

# Menzies School of Health Research



2000-01 annual report

KATHLEEN WALLACE

## 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
IMVS	Institute of Medical and Veterinary Sciences
MCS	Murrupurtiyanuwu Catholic School
NGO	Non-government organisations
NHF	National Heart Foundation
NHMRC	National Health and Medical Research Council
NIH	National Institutes 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
UNTAET	United Nations Transitional Administration in East Timor
WHO	World Health Organization

# MENZIES SCHOOL OF HEALTH RESEARCH

## 2000-01 ANNUAL REPORT



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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 2001 annual general meeting will be held at 5pm on Friday, 7 December 2001 at Mirambeena Resort, Darwin.

For MSHR contact details see inside back cover.

# Foreword

This has been an exciting year as MSHR has further developed its strategic plan which will guide future direction. The details of this are contained in the Director's report, and the Board has asked that I acknowledge Kerin O'Dea's efforts since joining us in July 2000.

I wish to congratulate Dr Val Asche on her award as a Member of the Order of Australia. The Governing Board and staff are delighted to extend our congratulations to a very worthy recipient.

Mrs Dorothy Sing resigned in August 2000 in anticipation of her retirement from Territory Health Services and is now enjoying that retirement in Katherine. Dr Dayalan Devansen tendered his resignation in December 2000 after some 12 years' service on the Governing Board, and he will be sadly missed. Mrs Margaret McLean also resigned in December 2000 after five years of dedicated service on the Board. I extend my sincere thanks to all three for their contribution and wish them well in the future.

There have been a number of additions to the Governing Board over the course of the year. Professor Paul Gatenby was appointed as the representative of the Vice Chancellor of the University of Sydney following the resignation last year of Professor John Young AO. Ms Roslynne Moriarty, a director of the famous Balarinji graphic design agency, was appointed as the nominee of his Honour the Administrator of the Northern Territory. Mr Paul Bartholomew, the Chief Executive Officer of Territory Health Services, was appointed as a nominee of the NT Minister for Health, Family and Children Services, and Mr Ken Borda, the Chief Executive Officer of Deutsche Bank Australia New Zealand, as a nominee of the Governing Board. I congratulate all on their appointments and welcome them to the MSHR Board. I look forward to working with them over the next three years.

The enormous contribution made by Dr K S Sriprakash to MSHR's research outcomes must be recognised. After 16 years of service, Sri has decided to move with his wife to Brisbane to be

closer to their family. I was honoured to present Sri with a MSHR Medallion in recognition of his contributions. It is worthy of note that Sri was nominated for this award by the staff of MSHR who appreciated his open manner and his support to all.

Finally, I would like to acknowledge the financial support received by MSHR. The continuing support of the Northern Territory Government and the Menzies Foundation remain critical to the School's core activities. I am particularly pleased to report an increase in funding from the Northern Territory Government for the next financial year. Currently, over 130 research projects are funded by 26 national and international competitive funding agencies. I would particularly like to thank those who support our research activities through private donations. MSHR's finances have continued to be very ably managed.

In this year of great change, I wish to close by offering my sincere thanks to the Governing Board, and to all staff who have continued their commitment to MSHR's mission: the improvement of health outcomes for the people of northern and central Australia, and regions to the near north, through multidisciplinary research and education.



*Richard V Ryan AO, Chair of MSHR Board of Governors*

MSHR will build links with the best institutions both nationally and internationally ■

# Director's report

improve the health of people in our region through multidisciplinary research and education

In my first year as Director I have been impressed with the energy and commitment of the staff of Menzies School of Health Research and want to thank them for my warm welcome. It has been a dynamic year overseeing an organisational restructure, an information technology review, negotiating an enterprise agreement with staff and leading the quest for funding.

Soon after commencement, I established a high-level external advisory group to guide me on future directions for the School. The members of the Strategic Advisory Group were Professor Stephen Leeder (Dean of Medicine, University of Sydney), Professor Fiona Stanley (Director, Institute of Child Health Research, Perth), Ms Jennifer Prince (Deputy Under Secretary, Northern Territory Treasury) and Ms Cheryl Rae (Director, Health Gains Planning, Territory Health Services). I am most grateful to them for their commitment, insightful inputs and capacity to think creatively and strategically. I have appreciated being able to continue to consult with them informally in their areas of expertise.

At the end of 2000 a series of internal reviews took place:

- an audit of administrative structures and processes by Mr Michael Martin from the Northern Territory Department of Corporate and Information Services
- a budget review and development of a cabinet submission
- a comprehensive review of IT systems and services conducted by external consultant Mr Andrew Hodges

I then undertook to implement an organisational restructure of MSHR. It was fortuitous that Ms Sally Matthews, Deputy Director of the CRCATH, was prepared to be seconded to MSHR for five months to manage the strategic planning process and facilitate organisational change within the School.

As the diagram on page five indicates, the restructure involved major change. A number of

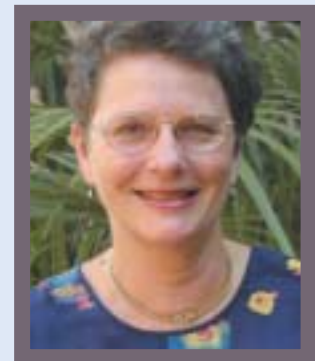
research leadership and management positions were redefined or newly created. The primary goals of the new management structure are to provide a streamlined organisational framework to support efficient and transparent financial and administrative processes, and an academic structure that facilitates collaborative research and communication across various research programs.

I appreciate the commitment of time and ideas by staff and students to this challenging planning process. We have also gained valuable input from Board Members and external stakeholders, including key Indigenous organisations. The strategic plan will be finalised in late 2001. It will set out what we want to achieve over the next four years and the principles that will guide our research and education programs in order to achieve MSHR's vision of improving the health of people of northern and central Australia and regions to the near north through multidisciplinary research and education.

I am also pleased to report that the enterprise agreement was successfully renegotiated with staff during this year. This will see staff on salary parity with the Northern Territory University by the end of the three-year agreement. Salary packaging arrangements will also be available, administered through an external organisation.

A major future focus is to strengthen links with Indigenous people, and increase Indigenous participation in all activities of the School (research, research training, education and administration). The newly created position of convener of the Indigenous Forum (also a member of the MSHR senior management team) is an early step in moving along this path.

The Northern Territory is a geographically large jurisdiction with a very small population. This provides both opportunities and challenges. The small population and relative isolation make it imperative to build links with the best institutions both nationally and internationally. However, it provides a wonderful opportunity for innovative approaches to education and research



Kerin O'Dea, Director of Menzies School of Health

that build on its unique position. The MSHR is positioning itself as a national health research institute with a focus on Indigenous, remote and tropical health. We are establishing formal links with a number of universities in the south and east of Australia to complement the long established links with the University of Sydney and NTU. Formal agreements have recently been established with the University of Melbourne and Flinders University of South Australia, and discussions have been initiated with the Institute of Child Health Research in Perth, the University of Queensland and Australian National University. The aims of these affiliations are to facilitate:

- collaborative research in Indigenous, remote and tropical (including international) health
- recruitment of high-quality research students
- secondment of high-quality senior researchers in areas where we have difficulties in recruitment; we will encourage long-term secondments (three to five years)
- honorary appointments of MSHR academic staff with partner institutions
- staff and student exchanges: a possibility is for PhD students to spend up to one year working in a top laboratory or research group in their field of research in a partner institution
- co-supervision of higher degree research students

Additionally we have strong strategic alliances through the CRCATH core partners and public health units across northern Australia.

Key achievements over the past year are highlighted in a separate section of this annual report, however, I would like to point out the major increase in funding from the Northern Territory Government that was committed in the budget for the financial year 2001–02. It was a vote of confidence in MSHR that we will work hard to vindicate through enhanced productivity over the coming years.

A major challenge for MSHR is to continue to source and win substantial support for the unique style of multidisciplinary research that it does so well. In the year ahead the fundamental changes initiated over the past year will continue to strengthen the functioning of MSHR and help position us as a national leader in Indigenous, remote and tropical health research and education.

