and most varied series of glomerular counting in the world.

Graduate Student Reports

Two of our graduate students are finishing this year, and will submit their theses by the end of July. Dr Jiqiong (Judy) You is doing a Master's degree in Research through MSHR/NTU with a Menzies scholarship, and Mr Philip Baker, PhD student is on a NHMRC scholarship, working collaboratively through Menzies and the Social and Preventive Medicine Department at the University of Queensland. Our other graduate students are Dr Gurmeet Singh and Dr Andrew White, both paediatricians and PhD students supported by Rio Tinto through the Australian Kidney Foundation, Dr Alan Cass, renal specialist and PhD student with a scholarship from the Kidney Research Centre at the New Children's Hospital in Sydney, and Dr Stephen McDonald, renal specialist and PhD student with an NHMRC scholarship.

Costs of maintaining people with terminal kidney failure on dialysis

Investigator: Judy You

Funding: MSHR scholarship

Collaborators: Health Economics Division, THS

In a study of the 167 people who received hemodialysis for chronic renal failure in the two year interval 1996–97, and 1997–98, expenditure was calculated at \$12.8 million. The annualised average cost per person for haemodialysis treatments alone were about \$76,000, and an additional \$19,000 was spent on intercurrent hospitalisations per person per year. Aboriginal people constituted 63% of these people: they were sicker than non-Aboriginal people, hospitalised more frequently, and moved much less quickly onto other forms of treatment, such as peritoneal dialysis and transplantation. These figures provide cogent argument for substantial investments in community-based strategies to prevent kidney disease, to diagnose it earlier and to treat it vigorously to retard its progression to kidney failure. Our Tiwi model showed this is easily achieved, with huge cost savings. Judy has also made an important contribution to the formulation by THS of novel 'Health Benefits Groups' for renal disease.

Phil Baker is ready to submit his thesis on the cost-effectiveness of the Tiwi renal disease treatment program. He estimates (using Judy's data) that the program saved between \$800,000 and \$4.6 million in dialysis costs alone in its first three years. The average yearly cost of treating an individual in the first two years was about \$1,250. He estimated that for every 25 people treated over that two-year period, one case of renal failure was avoided.

Andrew White is continuing his study of the contribution of streptococcal infections and post-streptococcal glomerulonephritis (PSGN) to chronic renal disease. He has found that, among Tiwi people examined in our screening program in the mid to late 1990s, albuminuria (a marker of kidney damage), was six times more common in people who had had PSGN during epidemics in 1980 and 1987, compared with people who had not been afflicted. The 'hamburger' study is now underway in these cohorts of teenagers and young adults, to measure renal functional reserve, which might reflect additional subtle degrees of chronic kidney damage. Andrew is also examining whether antibodies to group A streptococcal M peptides might correlate with a history of PSGN in these cohorts, and with kidney function in the broader Tiwi population. These studies are important,

because they suggest that a large proportion of kidney disease in this population will be eliminated as rates of skin sores, scabies and PSGN fall.

Gurmeet Singh, in collaboration with Andrew, has conducted ultrasound studies of kidneys in the Tiwi Islands. They have demonstrated that structural abnormalities detected by ultrasound are rarely an explanation for asymptomatic and isolated haematuria commonly found in this population. This is important information for practitioners, who often order this test, with its considerable logistic and financial expense, as part of the routine evaluation of kidney disease.

Following the work of Dr Janine Spencer, Gurmeet and Andrew have also demonstrated that kidney size corrected for body surface area is related to size at birth. People who were small at birth have smaller kidney volume and thinner (more sausage-shaped) kidneys. This suggests that intrauterine growth retardation might result in development of fewer filtering units or nephrons in foetal kidneys, which, in turn, could provide the mechanism for the increased susceptibility of low birth weight persons to kidney disease. (This has already been described by our unit).

Gurmeet is also studying kidney size and measuring kidney function in the cohort of Aboriginal children being followed by Dr Sue Sayers to study the foetal origins hypothesis from an additional perspective. This cohort of 680 children has accurate gestational age assessments and birth dimensions and is now aged 10–12 years. Four hundred children have been traced and evaluated to date.

Stephen McDonald is finishing his PhD studies into the relationships between the high rates of renal and cardiovascular disease in Aboriginal communities in the Top End. Highlights have been his use of ultrasound to measure carotid artery wall thickness (a surrogate measure of atherosclerotic cardiovascular disease) in remote communities. Early results suggest that markers of inflammation, mild kidney disease and vitamin deficiencies might be associated with atherosclerotic disease, in addition to the traditional risk factors of hypertension, diabetes and high cholesterol. Stephen is also exploring links between cardiovascular and other diseases in collaborative projects with Dr Graeme Maguire (respiratory disease) and Drs Bart Currie and Chris Burns (kava and substance abuse). Other projects include analysis of the utility of other methods of non-invasive assessment of vascular tone, an ongoing analysis of the predictive value of renal disease for subsequent mortality and morbidity (with Dr Hoy), and collaboration in evaluation of potential genetic markers of risk for renal and cardiovascular disease. Stephen is also lending support for clinical research projects within Royal Darwin Hospital Renal

Unit, especially the ultrasound assessment of flow in fistulas constructed for haemodialysis and pharmacokinetics of cyclosporin.

Alan Cass is examining the social and economic determinants of health, focusing on chronic renal failure in Indigenous Australians. He aims to explain the pathways that link socio-economic disadvantage with the pathological processes that result in renal failure. He has mapped the incidence of renal failure in Australia, finding significant variation at a regional level, with the highest

incidence being in Indigenous people from remote regions. His initial ecological analysis shows strong associations between end-stage renal disease and high unemployment, poor education, low income and house crowding. He is establishing cross-disciplinary collaborations to develop a model of social

and cultural factors that impact upon the development of renal disease. He continues to be involved in the local arm of the study of glomerular number and size, described previously. Alan has won the Early Career Award from the International Society of Behavioral Medicine 6th International Congress 2000, and the Young Investigator Award in Adult Medicine Royal Australasian College of Physicians 36th Annual Scientific Meeting 2000 for his presentations on renal disease and socioeconomic gradients. He also received his Graduate Diploma in Clinical Epidemiology from the University of Newcastle this year.

Biostatistical Support

Dr Wang has continued to be invaluable to our unit, lending a clarity and precision to everything we do, supporting and guiding the students, performing many of the primary analyses of our community-based datasets, and pursuing some areas of independent investigation. Linking two datasets, he has shown that both obesity and underweight are risk factors for mortality in Aboriginal adults. His findings highlight the fact that underweight is an important indicator of poor health status in adults as well as children, and should lend some balance to our dialogue about adult weight and health. Dr Wang has also developed and reported some novel statistical tools for assessing confounding effects and for building multivariate models in epidemiological studies.

Collaboration

Further analysis of potential genetic markers of cardiovascular and renal disease risk are proceeding in collaboration with the Cardiovascular Genetics Unit at the Prince of Wales Hospital (Drs Warren Walsh and Xing Li Wang) and the Endocrine Unit at the Austin Hospital in Melbourne (Dr Sianna Panagiotopoulos and Dr George Jerums).

MSHR Renal Unit studies suggest that a large proportion of kidney disease in the Tiwi population will be eliminated as rates of skin sores, scabies and post-streptococcal glomerulonephritis fall.

Support Services Group

Support Services Group (SSG) provides the facilities, services and infrastructure necessary to achieve the School's research and education objectives. Headed by the School's Business Manager, the group has provided wide ranging support to the many research projects and over 60 full-time researchers operating in central Australia, the Tiwi Islands, Indonesia, East Timor, Papua New Guinea, the Kimberley region of Western Australia, and across the Top End of the Northern Territory. The Support Services Group also provides direct support to the Cooperative Research Centre for Aboriginal and Tropical Health (CRCATH), for which the School is the centre agent of the joint venture.