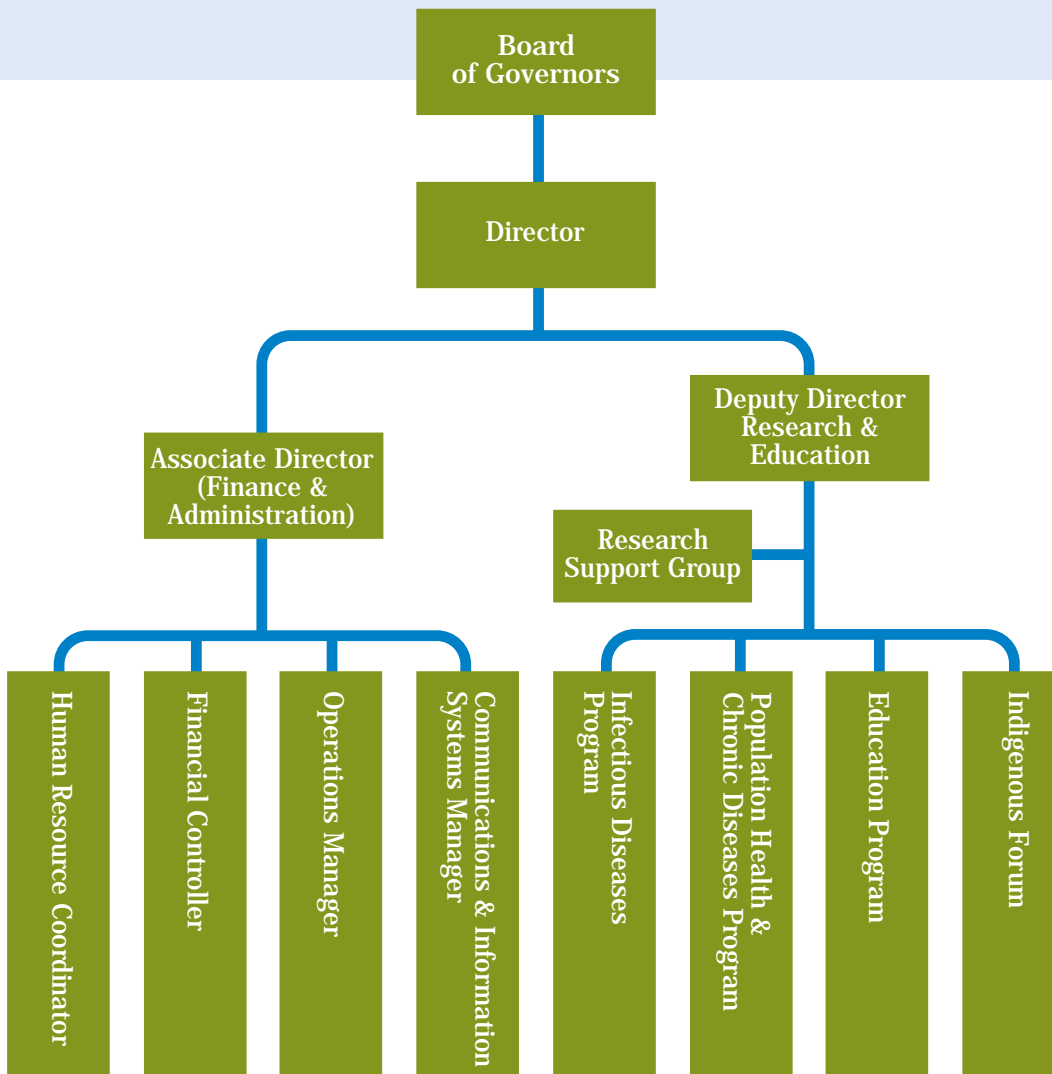
*a major future focus is to strengthen links with Indigenous people, and increase Indigenous participation in all activities of the School*

# Management

## The Structure of MSHR

**m**enzies 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. MSHR 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

### OFFICIAL PATRON

The Hon Mr John Anictomatis 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  
Professor 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 David Kemp FAA  
Professor John Mathews AM  
Mr Ray Norman AM  
Dr K S Sriprakash

\*Medallion Recipients are also Members of the School

†Deceased

### LIFE MEMBERS

Dr Keith Fleming  
Dr Ella Stack CBE

### MEMBERS

Dr Phil Alderslade  
Mrs Ann Alderslade  
Dr Ray Anderson  
Mr John Antella  
Professor Bruce Armstrong AM  
Mrs Lucille 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  
The Hon Nick Dondas AM  
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 Beth Hogan  
Mrs Jane 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  
Dr Kerry Kirke AM  
Ms Wendy Kirke  
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  
Ms Clare Martin MLA  
Dr Diana Martin  
Dr Fred McConnel  
Dr David McCredie  
Mr Brian McLaughlin  
Professor James McLeod  
Mr Stuart McMillan  
Mr 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  
Mrs Lesley Oldfield  
Dr David Parry  
Dr Mahomed Patel  
Mr Greg Paterson  
Professor Hedley Peach  
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 K C Woo  
Dr Marion Woods  
Ms Alison Worrell  
Professor Heddy Zola



## Members of the Governing Board

### CHAIR/TREASURER

RICHARD RYAN AO

*(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 Indigenous Business Australia and President of the National Heart Foundation.

### DEPUTY CHAIR

SIMON MADDOCKS BAgSc(Hons) PhD MAIAST CPAg

*(nominee of the Menzies Foundation)*

Professor Maddocks is Director of the Adelaide University Roseworthy Campus, and Professor of Animal Sciences. His research interests are in reproductive immunology and cell biology.

Professor Maddocks is the Deputy CEO of the Cooperative Research Centre for Pest Animal Control and a member of its Board. He is President of the Australian Institute of Agricultural Science and Technology (IAIST) (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.

### MEMBERS

L VALERIE ASCHE AM MSc PhD FASM MAIBiol CBiol

*(nominee of the Governing Board)*

Dr Val Asche, a microbiologist, 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 from 1986–94, a consultant for the Northern Territory Department of Health and Community Services, and is at present editor of *Recent Advances in Microbiology*.

PAUL BARTHOLOMEW BPsych

*(nominee of the NT Minister for Health, Family and Children's Services, from May 2001)*

Paul Bartholomew is currently Chief Executive Officer of Territory Health Services and before that was the Deputy Secretary of that department.

Previously, Mr Bartholomew held senior executive positions in various West Australian, Victorian, Commonwealth and Northern Territory health and community services portfolios.

KENNETH C BORDA BA LLB

*(nominee of the Governing Board, from May 2001)*

Mr Kenneth Borda was appointed Chief Executive Officer of Deutsche Bank Australia and New Zealand in June 1999. In addition to his Australasian responsibilities, he is a member of the Asia Pacific Board and Executive Committee.

Previously Mr Borda was a solicitor in private and corporate legal practice. At Deutsche Bank, he has held the position of Head of Investment Banking Division for Australia and North Asia. Mr Borda is a Director of the Sydney Futures Exchange Limited and the Australian Theatre for Young People.

DAYALAN DEVANESEN AM MBBS DPH MPH FRACMA FAFPHM FCHSE GDip Public Sector Executive Management

*(nominee of the NT Minister for Health, Family and Children's Services, until December 2000)*

Dr Dayalan 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.

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**PAUL GATENBY** MBBS PhD FRACP FRCPA MRACMA

*(ex-officio representative of the Vice-Chancellor of University of Sydney)*

Professor Paul Gatenby is Associate Dean of the Canberra Clinical School of the University of Sydney and is Professor of Medicine and Pathology. He is also Director of ACT Pathology and is an immunologist. At a national level he has served on the Life Sciences Panel of the Cooperative Research Centre Australia Program, Department of Industry, Science and Resources, and is a member of the National Pathology Accreditation and Advisory Council, Department of Health and Aged Care. He is a member of the ACT Health and Community Care Service Board.

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**STEPHEN LEEDER** BSc(Med) MBBS PhD FRACP FFPHM FAFPHM

*(ex-officio)*

Professor Stephen Leeder is Dean of the Faculty of Medicine, Professor of Public Health and Community Medicine of the University of Sydney and a Fellow of the University Senate.

He is a member of the Western Sydney Area Health Service and chairs its Human Research Ethics Committee and Clinical Policy, Quality and Outcomes Committee. Professor Leeder was the Foundation Chair of the Board of Censors of the Australasian Faculty of Public Health Medicine 1990–94 and has served two terms as National President of the Public Health Association of Australia. He was a member of the National Health and Medical Research Council and chaired one of its principal committees, the Health Advisory Committee, during the 1997–99 triennium. Professor Leeder was appointed Chair of the Health Inequalities Research Collaboration Board and Chair of the HealthInsite (on-line health advice) Editorial Board by the Minister for Health and Aged Care in 2000. He was a member of the NSW Health Council and co-chairs the Teaching and Research Clinical Implementation Coordination Group of the NSW Action Plan for Health. Professor Leeder has an interest in medical education and ethics, health policy communication and strategic approaches to research development and application.

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**RON MCKAY** BSc PhD GDIPCOMP GDIPBUS FAIM

*(nominee of the NT Minister for Education)*

Professor Ron McKay was appointed Vice-Chancellor of the Northern Territory University 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).

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**MARGARET MCLEAN** JP Clinical Nurse Consultant RN RM DipAppSci BNurs

*(nominee of the Governing Board, until December 2000)*

Mrs Margaret McLean has worked as a clinical nurse consultant in the Elliott community and north Barkly region for the past eleven years. Mrs McLean 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.

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**ROSLYNNE ANNE MORIARTY**

*(nominee of His Honour the Administrator, from December 2000)*

Ms Ros Moriarty is Managing Director of The Jumbana Group, an Indigenous design and brand strategy consultancy. Previous career positions include research and administrative posts with the Department of Aboriginal Affairs, The Overseas Service Bureau and Radio Australia. She has held board positions with the National Gallery of Australia, the Australian Academy of Design and Australian Major Events.

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**KERIN O'DEA** BSc PhD

*(ex-officio)*

Professor O'Dea is the Director of Menzies School of Health Research and holds the Chair of Robert Menzies Professor of the University of Sydney. She has also been appointed as Honorary Professor at the University of Melbourne, the University of Queensland, Monash University, and Flinders University of South Australia.

At a national level, Professor O'Dea is a member of numerous committees, including the Council of National Health and Medical Research Council (NHMRC), the NHMRC's Aboriginal and Torres Strait Islander Health Research Agenda Working Group, the Diabetes Research Consultative Committee, the National Diabetes Strategy Group, the Consultative Committee for the National Centre for Epidemiology and Population Health, Australian National University, the Consultancy for the Development of Evidence-Based Guidelines for the Prevention and Treatment of Type 2 Diabetes, and the Scientific Advisory Committee of the Melbourne Collaborative Cohort Study.

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**PETER PLUMMER** BSc GDipMgt GAICD

*(nominee of the NT Minister for Health, Family and Children's Services)*

Mr Peter Plummer is currently Chief Executive Officer of Territory Education and was previously CEO Territory Health Services and CEO of the Department of Mines and Energy. Prior to that he held senior positions in two other economic development departments in the Northern Territory. Before coming to the Northern Territory Mr Plummer spent 16 years in Papua New Guinea working in the secondary and tertiary education sectors.

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**DOROTHY SING** RN

*(nominee of the Governing Board, until August 2000)*

Ms Dorothy Sing is a certified general, midwifery and intensive care nurse, a family planning nurse practitioner and an AIDS educator. Ms Sing has lived and worked in the Territory for 30 years and was a clinical nurse consultant for the Disease Control Unit in Katherine until her retirement in late 2000. Her particular interests are STDs and women's health, and she was involved in the STDs in Women 'T-test' pilot project.

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## **STAFF REPRESENTATIVES**

**GEOFFREY ANGELES** BAppSc

*(until November 2000)*

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**GABRIELLE FALLS**

*(from November 2000)*

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## **SECRETARY TO THE BOARD**

**GRANT LINDSAY** MBA BA(Mil Stud) GAICD AIMM

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■ MSHR is positioning itself as a national health research institute with a focus on Indigenous, remote, and tropical health ■

## Membership of Committees

### AUDIT COMMITTEE

Mrs Sue Bradley (*Chair*)  
Ms Jennifer Prince  
Mr Richard Ryan AO  
Ms Joanne Schilling  
Professor Kerin O'Dea  
Associate Professor Ross Bailie  
Mrs Yolanda Jackson CPA  
Mr Grant Lindsay  
Mr Geoffrey Angeles (*staff representative, until November 2000*)  
Miss Gabrielle Falls (*staff representative, from November 2000*)

### COURSEWORK MANAGEMENT COMMITTEE

Associate Professor Ross Bailie (*Chair*)  
Dr Joan Cunningham  
Dr Peter d'Abbs (*until January 2001*)  
Ms Sue Hunter (*until March 2001*)  
Dr Paul Kelly (*from January 2001*)  
Mrs Audrey Langlands (*Secretary*)  
Dr Dorothy Mackerras  
Professor Kerin O'Dea (*from July 2000*)  
Mrs Catherine Richardson  
Ms Annie Tangey (*student representative, from October 2000*)  
Ms Sam Togni (*from January 2001*)  
Ms Bev Turnbull (*from April 2001*)  
Ms Annie Villaseche (*student representative, from March 2001*)

### FINANCE COMMITTEE

Mrs Jane Large (*Chair*)  
Mrs Sue Bradley  
Mr Richard Ryan AO  
Ms Joanne Schilling  
Professor Kerin O'Dea  
Associate Professor Ross Bailie  
Mrs Yolanda Jackson CPA  
Mr Grant Lindsay  
Mr Geoffrey Angeles (*staff representative, until November 2000*)  
Miss Gabrielle Falls (*staff representative, from November 2000*)

### INSTITUTIONAL BIOSAFETY COMMITTEE

Dr Kadaba Sriprakash (*molecular biologist*) (*Chair, until April 2001*)  
Mrs Sue Hutton (*microbiologist*) (*Chair from May 2001*)  
Dr L Valerie Asche AM (*microbiologist*)  
Dr Richard Brettell (*molecular biologist/geneticist*)  
Dr Karen Gibb (*molecular biologist*)  
Mr Lodi Hoeben (*mechanical engineer*)  
Dr Gary Lum (*Clinical microbiologist*)  
Dr Lorna Melville (*microbiologist/virologist*)  
Dr Anna Padovan (*molecular biologist/geneticist*)  
Dr Shelley Walton (*molecular parasitologist, from May 2001*)  
Ms Elizabeth Stubbs (*secretary, until August 2000*)  
Miss Gabrielle Falls (*secretary, from August 2000*)

### TOP END HUMAN RESEARCH ETHICS COMMITTEE

Dr John Condon (*Chair*)  
Ms Jenny Abdilla (*non-medical practitioner, from June 2001*)  
Dr Nick Anstey (*medical graduate with research experience*)  
Ms Brydget Barker-Hudson (*lawyer*)  
Dr David Brewster (*medical graduate with research experience and  
Chair, Fast Track Committee*)  
Mr Ian Hillock (*lay man*)  
Ms Jill Huck (*lay woman*)  
Mr Jack McTaggart (*lay man*)  
Dr Peter Morris (*medical graduate with research experience*)  
Ms Helen Murray (*non-medical practitioner, until April 2001*)  
Mr Peter Thomsen (*Chair, Aboriginal Ethics Sub-Committee*)  
Rev Brian Tunks (*minister of religion*)  
Dr Shelley Walton (*laboratory-based scientific adviser*)  
Professor Jenny Watson (*clinical nurse with social science  
research experience*)  
Ms Elizabeth Stubbs (*secretary, until August 2000*)  
Miss Gabrielle Falls (*secretary, from August 2000*)

### ABORIGINAL ETHICS SUB-COMMITTEE

Mr Peter Thomsen (*Chair*)  
Ms Mai Katona  
Ms Terry Dunbar  
Dr Marlene Kong (*until June 2001*)  
Ms Marie Munkara (*from February 2001*)  
Ms Pieta Laughton  
Ms Sandra Kitching  
Dr Peter Morris (*scientific adviser*)

### POSTGRADUATE STUDIES COMMITTEE

Professor Kerin O'Dea  
Associate Professor Ross Bailie  
Professor Tony Barnes  
Dr Joan Cunningham  
Professor Bart Currie  
Dr Peter d'Abbs (*until February 2001*)  
Associate Professor Nick Anstey (*from September 2000*)  
Mr Grant Lindsay  
Dr Dorothy Mackerras  
Dr Graeme Maguire (*student representative, until October 2000*)  
Dr Alan Cass (*student representative, from November 2000*)  
Dr Peter Morris  
Mrs Catherine Richardson (*secretary*)  
Dr KS Sriprakash (*until March 2001*)  
Associate Professor Charles Webb

# 2000–01 highlights

■ Significant new  
investigative  
initiatives in housing and social determinants of health

## Awards

- Dr L Valerie Asche AM, retired microbiologist and current member of the MSHR Governing Board, was awarded Membership to the Order of Australia as part of the Australia Day Awards in January 2001 in acknowledgment of her contribution to research and the community.
- Kerin O'Dea appointed Honorary Professor of the University of Sydney, the University of Melbourne, the University of Queensland, Flinders University of South Australia and Monash University.
- The MSHR Medallion was awarded to Dr KS Sriprakash on 27 June 2001 for outstanding dedication to the School. Dr Sriprakash was the longest serving full-time member of staff (1985–2001), until he moved to Queensland earlier this year. He currently retains a part-time appointment with MSHR.
- Dr Joan Cunningham was awarded a Menzies Foundation Fellowship.
- A Queen's Trust Award went to Ms Robyn Marsh to study in Germany. A rapid diagnostic test for group B streptococcus to determine intrapartum maternal colonisation that has been developed by Robyn is the subject of current patent applications.
- Dr Alan Cass received an Early Career Development Award from the 6th International Congress of the International Society of Behavioural Medicine, for presentation of his research project 'End-Stage Renal Disease in Indigenous Australians: A disease of disadvantage'.
- The *Medical Journal of Australia* and Wyeth Australia Research Award 2000 went to Dr Wendy Hoy, Mr Philip Baker, Ms Angela Kelly and Dr Zhiqiang Wang for their article 'Reducing premature death and renal failure in Australian Aboriginals: A community-based cardiovascular and renal protective program', which was published in the *Medical Journal of Australia* in 2000 (vol. 172, pp. 473–8).

## Research

- Recommendations for Clinical Care Guidelines for the Management of Otitis Media in Aboriginal and Torres Strait Islander Populations were developed by MSHR's Ear Team with the close support of a multidisciplinary technical advisory group chaired by Dr Paul Torzillo. A major objective of the team was to ensure that the findings of clinical research translated into recommendations that are practical and meaningful for those delivering health care.
- Four hundred and fifty Darwin and Palmerston families participated in a randomised controlled trial for improved hygiene measures for children attending childcare—only the second intervention study to be conducted in Australian childcare centres. The study is investigating the benefits of additional training and support to improve hygiene practices.