Grant Lindsay was recruited to the Business Manager position in December 1999 as replacement for Dr Ken Sawers who had headed the group from November 1998 to November 1999. This position is charged with providing high level service support to the School's research activities to ensure that its reputation as an international research institute is maintained.

Laboratory Services

Support Staff: Sue Hutton, Jann King, Karl Gundersen (CRCATH Trainee), Heather Mackintosh, Jo Bex and Daniel Gal

With some 25 funded projects and 20 full-time researchers requiring support, the dedicated team in Laboratory Services have kept very busy. Karl Gundersen successfully completed his CRCATH laboratory technician traineeship, ahead of schedule, and went on to support Dr Sriprakash's team working on group A streptococcus, before leaving to join the Northern Territory Police force. Major equipment purchases included a flow cytometer, fluorimeter, centrifuge, and a plate reader.

Communication and Information Systems

Staff: Abron Lukitsch, James McBroom, Tony House, Pavel Stulik, David Arthur, Robyn Liddle, Mandy Noble, and James McArthur

The 1999–2000 year saw a major upgrade of the School's information technology hardware, and increases to the capacity of the supporting servers with the addition of a number of Sun Sparc 10s and the recent acquisition of an Enterprise 3500 server. A major task of the team was the checking of both computer hardware and software for problems related to year 2000 compliance, or Y2K. From November 1999, systems were upgraded when potential problems were found. As a result, the arrival of the new year had little impact at Menzies.

Administrative Support

Staff: Debra Davis, Gabrielle Falls, Tracey Burke, Anastasia Beare, Sheila Taylor, Khalee Press (CRCATH Trainee)

The School is well represented by the smiling and helpful front desk team ensuring that all the administrative requirements of staff, students and visitors are met. The changes to various research grant arrangements, particularly NHMRC, were extremely well managed by our Grants Administration Officer, Gabrielle Falls. This has ensured that our researchers have been able to keep on top of the new requirements, and promises to ensure that the number of School projects and related grant funding continues to increase over the next year. Gabby was also responsible for production of the School's annual report and organisation of the Annual Oration,



Photograph courtesy David Hancock & CRCATH

Peter Thomsen films Joe Fitz as part of Joe's work on Katherine West Coordinated Care Trial. Menzies has upgraded its communications hardware and software as more alternative technologies are adapted in a bid to inform communities at every stage of research.

presented by former Director, Professor John Mathews.

Finance and Accounting

Staff: Yolanda Jackson, Margarita Bassett and Judy Johnson

A major new challenge for the accounts team over the year has been preparations for the introduction of the New Tax System. This was achieved whilst maintaining financial management of over 130 research grants, managing the School's budget of almost \$7 million, and providing financial management support to the CRCATH. Indicative of the professional support provided by this team is the continuing unqualified audit report on the financial statements and procedures of the School issued by the Auditor General of the Northern Territory.

Human Resources

Staff: Catheryn Young and Judy Johnson

The personnel team has continued to maintain the high standard of management required to maintain our diversified workforce. This has been achieved in a period of high staff turnover and also increases to research staff, PhD and Master of Public Health students in line with increased research and teaching activity. The team has managed the recruitment and induction of over 70 new personnel and some 50 exiting personnel, in addition to maintaining the requirements of existing staff. The team also assists the academic administration team in the provision of support for visiting lecturers to the Master of Public Health residentials and short courses, as well as the 20 or so visiting researchers involved with our collaborative programs.

Building Management

Staff: Ken Sawers, Grant Lindsay and Sue Hutton

Dr Ken Sawers and Sue Hutton were intimately involved in finalising the lease agreement for the Combined Health Building between the School and the Northern Territory Government, with signatures being exchanged in November 1999. As an adjunct to this, a shared tenancy agreement was also struck between the School and Queensland Medical Laboratories, who occupy one wing of the building. The increases in staff numbers and research activity over the last year has resulted in occupancy of the building reaching near capacity, with thoughts now being given to better



In September 1999, MSHR's loading dock was transformed into a reception centre for East Timor refugees awaiting treatment and immunisation. Many staff and students of the School made a significant contribution to the Territory Health Services-led delivery of health care to the refugees.

utilisation of space and to future expansion requirements.

The efficiency work of previous years is also bearing fruit with building operating costs actually reducing despite the increased usage. Measures such as implementation and supervision of the Greenhouse Emissions Management Policy and a reduction in numbers of telephones to meet need have all paid off in reduced running costs. Future efforts will look at ways to increase productivity and initiate a detailed review of IT architecture and management.



MSHR accommodation is now at capacity. Nick Anstey tries to consolidate his papers and files into one office!

Education and Training Unit

Education Opportunities at MSHR

The Menzies School of Health Research is committed to increasing the opportunities available for postgraduate training for health professionals and for health education and training for Aboriginal people and the wider Northern Territory community.

The research and education programs of the School are particularly concerned with Aboriginal health issues, health in rural and remote areas and in tropical or developing countries. Our education programs are funded from both external sources and from MSHR core funds.

Postgraduate Study

The academic standing of the School was originally derived from its status as an extramural department of the Faculty of Medicine of the University of Sydney. Since then, our postgraduate students have enrolled at a number of other universities including the Northern Territory University and Flinders University of South Australia.

Degrees in public health are accredited by the Northern Territory University and are delivered by Menzies. The multi-disciplinary nature of the program and the diverse backgrounds of the many people involved means that the program contributes to the broad view of public health that is maintained by the School.

Postgraduate research degrees

Postgraduate research students are supervised by senior staff of the School who hold academic titles with either University of Sydney, Flinders University of South Australia or the Northern Territory University. These include Professor David Kemp, Dr Ross Baillie, Dr Joan Cunningham, Associate Professor Bart Currie, Dr Peter d'Abbs, Dr Wendy Hoy, Dr Dorothy Mackerras and Dr KS Sriprakash.

Enrolments

In 1999–2000, the total enrolled in research degrees was 25:

Bachelor of Medical Science	1
Bachelor of Science (Hons)	1
Doctor of Philosophy	15
Master of Public Health	3
Master of Science	5

Graduands

There were a total of nine graduands:

BSc (Hons)	3
Master of Science (MSc)	1
Doctor of Philosophy (PhD)	5

Funding support

Current funding for students is derived from scholarships from the following organisations:

Menzies School of Health Research
National Health and Medical Research Council
Australian Kidney Foundation
Cooperative Research Centre for Aboriginal and Tropical Health
New Children's Hospital

Public Health Teaching

The courses comprising the Public Health Coursework Program are offered through distance education and continue to attract quality students with a variety of backgrounds. For the first time, enrolments included international students with one of these students travelling to Darwin and the other two electing to study in their own countries. In another first, we have three students undertaking their studies on a full-time basis.

Enrolments

At the end of Semester 1 2000, there were 51 enrolments which includes 33 continuing students, 18 new students and two cross-institutional enrolments. Additionally, three students audited one or more of our subjects and two students are due to submit their treatises by the end of March, signifying the end of their studies in the Master of Public Health.

Graduands

1999:

Graduate Diploma in Public Health	5
Master of Public Health (Treatise)	2

End Semester 1 2000:

Graduate Certificate in Public Health	1
Graduate Diploma in Public Health	3
Master of Public Health (Coursework)	4
Master of Public Health (Treatise)	1

The Coursework Management Committee is continuing to work towards re-accrediting the program in 2001 and is guided by the findings of the review of the Public Health Education and Research Program. This committee comprises Dr Ross Bailie (Chair), Ms Sue Hunter, Dr Joan Cunningham, Dr Peter d'Abbs, Mrs Bronwyn Carson and Dr Dorothy Mackerras.

New Developments

The possibilities of developing new courses have been investigated in consultation with staff of the Northern Territory University. A Bachelor and a Graduate Diploma of Health Sciences or Health Program Management are currently under consideration.

Short Courses/Workshops

Dr Paul Glasziou presented a successful workshop, How to Practice Evidence-based Medicine, in April. Two short courses have been scheduled for later in the year.