Research student Robyn Marsh was a recipient of a Queen's Trust Award which allowed her to study in Germany for three months.

- Research findings by Alan Cass into end-stage renal disease indicate a strong association between markers of disadvantage (high unemployment, low income, house crowding, poor education and low birth-weight) and the incidence of end-stage renal disease.
- Shelley Walton and Norma Bengier join the University of Miami's Field Epidemiology Survey Team on a clinical field treatment trial for scabies in the San Blas Islands, Panama, during November 2000.
- A high number (88%) of surviving children from MSHR's Aboriginal Birth Cohort Study of 686 Indigenous children traced and followed up 10–12 years after birth.
- Nick Anstey reviewed a major malaria control project in Mindanao, Philippines.
- A major research program has commenced into the predictors of cardiovascular disease in Indigenous Australians with type 2 diabetes.
- Evaluation of the transition phase of the Katherine West Coordinated Care Trials by Peter d'Abbs and colleagues.
- Significant new investigative initiatives in housing and social determinants of health, including collaborations between MSHR, the Northern Territory Department of Housing and Department of Local Government, and the Cooperative Research Centre for Aboriginal and Tropical Health.

## Education

- Commitment of PHERP funding for three years has strengthened the ongoing development of education activities in Indigenous, remote and tropical public health.
- Commitment of a three-year seeding grant from PHERP to develop a national program for advanced training in Public Health Nutrition (in collaboration with Flinders University of South Australia).
- Commitment of a three-year seeding grant from PHERP to James Cook University and Menzies School of Health Research to develop a consortium for public health education and research in northern and central Australia.
- International students from East Timor, Indonesia, Zambia and India have joined MSHR's public health coursework program.
- MSHR is now involved in two national curriculum projects: a module on infectious diseases for the Population Health Education for Clinicians project; and the National Public Health Education Framework Competencies project.
- MSHR became a foundation member of the Australian Network of Academic Public Health Institutions (ANAPHI).

*Popular and long-term MSHR researcher Dr KS Sriprakash, who was awarded the MSHR Medallion this year for outstanding dedication to the School, shares a lighthearted moment with staff in the grounds of MSHR.*



*An Early Career Development Award from the 6th International Congress of the International Society of Behavioural Medicine was a great achievement for MSHR research student Dr Alan Cass.*

# Reports

## Population Health and Chronic Diseases Program

Program Leader: Dr Joan Cunningham

The recently created Population Health and Chronic Diseases Program includes researchers from a wide range of disciplines, including epidemiology, biostatistics, sociology, anthropology, physiology, biochemistry, nutrition and clinical medicine. This diversity helps to facilitate an exciting array of inter-disciplinary health research.

Major areas of research activity over the last year include:

- Preventable chronic diseases, such as type 2 diabetes, heart disease and renal disease, with an emphasis on primary prevention, community interventions, early life factors, nutrition and growth, and the social determinants of health
- Evaluation of health services, programs and policies, including the Coordinated Care Trials
- Understanding and reducing the impact of harmful substances, including alcohol, tobacco, kava, petrol sniffing, and other drugs
- Environmental infrastructure and health
- Health information development

Several members of the program teach in the MSHR Public Health Coursework Program and supervise research students both at MSHR and at other institutions. We are fortunate to have an excellent group of very productive research students.

Projects undertaken by researchers within the program during 2000–01 are briefly described below.

### Aboriginal Birth Cohort Study

In 1987 the Aboriginal Birth Cohort Study was commenced with the aims of describing Aboriginal birth size by weight, length and gestation age to investigate the influences of perinatal outcomes on childhood morbidity, growth and nutrition. These aims were later expanded to include potential markers of adult diseases in childhood.

Between December 1998 and 2001, over 88% of surviving children from the initial cohort of 686 have had height and weight measures and selected biochemical measures with no significant differences in birth weight, sex ratio and gestational age between those assessed and those not yet assessed. Fieldwork is now completed and statistical analysis of the data is currently underway.

Presentations of preliminary results were given at the Sydney University Nutrition Research Foundation in December 2000 and the 5th Commonwealth Congress on Diarrhoea and Malnutrition in April 2001.

### Improving Child Growth in the Northern Territory

This two-year participatory action research project is currently being conducted in a remote Indigenous community in north-east Arnhem Land. A community development approach is being used to try to increase family and community involvement in growth promotion activities, empower people and improve child growth. Since its commencement in January 2000 the project has documented Indigenous and health service provider stories about child growth and ideas for growth promotion action. A lengthy community decision-making process has been supported by the Indigenous and non-Indigenous research team. This resulted in the community's decision to establish a 'family centre'. The team is now supporting the community to start the family centre and community members have requested that the project continue into 2002.

Investigators: Susan Sayers, Ingrid Bucens, Kathryn Flynn, Dorothy Mackerras, Gurmeet Singh, Alison Reid, Zhiqiang Wang

Funding: Colonial Foundation; Channel 7 Research Foundation SA; NHMRC Project Grant 137203

Investigators: Barbara Paterson, Paul Wunungmurra, Danielle Smith, Lisa Mununggurr, Marlene Liddle  
Funding: CRCATH

## Community-Based Interventions to Reduce the Risk of Diabetes and Cardiovascular Disease in Indigenous Australians

■ **(a) Northern Territory:** After discussions with a number of communities, Galiwinku and Belyuen communities expressed interest in participating in this project which will identify ways of reducing the risk of cardiovascular disease and diabetes in Indigenous Australians. The baseline screening, involving employment of several community members, has commenced. This project is being extensively aided by the interest and involvement of a dedicated group of Indigenous women.

Two videos (a men's and a women's version) have been produced by Peter Thomsen of the MSHR Audio-Visual Unit to explain the survey procedures and tests, so that people can make an informed choice.

■ **(b) Looma Healthy Lifestyle:** For the past six years, the Looma community, in north-west Western Australia, has been participating in a community-based intervention directed at improving diet, reducing the prevalence of smoking and increasing exercise. This project initially focussed on high-risk individuals then broadened to include the whole adult population. Most recently lunch and breakfast programs and curriculum development have been developed in collaboration with the local school. The first phase of the six-year follow-up has taken place in the last year.

■ **(c) South-east Australia:** A partnership has been established between the University of Melbourne Department of Rural Health and Koori community representatives from Cummeragunja, Kerang, Shepparton and Mooroopna to provide a forum for discussion and a base for planning community interventions. Extensive consultation is being undertaken, and a memorandum of understanding, which includes evaluation of their Healthy Lifestyle Program, has been signed with Rumbalara Football and Netball Club. A Koori research assistant has conducted a historical review of the Healthy Lifestyle Program and in-depth interviews are being conducted with key stakeholders. The results of the qualitative research will be fed back to provide the foundation for future interventions.

■ **(d) Far North Queensland:** Consultations have taken place with the Torres Strait Health Council, who have invited the program to work with them on diabetes-related interventions as part of their Meriba Zageh program (Our Health in Our Hands). Negotiations are currently under way with the Tropical Public Health Unit in Cairns and the Torres and Northern Peninsular Area District Health Service to identify the focus of the collaboration.

## What is the Healthy Body Mass Index Range for Aborigines and Torres Strait Islanders?

■ When Aboriginal people lived traditionally as hunter-gatherers they were extremely lean (body mass index (BMI) < 20) and did not gain weight with age in adulthood. For a given BMI, Aborigines have more body fat than Australians of European descent. Torres Strait Islanders, of mainly Melanesian descent, may have less body fat for a given BMI than Australians of European descent. It is likely that the BMI 'norms' that have been developed for populations of European origin are not appropriate for all other populations. We are establishing the ranges of BMI associated with minimal risk of type 2 diabetes, cardiovascular disease and their common risk markers (dyslipidemia, hypertension etc.) in Aboriginal and Torres Strait Islander people.

## How Serious a Cardiovascular Disease Risk Factor is Type 2 Diabetes for Indigenous Australians?

■ Type 2 diabetes increases the risk of cardiovascular disease (CVD). However, the relationship can differ between populations depending on the background risk of CVD and the pattern of other risk factors. High rates of smoking and infectious disease, and poor-quality diet contribute to oxidative stress and inflammation. When superimposed on this adverse background, type 2 diabetes could greatly increase the risk of CVD and thus be a major contributor to CVD mortality. We are examining a wide range of markers of CVD risk (including classical risk factors, dietary antioxidants, and inflammatory cytokines) in order to shed light on the relative importance of these risk factors and their interactions.