Thesis Topics of Research Students 1999–2000

Doctor of Philosophy (PhD)

Jillian BARCLAY	Royal Flying Doctor Service: The nurses' story
Craig BOUTLIS	Investigation of relationship between nitric oxide and pathogenesis of malaria with respect to (i) antiparasitic effects and (ii) antidisease effects
Alan CASS	Renal morphology in Aboriginal Australians
Alan CLOUGH	Health effects of heavy use of kava and alcohol in eastern Arnhem Land
John CONDON	Health services and other factors which effect cancer survival in Aboriginal people in the Northern Territory
Ofra FRIED	Cross-cultural issues affecting the medical management of terminally ill Aborigines in central Australia
Pearly HARUMAL	The molecular biology of scabies
Rowena IVERS	Quit Smoking health promotion materials for Aboriginal people
Tai Pong (Daniel) LAM	A study of the effects of land migration on the health of the water people in Hong Kong and implications for clinical practice
Graeme MAGUIRE	Chronic lung disease in Aboriginal Australians
Stephen McDONALD	Correlation of vascular and renal disease with their risk factors in an Aboriginal community
Gurmeet SINGH	The impact of intrauterine and infant nutrition on the development of the kidneys in Aboriginal children
David THOMAS	A history of Aboriginal health research
Emiliana TJITRA	Clinical features and predictors of malaria: Comparison between areas of different endemicity in east Indonesia
Andrew WHITE	Antecedents of renal and cardiovascular disease in Aboriginal children

Theses under examination

Mary DORLING	All the prostitutes come from Java: Structure, organisation and diversity in the sex industry in Kupang, Nusa Tenggara Timor and risk for HIV and other sexually transmitted diseases
Richard WEIR	Classification and identification of viruses isolated from mosquitoes in the Northern Territory, 1982–92, using several serological techniques

Theses awarded

Megan HIBBLE	Molecular characterisation of <i>Streptococcus pyogenes</i> in the Northern Territory
Deborah HOLT	The identification of the clag gene family of <i>Plasmodium falciparum</i> by positional genetics
Peter MORRIS	Health services for the improved management of otitis media in an Aboriginal community
Susan SAYERS	Risk factors and outcomes of Aboriginal infants born at the Royal Darwin Hospital
Heidi SMITH-VAUGHAN	Typing of bacterial strains colonising the nasopharynx of infants in the Top End of the Northern Territory

Master of Public Health (MPH) (Research)

Sreedevi AITHAL	Otitis media and speech perception in cross-language context
Venkatesh AITHAL	Behavioural and electrophysiological studies in binaural hearing with Aboriginal children
Nandor JAROSS	Diabetic retinopathy in the Top End of Australia in the light of ophthalmic services in the Top End: An analysis of current and future need in relation to current and predictive prevalence and pattern of eye disease
Katherine KEMP	Cross-cultural communication in the health care setting, in particular, intensive care

Master of Science

Armando DEL VECCHIO	The fibronectin binding protein, PrtFII, the streptococcal invasive diseases: Implications for Aboriginal children
Jodie LOW CHOY	Veterinary aspects of melioidosis
Robyn MARSH	Towards a simple and rapid test to detect group B streptococcus in labour
Danielle SMITH	Child growth promotion
Jiqiong YOU	Component-cost analysis of maintaining renal dialysis Aboriginal patients in the Northern Territory

Student Cameos

Dr Ofra Fried has been completing her PhD thesis on developing understanding of cross-cultural issues for palliative care in central Australia. This has resulted in several work-related benefits including the design and production of a poster, an educational book and other educational materials for the Central Australian Palliative Care Service. This project, *Many Ways of Caring: The Central Australian Aboriginal Paintings Project*, has attracted considerable interest. A conference report was published in the Palliative Care Association's newsletter and another will be published in the *Journal of Rural Health*. Dr Fried presented a paper and a poster at the Australian Palliative Care Conference in Brisbane in October 1999.

Ms Angharad Hayter is currently working on a project for the completion of the Bachelor of Medical Science degree that she undertook after deferring the final year of her medical degree at the University of Melbourne. The study is an extension of the child nutrition project in a remote Aboriginal community in central Australia that Ilan Warchivker has been working on for some time now. The study will look specifically at:

- Clinic attendances for diarrhoea illness and the growth status (as assessed by z-scores) of children aged 0–36 months.
- The impact of alerting the community to child growth problems and the implementation of the child nutrition program on growth and diarrhoeal illness.
- The effect of describing the growth of these children using z-scores calculated from the World Health Organization interim chart for breastfed infants instead of the standard chart.

The study should be completed by the end of this year.

Deby Holt was awarded the degree of PhD for her thesis titled *The identification of the clag family of Plasmodium falciparum by positional genetics*.

Daniel Lam, a PhD student based in Hong Kong is preparing a thesis on the impact of land migration on the health of 'water people' under supervision of Peter d'Abbs, which has progressed to a complete preliminary draft stage.

David Thomas has made steady progress on his PhD thesis in which he examines the representation of Aboriginal people and Aboriginal health issues by researchers, as recorded in the *Medical Journal of Australia*.

Rowena Ivers has conducted further research for her PhD on smoking-cessation programs for Aboriginal communities.

Joanne Manski-Nankervis achieved Bachelor of Science (Hons I).

Katherine Kemp is nearing completion of her study on cross-cultural issues associated with intensive care.

Jeffrey Standen completed a Master of Public Health dissertation, supervised by Peter d'Abbs, entitled *A Study of an Aboriginal Environmental Health Worker Program in the Top End of the Northern Territory*.

Debra Singh-Ahderom successfully completed her dissertation on *Factors That Enhance The Role of Women in Bahai Community Health Worker Programs*.

Angela Melder is nearing completion of Master of Public Health dissertation in which she examines the expectations and understandings of researchers and research subjects respectively in relation to 'compliance' in a randomised control trial.

Publications 1999–2000

Refereed Publications

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Grants and Awards

New Grants Received 1999–2000

Funding body	Recipient	Project	Duration	Funding
Australian Academy of Science RI 146.1	KS Sriprakash	Role of extracellular matrix proteins and their receptors in chlamydial adherence and invasion	2000	\$7,550
Australian Kidney Foundation E1 2000	KS Sriprakash	Benchmark microplate reader with associated software and interface cable set	1999–2000	\$14,900
Central Australian Division of General Practice Inc	B Boughton	Protocol development for the central Australian Division of General Practice Inc	2000	\$12,000
Channel 7 Childrens Research Foundation (SA)	KS Sriprakash	Architecture of a pathogenicity island in the group A streptococcus genome and tissue tropism for infection	1999–2000	\$27,000
Colonial Foundation	SM Sayers	Perinatal influences on Aboriginal child health and potential markers of chronic adult diseases	2000	\$15,000
Community Health and Anti-Tuberculosis Association	GP Maguire, BJ Currie, N Bengier	Chronic lung disease in Aboriginal Australians: Factors in aetiology and treatment (year 2)	2000	\$29,136
Department Corporate and Information Services D00-0185	R Bailie	Analysis of environmental health survey data	2000	\$24,999
National Health and Medical Research Council 001522	KS Sriprakash, DJ Kemp	Sigma refrigerated benchtop centrifuge and specific rotors	2000	\$17,000
National Health and Medical Research Council 008120	C Boutlis	Scholarship: The role of nitric oxide in clinical immunity to <i>Plasmodium falciparum</i> and <i>Plasmodium vivax</i>	2000	\$25,497
National Health and Medical Research Council 008502	R Ivers	Scholarship: Tobacco programs for Indigenous people in the Northern Territory	2000	\$25,497
National Health and Medical Research Council 100009	R Bailie, K Edmond, AJ Leach	Improved hygiene measures for Australian child care centres: A randomised controlled trial	2000–02	\$63,743 \$337,603 \$30,370
National Health and Medical Research Council 100010	R Bailie, AJ Leach	Amoxycillin for persistent nasal discharge in rural and remote Aboriginal children: A randomised controlled trial	2000–01	\$185,174 \$40,621
National Health and Medical Research Council 1999 33824	AJ Leach, A Yonovitz, H Koops JD Mathews	Improving medical services for rural and remote Aboriginal children with chronic suppurative otitis media	2000–03	\$90,133 \$90,133 \$90,133

Funding body	Recipient	Project	Duration	Funding
Office for Aboriginal and Torres Strait Islander Health 1999/034182	PS Morris	Recommendations for clinical care guidelines in the primary management of otitis media in Aboriginal and Torres Strait Islander communities	1999–2000	\$22,813
Ramaciotti Foundations	BJ Currie	Portable advanced lung function testing equipment	2000	\$12,000
Ramaciotti Foundations RA023/99	KS Sriprakash, DJ Kemp	Electroporator: An essential instrument for molecular genetics studies	2000	\$12,000
Ramaciotti Foundations RA024/99	SF Walton, G Morahan	Defining the protective immune responses to scabies	2000	\$12,000
The Wellcome Trust 059475	DJ Kemp, NM Anstey, AJ Leach, KS Sriprakash, JD Mathews	Enterprise-3500 Server Package and part salary for a computer modeller	2000–02	\$136,351 \$44,975; \$47,388
UNICEF	K Withnall	Support for re-establishment of Central Laboratory, Dili, East Timor	2000	US\$70,000

MSHR total grant income 1999–2000

Commonwealth Government grants	\$1,568,411
Northern Territory Government grants	\$522,476
Non-government grants	\$676,409
Overseas grants	\$455,874
CRCATH	\$1,092,764

1999–2000 Awards

Australian of the Year: Sir Gustav Nossal AC CBE FAA FRS

Many Australians were born far from here in other countries, on other continents. Thus, being Australian cannot be defined by any physical quality. It's not skin colour or facial features. It's not language or religion. It's a spirit — hard to define, but impossible to resist.

It is the spirit that captured the heart and fired the imagination of seven-year old Gustav Nossal when he arrived in the Lucky Country, wide-eyed and hopeful, in 1939.

Here, he studied hard, became an Australian citizen and through hard work and determination, reached the pinnacle of his career. Along the way he has improved the lives of countless people and made a remarkable contribution not only to science and technology, but to his country as well.

His world-renowned work helped build the foundations of modern immunology — an exacting field of science that he helped define for more than 30 years. His confirmation of Burnet's theory of antibody formation was a turning point in the medical profession's understanding of the immune system.

In 1977 he was knighted for his ground-breaking work. Between 1986 and 1989 he was President of the International Union of Immunological Societies. In 1989 he was made a Companion of the Order of Australia.

Sir Gustav has been in the front lines in the global battle against disease through his direct involvement with the World Health Organization since 1967.

Closer to home 'Sir Gus' has helped shape the scientific affairs

of Australia for three decades. As President of the Australian Academy of Science he has provided government with valuable input to policy making. As a public commentator about scientific and medical issues he has inspired continued popular and political interest in science and its application for the betterment of our lives and our country. His engaging lectures, radio and television appearances continue to attract bright young minds to the new frontiers of science.

Retirement has not slowed the pace of life for this energetic Australian. He is Chairman of the Strategic Advisory Council for the Bill and Melinda Gates Children's Vaccine Program, USA, which was initiated to help ensure that children in developing countries are immunised against major killer diseases. He has been instrumental in getting the initial funds of \$100 million raised to \$US1.04 billion to be spent over the next five years. This means that millions more lives can be saved from diseases that are easily prevented.

Sir Gustav is also involved in many other organisations that allow him to reach people in many areas of the community. These include Chairman of the Centenary of Federation Victoria Committee, Deputy Chairman of the Council for Aboriginal Reconciliation and Deputy Chairman of the Advisory Council of The Global Foundation — the purpose of



Sir Gustav Nossal AC CBE FAA FRS

which is to promote Australia's international interests. In addition to these commitments Sir Gustav is also heavily involved in charitable work and is patron of a number of organisations.

Sixty years ago young Gus Nossal, a wide-eyed migrant boy, first set foot on Australian soil. A lifetime later, Sir Gustav Nossal is an outstanding example of the spirit embodied in the Australian of the Year award.

Reproduced with the permission of the National Australia Day Council.

Louise Martin

On Friday, 12 November 1999 the Northern Territory Young Achiever Awards were held at the Carlton Hotel in Darwin. Louise Martin, a Bachelor of Science (Hons) student with the Menzies School of Health Research enrolled through the Northern Territory University during 1997, was nominated for the Science and Technology division by Quota International of Fannie Bay.

Louise was nominated for the success of her Honours project which aimed to establish why the bacterium, *Haemophilus influenzae*, was able to persist for long periods in the respiratory tract of an Aboriginal infant. Specifically, she looked at a particular structure on the bacterium's surface which is known to change structurally in order to evade the host's clearance mechanisms. In order to do this, she had to develop advanced molecular biological techniques. The findings made were of international significance because, for the first time, it was shown that changes were occurring in the bacterium as it resided in an infant colonised over a long period of time.

Louise, now a medical student with the Flinders University of South Australia, won not only her division of Science and Technology, but also the overall Northern Territory Young Achiever of the Year award. As one of eight finalists around the country in her division, she was then short-listed for the National Young Achievers finals held in Canberra on 21 January 2000. Unfortunately, on this occasion she was not the division or overall winner; however with competition like Kirsten Benkendorff's marine-based antibiotic discovery, and Ian Thorpe's world-record-breaking swimming times, we can argue that she was in the best of company.

Louise would like to thank Quota International of Fannie Bay for their nomination and attendant support at both the Northern Territory and national awards, and the Menzies School of Health Research and Cooperative Research Centre for Aboriginal and Tropical Health for assisting with her airfares to attend the Northern Territory awards.

Robyn Marsh

Group B streptococcus (GBS) is a leading cause of neonatal morbidity and mortality. GBS is often found in vaginal flora, and infants exposed to the organism during labour can go on to develop life-threatening illness. The incidence of neonatal GBS infection has been reported as 1.7 per 1,000 live births in the non-Aboriginal population and 5.2 per 1,000 live births in the Aboriginal population. Of babies that are surface colonised at birth, 1–2% will go on to develop clinical disease.

Robyn Marsh, a Master of Science (Research) student with



Louise Martin (with trophy) receives her award as Northern Territory Young Achiever of 2000. With her is (left to right) The Hon Dr Neil Conn AO, the Hon Denis Burke MLA and Mr Michael Ryan.

Menzies School of Health Research and current recipient of a CRCATH studentship, was recently awarded a Queen's Trust for Young Australians grant to spend three months studying with Professor Singh Chhatwal at the GBF German Research Centre for Biotechnology. Robyn's research is aimed at developing a simple rapid test that could determine maternal intrapartum GBS colonisation within one to two hours. Such a test would assist doctors in deciding which mothers require intrapartum prophylaxis to prevent GBS transfer to the infant.

Several tests have already been developed to detect GBS in vaginal flora, however, they lack the sensitivity required to detect GBS in all colonised mothers. Robyn's study aims to develop a test that possesses the sensitivity and specificity necessary to determine GBS colonisation in all women.

Professor Chhatwal's research group at the GBF German Research Centre for Biotechnology has identified two GBS-specific proteins which possess great potential as diagnostic tools. Robyn proposes to investigate the proteins for use in a PCR-based or ELISA-based test, as well as to explore the possibility of using specific antibodies against these proteins in a latex agglutination test.

We look forward to hearing of her progress over the coming months.

Joe Fitz

Joe Fitz' award for Trainee of the Year as part of NAIDOC Week was a highlight of 1999–2000 for MSHR. Joe, then trainee with the CRCATH based at Menzies, was a finalist in the Northern Territory Employment and Training Authority's Vocational Training Awards for 1999. Since completing his traineeship with the CRCATH, Joe has joined the Health Social Sciences Unit at MSHR as a project officer.