Investigators: **Kerin O'Dea**, Kevin Rowley, Mark Daniels, Amanda Lee, Robyn McDermott, Ian Anderson, David Simmons Funding: NHMRC Project Grant 124319

Investigators (a): **Kerin O'Dea, Dorothy Mackerras, Julie Brimblecombe, Joseph Fitz**, with the Galiwinku Diabetes Project Committee

Investigators: **Kerin O'Dea**, Kevin Rowley, Mark Daniel, Karen Skinner, Michelle Skinner

Investigators: Kevin Rowley, David Simmons, Ian Anderson, Alicia Jenkins, James Best, **Kerin O'Dea** Additional funding: National Heart Foundation R 00M 0007

Investigators: Robyn McDermott, Dympna Leonard, Grace Fisher, Phillip Mills, **Kerin O'Dea**

Investigators: **Sunil Piers, Zhiqiang Wang, Kerin O'Dea**, Kevin Rowley Funding: NHMRC Project Grant 124319

Investigators: **Kerin O'Dea**, Kevin Rowley, Alicia Jenkins, **Tomer Shemesh, James Best** Funding: NHMRC Project Grant 124319



*Julie Brimblecombe, Gapany and Tomer Shemesh of the Community Intervention Project into diabetes and cardiovascular disease, cook longbums (bushtucker) on the beach at Galiwinku.*



### Biochemical Markers of Dietary Intake and Links to Risk of Chronic Diseases

Self-reported food intake is now recognised as being unreliable, with people generally under reporting foods and beverages perceived to be negative (fat, sugar, alcohol) and over reporting those perceived to be positive (fruit and vegetables). It is therefore essential to develop objective markers of diet wherever possible. We measure plasma carotenoids as markers of a range of vegetable and fruit intakes, essential fatty acids as markers of dietary fat and homocysteine as an indicator of folate intake, all of which predict cardiovascular outcomes. The goal is to develop a simple questionnaire which, when combined with the plasma markers, will provide an index of dietary quality, and to link this with risk of a range of common chronic diseases.

### Mastery and Control as Important Contributors to Risk of Chronic Diseases in Indigenous Populations

This work seeks to understand how psychosocial responses to diabetes interventions function to mediate behavioural and other outcomes. Of relevance to this work is how mastery and perceived control are affected in response to community control and direction in planning and implementing diabetes interventions.

Work is currently under way to assess the salience of mastery and control and to operationalise and assess them at different levels, as intermediate stages in the behaviour-change pathway.

### Predicting Cardiovascular Outcomes in Australian Populations

Equations based on the standard coronary heart disease (CHD) risk factors of cholesterol, hypertension and smoking have been developed to predict cardiovascular outcomes. It is not known whether these equations are applicable to Australian population groups, especially among some Aboriginal populations where high cholesterol and hypertension are not common. We aim to test the predictive ability of standard risk-assessment equations in Indigenous and non-Indigenous Australian cohorts, and to produce alternatives where necessary.

### Novel Risk Factors for Cardiovascular Disease

Abnormalities of lipid metabolism and clotting factors associated with the metabolic syndrome are common in Aboriginal and Torres Strait Islander people. Characteristics of circulating lipids which make them more likely to cause atherosclerosis, such as lipid particle size and composition, are being examined. Formation of blood clots in the coronary arteries is the final step leading to heart attack, and the role of clotting factors in contributing to the excess CVD risk of Indigenous Australians is also under study. The effectiveness of interventions to improve these risk factors forms part of the evaluation of community-based programs to reduce CVD risk.

Investigators: Kevin Rowley, Yvonne McNeil, Catherine Itsiopoulos, **Kerin O'Dea**  
Funding: NHMRC Project Grants 124317 and 124319

Investigators: Mark Daniel, Kevin Rowley, **Julie Brimblecombe, Joe Fitz, Kerin O'Dea**, with the Yalu Group  
Funding: NHMRC Project Grant 124319

Investigators: Kevin Rowley, **Kerin O'Dea, Zhiqiang Wang, Graham Giles**  
Funding: NHMRC Project Grants 124319 and 124317

Investigators: **Kerin O'Dea, James Best, Alicia Jenkins, Kevin Rowley**  
Funding: NHMRC Project Grant 124319; National Heart Foundation R 00M 0007

## Predictors of Cardiovascular Disease Mortality in the Melbourne Collaborative Cohort Study

■ The Melbourne Collaborative Cohort Study is a prospective study of the role of diet and other lifestyle factors in the development of chronic disease among over 40,000 Melbourne residents. The cohort includes a large number of southern European migrants, a population group with relatively low CVD mortality despite high prevalences of the conventional risk factors. This study aims to examine the associations of CVD mortality with markers of dietary intake, inflammation, vascular dysfunction and hormones. It is testing the hypotheses that protection from CVD is provided by high intakes of folate and antioxidants from plant foods, olive oil (as the major dietary fat), and relatively high intakes of n-3 polyunsaturated fatty acids. It also examines the role of abdominal adiposity as a CVD risk factor in men and women, through its association with sex hormones and insulin resistance.

## Lower Limb Amputations in the Northern Territory

■ This Master of Public Health treatise investigates the rate of lower limb amputations in the Northern Territory, as recorded in the Northern Territory hospital morbidity files, and examines their relationship with age, sex, region of residence, Indigenous identification, seasonality, and co-morbidities (diabetes, neuropathies and trauma). As the Northern Territory has unique hospital record numbers it is also possible to examine the extent of sequential amputations in individuals. An additional database of foot ulcers is being used to examine the relationship of foot ulcers to amputation.

## Angurugu Heart Study

■ This is a comprehensive survey of cardiovascular and renal disease in a community on Groote Eylandt, conducted in conjunction with the Angurugu Lung Study of Graeme Maguire. The processing and measurement of the ultrasound pictures' data analysis was completed during the year, and results fed back to the community. In addition, there has been considerable preparation of reports, and manuscripts. This has shown that, in addition to the previously known issues of diabetes, smoking and lipid control, early signs of renal disease, inflammation and some aspects of nutrition are associated with the risk of cardiovascular disease. The work forms the basis of Dr McDonald's PhD thesis.

## Social Determinants of End-Stage Renal Disease in Australia

■ This project is examining the interaction of biological, socioeconomic and cultural factors as they affect renal disease patterns in Australia. The work so far has described significant regional variation in the incidence of end-stage renal disease (ESRD) for both Indigenous and non-Indigenous Australians. It has also demonstrated strong associations between the incidence of ESRD and markers of poor education, unemployment, house crowding and low income. The study will also examine the predictors and consequences of late referral for ESRD treatment, the impact of different treatment modalities, and the relationship between the location of patients and the location of treatment centres. Research proposals are under development that will examine access to renal treatment services, especially transplantation, for Indigenous ESRD patients. By identifying the barriers to accessing services, the project will identify strategies to reduce disparities according to Indigenous status.

Presentations of the work were made during the year to the American Society of Nephrology, the International Congress of Behavioural Medicine, and the Asia Pacific Forum in Nephrology.

## Sharing the True Stories

■ This project utilises a participatory action research model to explore issues in communication between Indigenous patients from the Yolgnu language group undergoing treatment for end-stage renal disease and the staff of the Royal Darwin Hospital Renal Unit.

Findings of note are that there is pervasive miscommunication between patients and health staff. This relates to several issues: differing world view and over reliance on a Western biomedical model, lack of empowerment of the patients in treatment, lack of appropriate learning aids and lack of a shared language.

Based upon these findings it is proposed to continue the project looking at measures to alleviate the barriers to optimal communication.

Investigators: **Kerin O'Dea**,  
Graham Giles, Alison Hodge,  
Andrew Sinclair, Kevin Rowley  
Funding: NHMRC Project Grant  
124317

Investigators: Robyn Glynn,  
**Dorothy Mackerras**,  
Edouard d'Espaignet, Ian O'Rourke  
Funding: Nil

Investigators:  
**Stephen McDonald**,  
**Graeme Maguire**, **Wendy Hoy**  
Funding: NHMRC Scholarships  
987418 (McDonald) and 987576  
(Maguire)

Investigators: **Alan Cass**,  
**Joan Cunningham**,  
**Zhiqiang Wang**, **Wendy Hoy**,  
**Paul Snelling**  
Funding: Centre for Kidney  
Research Scholarship, New  
Children's Hospital, Sydney (Cass);  
the Colonial Foundation;  
Menzies Foundation Fellowship  
(Cunningham)

Investigators: Isaac Brown,  
Michael Christie, Anne Lowell,  
**Alan Cass**, Paul Snelling  
Funding: CRCATH; Centre for  
Kidney Research Scholarship (Cass)

### Epidemiology and Prevention of Aboriginal Renal Disease: Part two

Previous work described the high frequency of enlarged glomeruli (filters) in renal biopsies of Aboriginal people with kidney disease. This year's work has described the association between enlargement of the glomeruli with their scarring and premature death.

A community-based study has described the progression of renal disease over time, and the strong predictive value of albuminuria for all-cause natural death. Systematic treatment markedly reduces disease progression, renal failure and all-cause deaths. The investigators have reported the link of renal disease to remote episodes of post-streptococcal glomerulonephritis (Dr White), and are researching the mechanisms. The research has shown an association between renal disease and helicobacter seropositivity, the first reported link to non-cutaneous infections. The investigators have reported that children of low birth weight have smaller kidneys than those of normal birth weights, and Dr Singh is pursuing this in more detail in a separate study. The study has shown a distinct survival advantage of high body mass indexes (BMIs) in one community: a vital observation at odds with the exacerbating effect of higher BMIs on almost all chronic diseases. Finally, Dr Jiqing You has completed an analysis of the costs of treating people with renal failure in the Top End of the Northern Territory.