Alan Cass

Alan Cass has won the Early Career Award from the International Society of Behavioral Medicine 6th International Congress 2000, and the Young Investigator Award in Adult Medicine Royal Australasian College of Physicians 36th Annual Scientific Meeting 2000 for his presentations on renal disease and socioeconomic gradients. He also received his Graduate Diploma in Clinical Epidemiology from the University of Newcastle this year.

Staff List

MSHR Staff 1999–2000

Name	Qualifications	Position title	Start date if within financial year	End date if within financial year
ADSETT Suzie	RN	Clinical Research Officer	–	05/07/1999
ALLEN Lynette	BSc (Hons), MBA, AIMM	Policy & Procedures Officer	–	07/10/1999
AMAGULA Mary	–	Project Assistant	28/09/1999	–
ANGELES Geoffrey	BAppSc	Research Assistant	–	–
ANSTEY Nicholas	MBBS (Hons), FRACP, MSc, DTM&H, PhD	Senior Research Fellow	–	–
ARTHUR David	BSc	Senior IT Officer	–	–
BAILIE Ross	MBChB, MPhil (MCH), MD (Community Health)	Senior Research Fellow	–	–
BALLINGER Deidre	–	Project Officer	31/01/2000	24/03/2000
BASSETT Margarita	–	Accounts Officer	–	–
BENGER Norma	Cert Health Prom	Research Assistant	–	–
BEX Joanne	–	Laboratory Technical Officer	15/05/2000	–
BINKS Michael	BSc	Technical Officer	–	–
BIRITUALAWUY Dianne	–	Research Officer	–	–
BOUGHTON Robert	PhD	Research Fellow	01/03/2000	–
BOVEINGTON Ruth	Cert Lab Tech, Cert Basic Secretarial	Administrative Assistant: Malaria/TB	–	–
BRISCOE Eva	–	Casual Relief Receptionist	–	12/11/1999
BURKE Tracey	–	Receptionist	–	–
CAHILL Ruth	–	Casual Research Officer	–	11/05/2000
CLOUGH Alan	BSc (Hons I), MSc, Dip Ed	Senior Research Officer	–	–
COFFEY James	–	Technical Officer	–	21/07/1999
CURNOW Jayne	–	Visiting Research Assistant	01/03/2000	–
D'ABBS Peter	BA (Hons), MA, PhD	Senior Research Fellow	–	–
DAVIS Debra	–	Executive Officer	–	19/08/1999
DEL FABBRO Letitia	Dip Arts	Clinical Research Officer	04/11/1999	16/12/1999
DEL VECCHIO Armando	AssocDip Podiatry , BSc (Hons)	Technical Officer	–	–
DONOVAN Maree	–	Visiting Administrative Assistant	25/11/1999	25/12/1999
DYER Mary	BSc (Hons), MPhil	Casual Research Officer	–	29/09/1999
EDWARDS Mandy	BAppSc (Biotechnology)	Technical Officer	–	–
FALLS Gabrielle	–	Administrative Officer, Publications/PR	–	–
FERNANDO Sylvester	–	Casual Project Assistant	16/08/1999	–
FITZ Joseph	Cert Project Officer	Project Officer	–	–
FLYNN Kathryn	B Nurs (RN), Commercial Pilot	Project Assistant	–	–
FOWLER Matthew	–	Casual Research Assistant	01/07/1999	–
GAL Daniel	BSc (Hons)	Research Assistant	05/06/2000	–
GARDINER Donald	PhD	Senior Research Fellow	–	–
GIBNEY Katherine	–	Research Assistant	02/05/2000	–
GRAY Estelle	BSc (Hons)	Technical Officer	–	–
GRINVALDS Richard	BSc (Hons) MPhil, MSc	Technical Officer	–	24/05/2000
HAMPTON Catherine	–	Administrative/Research Officer	–	31/01/2000
HARTAS Jon	BAppSc	Research Assistant	–	–
HAWTHORNE Paula	BSc (Hons)	Technical Officer	–	–
HAYHURST Bev	MPHC, BEd (Hons), DipTeach, DipTeach (Multiply-Handicapped Deaf)	Senior Research Officer	–	–
HIBBLE Megan	BSc	Research Assistant	–	06/08/1999
HOLT Deborah	BAppSc (Biotech)	Technical Officer	–	22/07/1999

Name	Qualifications	Position title	Start date if within financial year	End date if within financial year
HOUSE Tony	BMath & CompSc	IT Manager	–	–
HOY Wendy	MB BS, BScMed, FRACP	Senior Research Fellow	–	31/12/1999
HULL Irene	–	Project Assistant	–	04/08/1999
HUNTER Sue	–	Visiting Liaison Officer	26/07/1999	26/01/2000
HUTTON Susan	MSc (Med), MASM	Laboratory/Building Manager	–	–
JACKSON Yolanda	BBus (Accounting), CPA	Finance Manager	–	–
JOHNSON Judith	–	Assistant Accounts/Salaries Officer	04/10/1999	–
KATONA Mai	BA (Sociology, Admin), DipEd	Aboriginal Health Unit Manager	–	–
KELLY Angela	B HSC(RN)	Community Coordinator	–	–
KELLY Paul	MBBS, DTM&H, DA (UK), PhD, FAFPHM	Senior Research Fellow	–	–
KEMP David	BSc (Hons), PhD	Acting Director	–	–
KERINAIUA Ainsley	–	Project Assistant	–	–
KERINAIUA Carla	–	Project Assistant	–	22/06/1999
KING Jann	–	Laboratory Support Officer	–	–
KOOPS Harold	AHW cert	Research Assistant	–	03/03/2000
LALARA Paul	–	Casual Project Assistant	28/09/1999	20/12/1999
LANGLANDS Audrey	–	MPH Administrative Assistant	–	–
LAWRIE Paula	BSc	Technical Officer	–	–
LEACH Amanda	BAGSc (Hons) MAgSc, PhD	Senior Research Officer	–	–
LEYSLEY Loyla	AHW Cert, CertMatHealth, Immunis Cert	Trainee Research Assistant	–	–
LIDDLE Robyn	BBiolSc, GradDipCompSc	Database Administrator	–	–
LINDSAY Grant	BA (Mil Stud), AIMM, MAICD	Business Manager	15/12/1999	–
LOWELL Anne	PhD	Research Fellow	–	–
LUKITSCH Abron	BSc	IT Manager	–	29/07/1999
LYNCH Christine	–	Casual Project Assistant	16/08/1999	12/10/2000
MACKERRAS Dorothy	BSc, DipNutr&Diet, MPH, PhD	Senior Lecturer	–	–
MACKINTOSH Heather	BSc	Laboratory Technical Officer	06/03/2000	23/06/2000
MASTIN Julie	BATSI, BAppSc	Casual Project Assistant	–	–
MATHEWS John	BSc, MBBS, MD, PhD, FRACP	Director	–	22/07/1999
MAYO Mark	AssocDipAppSc	Laboratory Assistant	–	–
MCARTHUR James	–	Casual IT Officer	06/09/1999	–
MCBROOM James	BEcon (Hons Statistics)	Visiting Fellow in Computing/ Statistics	–	01/10/1999
MELDER Angela	BAppSc	Research Assistant	–	08/10/1999
MORLEY Sue	–	Visiting Research Officer	12/04/2000	10/02/2000
MORRIS Peter	MBBS, FRACP, PhD	NHMRC Public Health Australia Fellow	–	–
MORTIMER Elissa	BSc, DipDiet&Nutr	Project Assistant	–	30/06/2000
MUNKARA Gerard	–	Project Assistant	–	30/06/2000
MUNUNGGURR Ngarrawu	Cert Workplace Training	Project Assistant	–	01/07/1999
NOBLE Mandy	–	IT Officer	20/03/2000	–
O'DEA Kerin	BSc, PhD	Director	05/06/2000	–
O'KANE Ann	BSW, MSW	Senior Research Officer	–	16/08/1999
O'KANE Ann	BSW, MSW	Casual Senior Research Officer	23/08/1999	01/03/2000
O'SULLIVAN Kim	RN	Community Coordinator	–	09/07/1999
PATEL Ruchi	–	Technical Assistant	22/11/1999	11/02/2000
PEREZ Grace	–	Technical Officer	13/12/1999	31/12/1999
PILAKUI Monica	–	Project Assistant	–	–
PUNGUATJI Nellie	–	Project Assistant	–	14/01/2000
PUNGUATJI Victorianna	–	Project Assistant	–	15/02/2000
PURUNTATAMERI Marius	AHW	Project Officer	22/05/2000	–
RICHARDSON Catherine	DipBioRes, GradCertMgmtDevEdTrg	Academic Administrator	03/08/1999	–
RUNCIE Myfanwy	BSc (Hons), PhD	Senior Research Officer	12/04/2000	–
SAUNDERS Jocelyn	BSc (Hons), PhD	Research Fellow	–	–
SAUVERAIN Naomi	BSc	Technical Assistant	21/02/2000	–
SAWERS Ken	Phd, MEc, Dip Econ Stats, BAqEc (Hons)	Business Manager	–	02/12/1999
SCHOFIELD Jayne	–	Research Officer	–	30/06/2000
SMITH-VAUGHAN Heidi	PhD, BSc	Research Officer	–	–
SRIPRAKASH KS	BPharm, MPharm, PhD	Principal Research Fellow	–	–
STACEY Natasha	PhD	Research Officer	23/03/2000	–
STUBBS Elizabeth	MPH	Technical Officer	–	07/07/2000
STULIK Pavel	DCSc, GradDipIT, PhD Physics, AdCertIT	Systems Administrator	11/11/1999	–
TATE Linda	–	Casual Receptionist	–	01/07/1999
TAYLOR Keith	–	Administration Assistant	13/06/2000	–
TAYLOR Sheila	–	Relief Reception & Renal Support	–	24/03/2000
THOMSEN Peter	CertComWelf, Cert 2 Film & Video Prod	Aboriginal Health Educator	–	–
TIPILOURA Camilla	–	Project Assistant	29/05/2000	–

Name	Qualifications	Position title	Start date if within financial year	End date if within financial year
TIPILOURA Eric	–	Project Assistant	–	14/01/2000
TIPILOURA Elizabeth	–	Casual Project Assistant	–	14/01/2000
TIPUNGWUTI Dulcie	–	Project Assistant	07/03/2000	–
TIPUNGWUTI Wendy	–	Project Assistant	28/05/2000	–
TOGNI Samantha	BA (Hons), MA	Project Manager/Research Officer	–	–
TRENHOLME Katharine	BSc, MSc, PhD	Senior Research Fellow	–	–
TSEY Komla	BA, PhD	Head, Alice Springs Unit	–	10/08/1999
WALES Nonie	BA, BSocSc (Hons)	Research Assistant	–	07/01/2000
WALTON Shelley	BAppSc (Dist), PhD	Research Fellow	–	–
WANG Zhiqiang	PhD	Senior Research Officer, Biostatistics	–	–
WARCHIVKER Ilan	BA, BEc (Hons)	Senior Research Officer	–	28/04/2000
WARNER Peter	BAppSc Maths, MMed Stats	Information Systems Coordinator	01/09/1999	25/11/1999
WILSON Catherine	EN, Degree Psy (Hons)	Project Officer	05/06/2000	–
WITHNALL Kay	BSc, DipEd	Senior Laboratory Advisor	–	–
WOOD Yvonne	RN, MPH	Project Officer	02/05/2000	–
WURIDJAL Reggie	–	Project Assistant	–	21/07/1999
YONOVITZ AI	PhD	Hearing Scientist	–	–
YONOVITZ Leslie	PhD	Research Fellow	–	19/05/2000
YOUNG Catheryn	–	Salaries/Personnel Officer	–	–

Staff on MSHR Projects in Indonesia and Papua New Guinea

ALBION Mr Roy	BSc	Casual Specialist Malaria Microscopist
ATIK Ibu	–	Casual Project Assistant, Indonesia
COLLINS Dr Stuart	MBBS, DTM&H, MPH	Research Associate
DARWOTO Pak	–	Casual Project Assistant, Indonesia
DYAH Ibu	–	Casual Project Assistant, Indonesia
JULIANUS Pak	–	Casual Project Assistant, Indonesia
KRISTIANI Ms Yusi	DipLabTech	Research Assistant, Jayapura
LEPONG Pak	–	Casual Project Assistant, Indonesia
LEVINA Ibu	–	Casual Project Assistant, Indonesia
MARIA Ibu	–	Casual Project Assistant, Indonesia
NASRUN Pak	–	Casual Project Assistant, Indonesia
NELI Dr	–	Casual Project Assistant, Indonesia
NINGSIH Ibu	–	Casual Project Assistant, Indonesia
SUPRIANTO Mr Sri	DipLabTech	Casual Specialist Malaria Microscopist
SUSILOWAH Ms Ida	DipLabTech	Research Assistant, Jayapura
UTOMO Dr Gede	–	Casual Project Assistant, Indonesia
WABISER Pak	–	Casual Project Assistant, Indonesia
YAMBAYABDI Ibu	–	Casual Project Assistant, Indonesia
IBAM Erwin	–	Casual Project Assistant, PNG
LAGOG Moses	–	Casual Project Assistant, PNG
LORRY Kerry	–	Casual Project Assistant, PNG
SLAGI Joseph	–	Casual Project Assistant, PNG



Yvonne Wood of the Ear Health and Education Unit commenced work with Menzies in May 2000.

CRCATH Staff Employed by MSHR 1999–2000

Name	Qualifications	Position title	Start date if within financial year	End date if within financial year
AHMAT Leah	–	Administration Assistant	06/01/2000	–
AHMAT Michelle	–	Administration Support Officer	24/01/2000	–
BARNES Tony	BSc (Hons IIA), MSc	Director	06/08/1999	–
BEPUKA Dorothy	–	Research Officer	22/06/2000	–
BOUGHTON Robert	PhD	Research Fellow	–	29/02/2000
BROOKS Floyd	–	Project Assistant	08/05/2000	–
BUKULATJPI Sylvia	–	Research Assistant	–	01/07/1999
CAIRNDUFF Sallie	MTH	Senior Research Officer	13/06/2000	–
CHONDUR Ramakrishna	–	Visiting Project Officer	08/05/2000	–
CLARK Louise	–	Project Officer	28/02/2000	–
CONDON John	MBBS, MPH, Dip FRACOG, DTM&H, FAFPHM	Principal Investigator, Pneumococcal Vaccine Trial	17/01/2000	–
COUNAHAN Megan	BAppSc MPH&TM	Research Officer	21/02/2000	–