### Family Studies of Renal Disease

We have finished compiling a limited family tree in one community, and are linking it to clinical and biochemical parameters. We have studied the alleles of the angiotensin converting enzyme in samples from two communities, and shown more renal disease in ID than II subjects. We have demonstrated a relationship between renal disease and the pp alleles of P53 gene in two communities, (Stephen McDonald has played the major role here) and an association with larger kidneys (Gurmeet Singh). Other potential markers are being studied.

### Morphologic Studies of Kidneys in High-Risk Populations

In an ambitious international autopsy project we are studying glomerular number and size in kidneys at autopsy, and relating them to each other, to renal disease predisposition, to clinical parameters and to birthweight. Thirty kidneys have been collected in the Northern Territory, and 180 project-wide. Eighty have been studied. There is a nine-fold range in glomerular number, a five-fold range in size, and an inverse and significant correlation between the two. Kidneys are often smaller in Indigenous populations, with there being a direct correlation between birth weight and kidney mass, and birth weight and glomerular number (USA data). This seems to indicate that intrauterine growth retardation causes impairment in kidney development. This is probably the mechanism through which low birth weight predisposes to kidney disease, as we have already shown.

### Understanding the Early Antecedents of Renal Disease in a High-Risk Population: Dimensions and features of kidneys by ultrasound in Aboriginal children; relationship to birth weight, infant weight, body size and clinical characteristics

The main aim of this project is to ascertain the relationship between kidney volume (a surrogate marker of nephron numbers) and size at birth in two distinct populations, one a community and the other a birth cohort. This is based on the 'fetal origins hypothesis' which postulates that an adverse intrauterine environment leads to the formation of a lesser number of nephrons which in turn makes the kidney more susceptible to insults in later life. This may be one possible explanation for the high rates of renal failure seen in Aboriginal communities in the Top End.

This work was presented at the First World Congress on Fetal Origins of Adult Disease in Mumbai, India, during February 2001.

### Relationship Between Remote History of Post-Streptococcal Glomerulonephritis and Chronic Renal Disease

This project involves the measurement of albumin excretion and glomerular filtration rate (GFR) in a cohort of individuals who were exposed to post-streptococcal glomerulonephritis (PSGN) in childhood or who are controls. Renal functional reserve (the ability to increase GFR after a protein load) can then be calculated. There is evidence from the literature that decreased renal functional reserve is a sensitive early marker of renal dysfunction. We will then compare these parameters in those with and without a history of PSGN, adjust for confounders and test the hypothesis that PSGN causes impaired renal function and is a risk factor for renal failure in later life.

Investigators: Wendy Hoy,  
John Mathews, Zhiqiang Wang  
Funding: Colonial Foundation;  
NHMRC Project Grant 951342  
(expired)

Investigators: Wendy Hoy,  
Stephen McDonald, John Mathews  
Funding: Colonial Foundation;  
NHMRC Scholarship 987418  
(McDonald); NHMRC Project Grant  
951250 (expired)

Investigators: Wendy Hoy,  
John Bertram, Alan Cass  
Funding: Colonial Foundation;  
Janssen Cilag; NHMRC Project  
Grant 990498

Investigators: Gurmeet Singh  
Funding: Australian Kidney  
Foundation Scholarship; Colonial  
Foundation

Investigators: Andrew White,  
Wendy Hoy  
Funding: Australian Kidney  
Foundation Scholarship (White);  
KDRP

## Placing Aboriginal and Torres Strait Islander Mortality in an International Context

■ This project aimed to identify and examine similarities and differences in mortality and life expectancy between Indigenous Australians and over 200 other Indigenous and non-Indigenous populations worldwide, using routinely available data. Our analysis indicates that the patterns of Indigenous mortality are markedly different to those of most other populations with available data, with the notable exception of the Russian Republic, especially among males. The dramatic fall in Russian life expectancy has been studied extensively and the importance of social and contextual factors has been highlighted. Many of these factors are also highly relevant among the Indigenous population of Australia.

## Why Are Fewer Procedures Recorded Among Hospital Patients Identified as Indigenous?

■ A report on hospital statistics for the financial year 1997–98 showed that patients who were identified as Indigenous in hospital records were much less likely than other patients to have a principal procedure (such as an operation) recorded. The reasons for this are not clear. A number of reports from overseas have indicated that some groups of patients, such as African Americans, are less likely than other patients to receive certain procedures, but little work has been done in this area in Australia.

The goal of this project is to explain, as much as possible using nationally available hospital data, the difference in procedure rates between patients identified as Indigenous and other patients. Preliminary results were presented to the Public Health Association of Australia conference in November 2000.

## Self-Assessed Health Status Among Indigenous Australians: How valid is a global question?

■ Measures of health status are needed to compare differences within and between populations and to assess changes over time, including changes in response to health interventions. A variety of measures are available, but they may vary in their usefulness, depending on the context. The project used data from the 1994 National Aboriginal and Torres Strait Islander Survey to examine the usefulness of a global measure of self-assessed health status among Indigenous Australians. Among almost 9000 Indigenous adults who participated in the survey, poorer self-assessed health was strongly associated with several relevant factors, including age, number of health conditions and recent health-related actions. However, the associations were not as strong among people whose main language was not English. Our work suggests that a global self-assessed health question may be a useful measure for the majority of Indigenous Australians (for whom English is their main language), but that it may be much less useful among Indigenous people whose main language is not English.

## Health Services and Other Factors Affecting Survival of Aboriginal People with Cancer

■ Aboriginal people in the Northern Territory have much worse cancer survival than non-Aboriginal people in the Northern Territory and elsewhere in Australia, particularly for cancers which have relatively high survival rates in non-Aboriginal people, such as breast, bowel and cervical cancer. Only one research project has been conducted into why this is the case; it found that late diagnosis is partly responsible, but that this does not fully explain the difference. This project is investigating why Aboriginal people in the Northern Territory have poor cancer survival, and particularly looking into health service factors which may be responsible, and how they could be improved.

## Evaluation of Katherine West Coordinated Care Trial Transition Year

■ The Katherine West Coordinated Care Trial (KWCCCT) commenced in July 1998 and ended on 31 March 2000. This period, known as the 'Live Phase', was evaluated by a team from MSHR. The evaluation combined a process and outcome evaluation design to examine changes at the clinical, community and organisational levels. At the end of the Live Phase, the 'Transition Phase' was instituted by the Commonwealth to allow time to consider the outcomes of the Live Phase evaluation and decide on the future of proposed reforms. The research team was engaged to conduct ongoing evaluation throughout the Transition Phase up to 31 March 2001. The evaluation design was similar to that used during the Live Phase evaluation and included another round of clinical chart audits to monitor delivery of services in health centres according to best practice protocols as well as tracking Health Board and health service developments.

Investigators: Yin Paradies, **Joan Cunningham**  
Funding: CRCATH, Menzies Foundation Fellowship (Cunningham)

Investigators: **Joan Cunningham**  
Funding: Menzies Foundation Fellowship; CRCATH

Investigators: Beverly Sibthorpe, Ian Anderson, **Joan Cunningham**  
Funding: Menzies Foundation Fellowship (Cunningham)

Investigators: **John Condon**, Bruce Armstrong, Tony Barnes  
Funding: NHMRC Scholarship 997509 (Condon)

Investigators: **Peter d'Abbs**, **Samantha Togni**, **Ross Bailie**, **Joseph Fitz**, **Nonie Wales**  
Funding: Commonwealth Dept of Health & Aged Care via the Katherine West Health Board

### **Epidemiology, Access and Outreach: A population-based study of the delivery of specialist surgical services to the communities of western Arnhem Land**

■ This is a population-based study of the incidence and prevalence of surgical conditions in the five major communities in the western Arnhem Land region, the utilisation of specialist surgical services and the barriers faced in accessing them, and the impact of an outreach service when compared with hospital outpatients alone.

This is being supplemented with an analysis of GP referrals to specialist surgeons from the national BEACH database of general practice activity (in collaboration with Family Medicine Research Unit of the University of Sydney), and a Cochrane Systematic Review of Specialist Outreach Services.

The research findings will be written up as a PhD thesis, which is due for completion during 2002.

Investigators: Russell Gruen,  
**Ross Bailie**  
Funding: NHMRC Scholarship  
997439 & RACS Foundation  
Scholarship (Gruen)

### **An Indigenous Approach to Sexual Health Care Literature Review**

■ This review aimed to provide a comprehensive bibliography of sexual health care material available for review. The areas covered included 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.

Investigators: Jayne Curnow,  
**Ross Bailie**  
Funding: Northern Territory Sexual  
Health Advisory Committee of the  
Northern Territory Aboriginal  
Health Forum

### **The Nicotine Patches Study**

■ The prevalence of tobacco use among Indigenous Australians is much higher than that in other populations. Many Indigenous people do not have access to nicotine replacement therapies because of geographical location or cost. This project involves a pilot study of the use of free nicotine patches for Indigenous smokers, and involves a sample of 116 smokers who have been given a brief intervention on smoking with or without free patches. Participants are followed up to ascertain the acceptability of patches and are also followed up for smoking behaviour and changes in readiness to quit.