Name	Qualifications	Position title	Start date if within financial year	End date if within financial year
DALY Paul	MBA	Senior Research Officer	13/06/2000	–
DAMASO Rose	–	Visiting Conference Convenor	28/02/2000	13/06/2000
DAVIS Debra	–	Administration/Executive Officer	20/08/1999	–
DJANUMBI Judy	–	Casual Research Officer	–	–
DUNBAR Terry	BBus	Business Manager	–	–
EDWARDS Tahniah	DipAppScN	Project Officer	02/05/2000	–
EVERY Anne	–	Casual Research Assistant	–	04/08/1999
GELUNG Megan	–	Research Officer	–	01/07/1999
GEORGE Lance	–	Project Assistant	17/01/2000	–
GORHAM Gill	–	Visiting Project Officer	16/03/2000	30/06/2000
GUNDERSEN Karl	–	Laboratory Technician Trainee	10/02/2000	02/06/2000
GURRUWIWI Wukutjpa (Alison)	–	Casual Research Officer	–	01/07/1999
GUYMAN Elaine	–	Casual Research Assistant	–	18/08/1999
HURLEY Patricia	RN	Project Officer	17/04/2000	–
KONDALSAMY CHENNAKESAVAN Srinivas	MBBS (MPH)	Project Development Officer	15/05/2000	–
LIDDLE Helen	–	Visiting Project Officer	18/05/2000	–
MAYPILAMA Elaine	–	Research Officer	–	21/06/2000
McGUINNESS Kaye	LLB	Project Officer	17/04/2000	–
MCKINNON Melita	–	Technical Officer	–	–
O'GRADY Kerry-Ann	BScN, GradDipPH, MAppEpi	Senior Research Officer	14/03/2000	–
PARADIES Yin	BSc	Project Development Officer	23/05/2000	–
RAGG Louise	BSc (Hons), BA	Webmaster	28/02/2000	–
SCARLETT Maria	BSocSc	Research Officer	28/03/2000	–
WALTON Sarah	–	Knowledge Transfer Officer	–	–
WILLIAMS Elizabeth	–	Administration Officer	–	–
WILLIAMS Robyn	–	Visiting Research Assistant	28/02/2000	20/06/2000

Research Students 1999–2000

Name	Qualifications	Degree
AITHAL Sreedevi	–	MPH (Research)
AITHAL Venkatesh	–	MPH (Research)
BAKER Philip	–	PhD
BARCLAY Jillian	–	PhD
BOUTLIS Craig	MBBS (Hons), FRACP	PhD
CASS Alan	MBBS, BA, FRACP	PhD
CLOUGH Alan	–	PhD
CONDON John	MBBS, MPH, Dip FRACOG, DTM&H, FAFPHM	PhD suspended 1/2000
DEL VECCHIO Armando	–	MSc
DORLING Mary	–	PhD
FRIED Ofra	–	PhD
GIBNEY Katherine	–	BMedSc
GRUEN Russell	MBBS	PhD
HARUMAL Pearly	–	PhD
IVERS Rowena	MBBS, FRACGP, MPH, Dip RACOG	PhD
JAROSS Nandor	–	MPH (Research)
KEMP Katherine	RN	MPH (Research)
KONDALSAMY-CHANNAKESAVAN Srinivas	–	MPH (Research)
LAM Tai Pong	–	PhD
LOW CHOY Jodie	–	MSc
MAGUIRE Graeme	BMedSc (Hons), MBBS (Hons), FRACP	PhD

Name	Qualifications	Degree
MANSKI-NANKERVIS Joanne	–	BSc (Hons)
MARSH Robyn	BAppSc	MSc
MARTIN Louise	–	BSc (Hons)
MAY Jessica	–	PhD
MAYO Mark	AssocDipAppSc	BSc
McDONALD Stephen	MBBS (Hons), FRACP	PhD
SAUVERAIN Naomi	–	BSc (Hons)
SINGH Gurmeet	MBBS, MD Paed, DCHDEO, DNB Paed	PhD
SMITH Danielle	BA (Hons)	PhD
SUTRISNA Aang	–	MPH (Research)
TANGHEY Annie	–	MPH (Research)
THOMAS David	MB BS	PhD
TJITRA Emiliana	–	PhD
TURNER Teresa	–	BSc (Hons)
WEIR Richard	–	PhD
WHITE Andrew	MB BS	PhD
YOU Jiqiong	MB, MBA	MSc Thesis

Theses awarded during financial year

HIBBLE Megan	–	MSc
HOLT Deborah	–	PhD
MORRIS Peter	MBBS, FRACP	PhD
SAYERS Susan	–	PhD
SMITH-VAUGHAN Heidi	–	PhD

Visiting MPH Lecturers 1999–2000

Name	Qualifications
ASHBRIDGE David	–
BARNES Tony	BSc (Hons IIA), MSc
BARNETT Len	–
BEAVER Carol	–
BOWDEN Francis	–
BREWSTER David	BA (Hons), MD, MPH, FRACP, PhD
CONDON John	MBBS, MPH, Dip FRACOG, DTM&H, FAFPHM
CONNORS Christine	MBBS, DRACOG, FAFPHM, MPH
COULEHAN Kerin	–
CUNNINGHAM Joan	ScD, ALM, Cert Health Economics
DEMPSEY Karen	–
DUQUEMIN Anthea	PhD
EDMOND Karen	MBBS, FRACP, MPH
EVANS Kayte	MB BS, FRACGP, FAFPHM, MPH, MMedSci
GARROW Barbara	–
HALL Gillian	–
HEARD Sam	–
HUNT Jennifer	–
KRAUSE Vicki	MD, FAFPHM, DTM&H
MACDOUGALL Colin	–
MERIANOS Angela	–
MILLER Nan	RN, BSN, MPH
PINE Colleen	–
RAE Cheryl	–
ROBINSON Gary	PhD
SELVEY Christine	–
SHIELL Alan	–
THOMAS David	MBBS, DTM&H, MMedSc (ClinEpi)
VEMURI Sivaram	BA, MA, PhD
WAKERMAN John	MBBS, MTH, FAFPHM

Collaborators 1999–2000

Public Health

Dr Gary Robinson, Northern Territory University
 Dr Tony Barnes, Director Cooperative Research Centre for Aboriginal and Tropical Health
 Ms Dot Morrison, Territory Health Services
 Ms Pam Gollow, Territory Health Services
 Dr John Condon, Territory Health Services
 Dr Jonathan Carapetis, University of Melbourne
 Ms Helen Liddle, Central Australian Aboriginal Congress Medical Service
 Dr Ingrid Bucens, Royal Darwin Hospital
 Ms Christine Quested, Samoa
 Ms Dierdre Kiernan, Samoa

Malaria

Dr Sumarjati Arjoso, National Institute for Health Research and Development, Indonesia
 Dr Ingerani, National Institute for Health Research and Development, Indonesia
 Dr Liliana Kurniawan, National Institute for Health Research and Development, Indonesia
 Pak Sri Suprianto, Directorate-General of Communicable Disease Control, Ministry of Health, Indonesia

 Dr Michael Alpers, Papua New Guinea Institute for Medical Research, PNG
 Dr Charles Mgone, Papua New Guinea Institute for Medical Research, PNG
 Dr Moses Bockarie, Papua New Guinea Institute for Medical Research, PNG

Prof Brice Weinberg, Duke University Medical Center, USA
 Dr Mark Levesque, Duke University Medical Center, USA
 Prof Don Granger, University of Utah, USA
 Dr Maurine Hobbs, University of Utah, USA

Dr Douglas Perkins, Centres for Disease Control, USA
 Prof Esther Mwaikambo, Mikochei University of Health Sciences, Tanzania

Dr Hendra Widjaja, Mimika Hospital, Papua, Indonesia
 Dr Josep Oyong, Mimika Hospital, Papua, Indonesia
 Dr Ester Ayomi, Regional Ministry of Health, Papua, Indonesia
 Dr Budi Subianto, Regional Ministry of Health, Papua, Indonesia
 Dr Oey Tjeng Sien, Balikpapan Hospital, Indonesia

Dr Elio Giombini, Dr Harry Causey and WHO staff, Dili, East Timor

Dr Grant Morahan, Walter and Eliza Hall Institute for Medical Research

Dr Kevin Baird, US Naval Medical Research Unit-2, Indonesia
 Dr Steve Hoffman, Naval Malaria Research Institute, USA

Mr Peter Whelan, AM, Territory Health Services, Darwin
 Dr Dale Fisher, Territory Health Services and Darwin Private Hospital
 Dr Paul Marks, NT Clinical School, Darwin
 Dr Tim Cain, NT Imaging, Darwin Private Hospital

Tuberculosis

Dr Roosyana Hasbullah, World Health Organization, Jakarta, Indonesia
 Dr Cyrus H Simanjuntak, National Institute for Health Research and Development, Jakarta, Indonesia
 Dr Gunawan Yamin, Directorate of Health Laboratory, Jakarta, Indonesia
 Dr Tjandra Yoga Aditama, Persahabatan Hospital, Jakarta, Indonesia
 Dr Ichie Listiani, Provincial Reference Laboratory, Kupang, Indonesia

Dr Vicki Krause, Centre for Disease Control, Territory Health Services, Darwin
 Dr Nathan Zweck, Centre for Disease Control, Territory Health Services, Darwin
 Ms Chris Evans, Centre for Disease Control, Territory Health Services, Darwin

Dr Nelson Martins, and staff, Caritas East Timor, Dili
 Senhor Visente, Senhor Estanislau and other staff, Dili Central Laboratory, Dili
 Dr Elio Giombini, Dr Alex Andjaparidze, Dr Jim Black, and other staff, WHO, Dili
 Dr Jim Tulloch, MBBS, Dr Sergio Lobo, MD and other staff, Interim Health Authority, UNTAET, Dili
 Dr Jan Voskens, Royal Netherlands Tuberculosis Association (KNCV), The Hague, The Netherlands.
 Dr Einar Heldal, MD, Caritas Norway, Oslo
 Dr Frankie Loprang, WHO, Indonesia

Dr Richard Lumb, Institute for Medical and Veterinary Science, Adelaide
 Dr Ivan Bastian, Institute for Medical and Veterinary Science, Adelaide

Gastroenteritis

Prof David Brewster, NT Clinical School, Darwin
 Dr Renata Kukorozovic, NT Clinical School, Darwin



Professor Sir Peter Morris, Nuffield Professor of Surgery, Oxford University, shares a joke with Professor David Kemp.



Finance

Financial Overview: Financial Year 1999–2000

In the financial year ended 30 June 2000 the Menzies School of Health Research achieved an operating surplus of \$626,643 against a predicted budget surplus of \$191,850. This surplus was the direct consequence of successfully attracting capital equipment grants worth in excess of \$250,000, international grants that contributed to the School's overheads, and \$300,000 recognised as income in this financial year for expenditure in the financial year 2000–01.

In acknowledging the effects of the above on the operating result, the operating surplus was approximately \$70,000.

Researchers competed for capital equipment grants both nationally and internationally, and the income thereof is recognised as revenue in the Income and Expenditure Statement.

The expenditure on capital equipment, however, is recognised in the Balance Sheet as property plant and equipment.

Nationally, the National Health and Medical Research Council continues to be one of our major sources of research funding.

Funding through the Cooperative Research Centre for Aboriginal and Tropical Health has increased by approximately 50%, and income from the Wellcome Trust (UK) and United Nations Children's Fund (UNICEF) has also increased.

The result of this increased research activity is also reflected in grant-related expenditures such as computing, consultants, laboratory expenses, public relations and salaries. Salaries are at 62% of total expenditure, well below the industry standard of 70%.

The pie charts on the following page indicate the broad distribution of the School's income and expenditure for the financial year 1999–2000.

Donations 1999–2000

Specific purpose

Professor J Mathews	Collaborative work	\$2,000
Mr M Nicholson & Ms A Hill	Malaria research	\$15,000
Professor K O'Dea	Collaborative work	\$10,000
Tudor Foundation (USA)	Malaria research	\$30,000
In Memory of Mr Paul Carlson	Ross River Fever research	\$900
In Memory of Mr Stuart McAlister		\$795

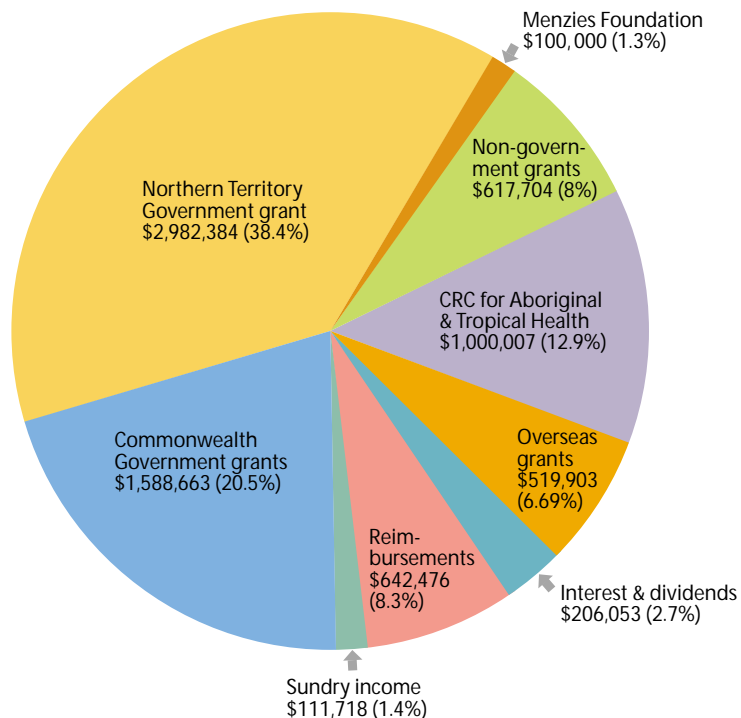
General purpose (research)

Anonymous	\$15,000
Mrs S Frey	\$1,000
Miss E Phillips	\$261
Mr RJ White	\$500
Staff	\$240
Total	\$75,696

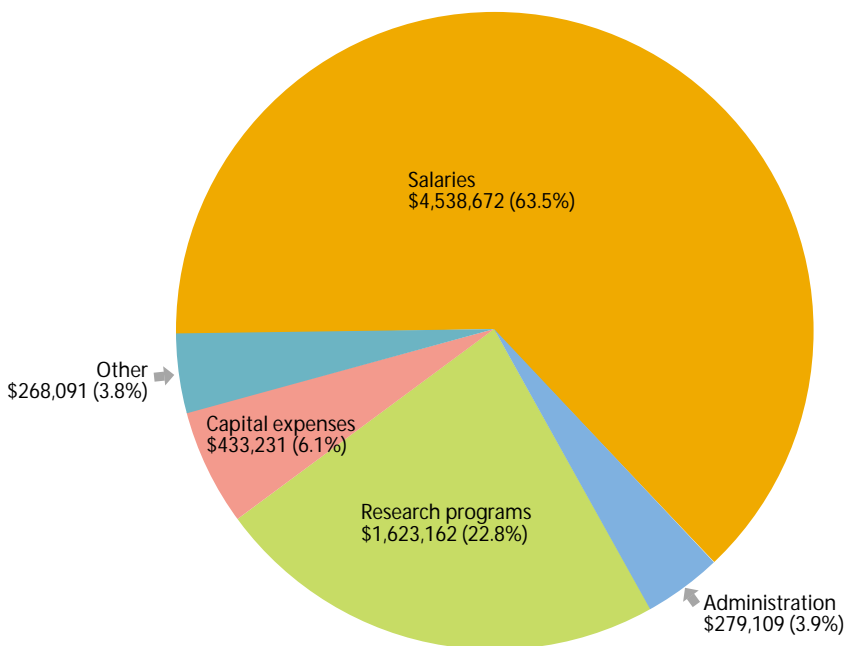
Mr P Eckert	Australian Kidney Foundation Lottery Ticket (value \$35)
Miss E Phillips	Stamps and Cartoons

Income and Expenditure for the Year Ended 30 June 2000

Income



Expenditure



For further information concerning the School's financial statements please contact the Finance Manager or Business Manager or visit our website: www.menzies.edu.au

For further information

Research and Policy Matters

Professor Kerin O'Dea Director 08 8922 8605
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Molecular Parasitology Unit

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Public Health and Epidemiology Unit

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Tropical Medicine and International Health Unit

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Dr Wendy Hoy Wendy.Hoy@menzies.edu.au 08 8922 8335

Acknowledgements

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