Investigators: **Rowena Ivers**,  
Chris Burns, Melissa Farrington,  
**Ross Bailie, Peter d'Abbs**,  
Robyn Richmond  
Funding: National Heart  
Foundation; Commonwealth Dept of  
Health & Aged Care; GlaxoSmithKline  
(GSK) Australia; NHMRC  
Scholarship 008502 (Ivers)

### **The Pongji Pongji (Tobacco) Book Project**

■ There are few available health promotion resources for helping Indigenous people to quit smoking. This project, a pilot study in four communities, involved consultation with Indigenous people, then development and evaluation of a health promotion kit on tobacco together with a training kit and module for health staff working with Indigenous smokers.

Investigators: **Rowena Ivers**,  
Chris Burns, Kylie Lindorff,  
Virginia Galarla, **Ross Bailie**,  
**Peter d'Abbs**, Robyn Richmond  
Funding: National Heart Foundation;  
NHMRC Scholarship 008502 (Ivers)

### **Tobacco and Indigenous People: A literature review**

■ A literature review of evidence-based approaches to tobacco control for Indigenous Australians will be published in late 2001.

Investigator: **Rowena Ivers**  
Funding: CRCATH; NHMRC  
Scholarship 008502 (Ivers)

### **The Tobacco Project**

■ The Tobacco Project evaluated the THS Tobacco Action Project, which supports incentive-funded tobacco projects developed by Aboriginal communities. In the past such projects have included rock concerts, promoting quit messages, conducting quit education and funding quit football carnivals. As part of the project, THS supported activities chosen by communities which involved evidence-based interventions, such as training of health staff in brief interventions, school education sessions and dissemination of health promotion materials. The evaluation of the project is being conducted in three communities, using three other communities for comparison. The evaluation involves monitoring tobacco sales in the community stores, large community surveys of smoking behaviour, knowledge and attitudes, and interviews with the key stakeholders in each of the three participating communities.

Investigators: **Rowena Ivers**,  
Anthony Castro, David Parfitt,  
**Ross Bailie, Peter d'Abbs**,  
Robyn Richmond  
Funding: CRCATH; NHMRC  
Scholarship 008502 (Ivers)

## Determinants of Sustainability in Community-Based Action to Reduce Alcohol Problems

■ This project, built upon research previously conducted by the investigators in a number of northern Australian settings, examined the longer-term sustainability of locally defined restrictions on alcohol availability as a means of reducing alcohol problems in regional towns in Australia. Earlier work showed that these measures were effective and had widespread community support in the first three to six months following their introduction; however, little was known of the sustainability of these results. A range of data was collected to examine these longer-term impacts, including indicators of the level of violence and injury, alcohol consumption and community support for the measures. In addition, the conceptual and theoretical issues associated with 'sustainability' and 'capacity-building' were examined.



Investigators: Peter d'Abbs, Samantha Togni, Joseph Fitz, Nonie Wales, Natasha Stacey  
Funding: NHMRC Project Grant 991398

*Roy Harrington presents research information to the community.*

Community feedback reports have been produced to allow local community groups to have genuine access to the research findings and further community feedback is planned in 2001.

A paper on this work was presented at the Combined APSAD and National Methadone Conference, held in Melbourne during November 2000.

## Health Effects of Heavy Kava Use in Aboriginal Communities

■ Aboriginal kava users may have a greater risk of developing ischaemic heart disease, pneumonia and sudden cardiac death, and kava may be associated with biochemical changes in the blood along with changes in neurocognitive function.

To test these hypotheses three related studies were conducted:

- a case-control study of admissions (1992–97) to the regional hospital at Gove for pneumonia and ischaemic heart disease amongst Aboriginal residents in the east Arnhem Land region;
- a cross-sectional study in one community in a region where kava has been used for almost 18 years; and
- a study of deaths from ischaemic heart disease (1985–97) in the east Arnhem Land region with a particular focus on sudden cardiac deaths.

Findings from the study were presented to the 32nd Public Health Association of Australia Annual Conference during November 2000.

Investigators: Alan Clough, Chris Burns, Bart Currie, Paul Spillane, Susan Jacups, Ross Bailie, Zhiqiang Wang, Terrence Guyula, Sheree Cairney, Paul Maruff, Alex Tollic  
Funding: NHMRC Project Grant 980434

## Evaluation of Environmental Health Survey Data of Indigenous Housing

■ The state of housing in remote Aboriginal communities in the Northern Territory has been recognised for decades as a significant barrier to health. MSHR was contracted by the Department of Local Government to evaluate the data from a first round of housing surveys conducted under the auspices of the Indigenous Housing Authority of the Northern Territory (IHANT). This survey is the first Northern Territory-wide survey of housing conditions in Aboriginal communities. The survey is expected to be conducted on an annual basis to inform housing maintenance and building programs in the Northern Territory, and there is in-principle agreement that MSHR will be involved in the planning and analysis of these surveys over the next five years.

Investigators: Ross Bailie, Myfanwy Runcie  
Funding: Northern Territory Department of Local Government

## Atlas of Indigenous Housing and Infrastructure Need

■ The Community Housing and Infrastructure Needs Survey was conducted by ABS on behalf of ATSIAC in 1999. The survey collected community-level data on a wide range of infrastructure in discrete Indigenous communities throughout Australia. This project aims to represent relative need of key components of health-related infrastructure in a graphical format using *MapInfo* software.

Investigators: Ross Bailie, Yin Paradies, Frank Siciliano, Geoff Dane, Lee Bevan  
Funding: CRCATH (externally funded by ATSIAC)

### Health-Related Infrastructure in Northern Territory Aboriginal Communities

■ This project uses the same survey data as the Atlas of Indigenous Housing and Infrastructure Need project. The project involves a detailed quantitative analysis of status of infrastructure in Aboriginal communities across the Northern Territory, and an analysis of relative need by ATSI region, health zone and community. The project will provide an important information base for infrastructure policy and planning in the Northern Territory.

Investigators: Ross Bailie,  
Ben Hoffmann  
Funding: CRCATH

### Performance Indicators for Indigenous Health

■ The goal of this completed project, conducted through the Cooperative Research Centre for Aboriginal and Tropical Health, was to provide a technical description of the performance indicators for Aboriginal and Torres Strait Islander Health agreed to by AHMAC. The team included staff from MSHR, THS and the Centre for Effective Health Care in Sydney. Face-to-face consultations were conducted with the health departments and NACCHO-affiliates in all jurisdictions and with other stakeholder organisations including ABS, ATSI, AIHW, the Productivity Commission and the Torres Strait Health Council. A draft document was sent to health departments for comment before being submitted to the Commonwealth for presentation at the October 2000 AHMAC meeting.

Investigators: Dorothy Mackerras, Tony Barnes, Barbara Schmidt, Pam Gollow, Louise Clark, Michael Frommer, Ramakrishna Chondur, Geoffrey Angeles, Dot Morrison  
Funding: Australian Institute of Health & Welfare

### Advanced Study and Training in Public Health Nutrition

■ The Menzies School of Health Research and the Department of Public Health at the Flinders University of South Australia obtained seed funding from the Department of Health and Aged Care under the Innovations Program to commence developing advanced study and training in public health nutrition. In July 2001 a workshop was held to explore the dimensions of advanced levels of study in public health nutrition. A range of stakeholders, including members of university departments involved in public health training or dietetics/nutrition training, members of SIGNAL and other identified individuals, were invited.

Investigators: Dorothy Mackerras, John Coveney, Kerin O'Dea, Fran Baum  
Funding: PHERP

## POPULATION HEALTH AND CHRONIC DISEASE PROGRAM'S

### COLLABORATION PARTNERS

*Anti-Cancer Council of Victoria, Melbourne:*

Graham Giles, Alison Hodge

*ATSI, Melbourne:* Lee Bevan, Geoff Dane

*Australian Centre for Effective*

*Health Care, Sydney:* Michael Frommer

*Cancer Council of New South Wales, Sydney:*

Bruce Armstrong, AM

*Consultants:* Frank Siciliano, Barbara Schmidt

*CRC Aboriginal and Tropical Health:* Tony Barnes,

Anne Lowell, Yin Paradies

*Dept Health and Aged Care, Darwin:*

Ramakrishna Chondur

*Flinders University of SA, Adelaide:* Fran Baum,

John Coveney

*Galiwinku Community Yalu Group:* Lawurrpa,

Garnyngulkpuy, Yunygirnga, Bepuka

*Galiwinku Diabetes Project Committee:*

Keith Djiniyini, Ian Mongunu, Steve Djati,

Wanamula, Yikanawuy, Litea Voqa, Djamalaka

*Gapuwiyak Community Council/ CRC Aboriginal*

*and Tropical Health:* Dorothy Garaltjawuy,

Lisa Munungurr, Helen Nyomba,

Paul Wunungmurra

*Gapuwiyak Health Centre:* Terence Guyula

*La Trobe University, Melbourne:* Sheree Cairney,

Paul Maruff

*Looma Community, Western Australia:*

Karen Skinner, Michelle Skinner

*Mental Health Research Institute of Victoria,*

*Melbourne:* Alex Tollic

*Monash University, Melbourne:* John Bertram

*National Centre for Disease Control:*

John Mathews AM

*National Centre for Epidemiology and Population*

*Health, Australian National University,*

*Canberra:* Beverly Sibthorpe

*National Heart Foundation of Australia (NT*

*Division):* Chris Burns, Melissa Farrington,

Kylie Lindorff

*Northern Territory University, Darwin:*

Isaac Brown, Michael Christie,

Jayne Curnow, Gary Robinson

*Queensland Health, Brisbane:* Amanda Lee

*Royal Darwin Hospital:* Ingrid Bucens,

Yvonne McNeil, Ian O'Rouke,

Barbara Patterson, Paul Snelling

*Royal Melbourne Institute of Technology University,*

*Melbourne:* Andrew Sinclair,

Catherine Itsiopoulos

*Territory Health Services:* Louise Clark,

Edouard d'Espaignet, Anthony Castro,

Robyn Glynn, Pam Gollow, Steve Guthridge,

Marlene Liddle, Dot Morrison, David Parfitt,

Cheryl Rae, Paul Spillane

*Territory Housing:* Andrew Heath

*Tiwi Health Board:* Virginia Galarla

*Torres Strait Health Council:* Grace Fisher,

Phillip Mills

*Tropical Public Health Unit, Cairns:*

Dympna Leonard, Robyn McDermott

*University of Melbourne:* Ian Anderson,

James Best, Alicia Jenkins, David Simmons,

Kevin Rowley

*University of New South Wales, Sydney:*

Robyn Richmond

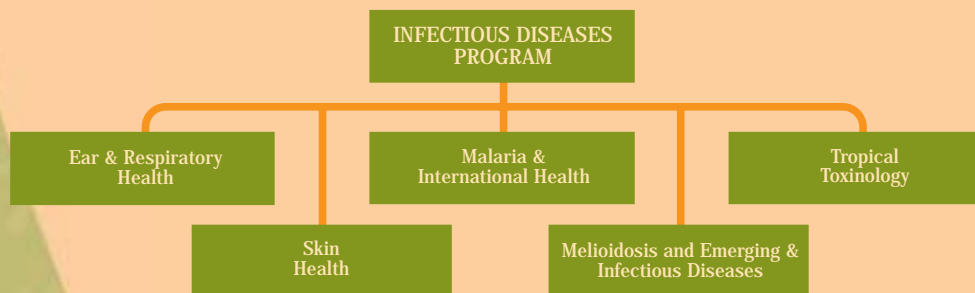
*University of North Carolina, USA:* Mark Daniel

## Infectious Diseases Program

Program Leader: Professor Bart Currie

The Infectious Diseases Program is an amalgamation of several of MSHR's former units. The emphasis for the program is on collaboration with both local health colleagues and experts outside the Northern Territory to address health issues important for 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, and an evidence-based approach is undertaken wherever possible. Many of the program's long-term projects on various infectious diseases and toxinology have continued to be productive, and the close links with the Northern Territory Clinical School (Flinders University) at Royal Darwin Hospital have facilitated this. The program is divided into five sub-programs as seen in the program's structure, shown below.

We aim for seamless collaborations across disciplines, and professional and cultural boundaries. To facilitate this, the scabies and streptococcal projects have been combined in a sub-program, as have the ear and respiratory health projects.



*Organisation of the five arms of research within the Infectious Diseases Program.*

### Skin Health

A major innovation for MSHR and the CRCATH has been the integration of various laboratory, clinical and public health projects under the 'healthy skin' initiative. While laboratory colleagues work to better understand why some people are more affected than others by scabies and streptococcal bacteria and search for potential vaccines and new therapeutic options, clinical and public health colleagues have refined prevention and treatment protocols for community and hospital use. Resources for community education and feedback have been developed and taken on the road (track or scrub path) by Norma Bengler and Loyla Leysley. Christine Connors has been seconded from Territory Health Services (THS) Rural Services as project leader for the coordinated Top End scabies eradication planning and, hopefully, implementation.

Investigators: **Bart Currie**,  
**Norma Bengler**, **Loyla Leysley**,  
**Maria Scarlett**, Michelle Dowden,  
Christine Connors,  
**Melita McKinnon**  
Funding: CRCATH



### Defining the Protective Immune Responses to Scabies

Crusted scabies is a severe, debilitating and life-threatening disease in which the epidermis is infested with up to millions of mites. Little is known about the immune response in either ordinary or crusted scabies. These studies should provide a clearer outline of the nature of the immune response and identify differences in the two forms of the disease. Differences may explain the nature of the deficit that results in the extreme form and identify those responses that are important in ordinary scabies. Progress to date includes the collection and storage of serum and white blood cells from crusted scabies patients, exposed, uninfested healthy controls and people with ordinary scabies.

Baseline studies on cytokine production using Rnase-protection assays have been completed on mRNA obtained from crusted scabies patients and uninfested controls. These indicate a statistically significant elevation of IL-4 in crusted scabies compared to controls, and also some elevation in IL-12. The finding of elevated IL-4 production in T cells from crusted scabies patients is important for two reasons. Firstly, it is consistent with our hypothesis that the crusted scabies form of the disease is Th2-dominated while the uncomplicated scabies response is Th1-like. Future work will look at the effects of stimulation with scabies-specific cloned antigens. Antibody and immunohistology studies suggest the inflammatory skin response is predominantly T cytotoxic cells and cytokines involvement includes IL-1 $\beta$  and TGF $\beta$ .

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

This project aims to further understand the significance of parasite variability in scabies. We intend to further characterise evidence of genetic separation of different 'strains' of mites by studying evolutionary gene flow between host-associated mite populations, e.g. dog or human. We have worked with mitochondrial DNA sequences, including the 12S ribosomal RNA, the 16S ribosomal RNA and the cytochrome oxidase subunit I. Currently, the 12S rRNA is the best candidate for measuring variation between mites due to its higher variability. Amplifying and sequencing the full sequence for this gene has offered us many challenges, current methods include long PCR, in which large segments of DNA are amplified.

A monomorphic marker is also being developed to distinguish dog mites from human mites using the highly variable SARMS 20 microsatellite.

In the future these markers will be able to give us insights into strain status, transmission and epidemiology of this parasite, important in the control of the disease and monitoring resistance to current treatments.

### Antigens, Allergens and Immune Responses in Normal and Crusted Scabies

To date, studies on the immune response mechanisms to scabies have been limited by the lack of data on mite antigenic molecules. Isolation and characterisation of antigens responsible for immune responses in infested hosts is necessary to facilitate further studies towards the understanding of immune responses to infestation and the development of a future vaccine against scabies.

Previous studies by PhD scholar Pearly Harumal involved the application of recombinant DNA technology to successfully construct a cDNA expression library from *Sarcoptes scabiei* var. *hominis* mites obtained from patients with crusted scabies from the Royal Darwin Hospital. Sequential immunoscreening of the first 90,000 clones with antibodies raised in rabbits infested with *S. var. canis* mites resulted in the isolation of several IgG-reacting clones. These have been expressed, purified and sent to IMVS for antibody production in rabbits. The antibodies produced can then be used in immunological studies to assess their vaccine potential.



Investigators: Shelley Walton, Grant Morahan, Bart Currie, Melita McKinnon, Susan Jacups, Nick Anstey, Peter Roberts-Thomson  
Funding: The Ramaciotti Foundations RA024/99; CRCATH

Investigators: Shelley Walton, Dave Kemp, Bart Currie, Annette Dougall  
Funding: NHMRC Project Grant 137206; CRCATH

Investigators: Dave Kemp, Shelley Walton, Bart Currie, Pearly Harumal, Edwina Williams  
Funding: NHMRC Project Grant 137205; CRCATH

*Edwina Williams and Annette Dougall at work in the scabies laboratory.*

## Scabies Gene Discovery Project

■ Scabies is a disease affecting hundreds of millions of people worldwide and the development of a vaccine against scabies would greatly improve the quality of life of these individuals. The scabies mites ingest host antibodies during feeding, and primary infestations give rise to host immunity upon subsequent infestations. Studies on a close relative of *S. scabiei*, the house dust mite, have identified at least 15 major allergens, most associated with the mite gut. A vaccine consisting of a cocktail of the scabies homologues of these allergens may induce a protective response in infested hosts.

The Scabies Gene Discovery Project was established in May 2001. It is a collaborative research project between the Queensland Institute of Medical Research, Australian Genome Research Facility, and Menzies School of Health Research, funded over three years. We aim to sequence 50,000 cDNA clones and identify the relevant homologues of known targets.



Pearly Harumal presents the findings of her PhD study which is part of MSHR's multidisciplinary program investigating scabies.

At a service delivery level the priority is identifying patients who already have heart valve damage so that they can commence secondary prophylaxis with penicillin to prevent further valve damage. It is cumulative valve damage which is the cause of morbidity and occasional tragic fatal heart failure in teenagers and young adults. Primary prevention to stop episodes of rheumatic fever will only be realistic when the overcrowding of rural Aboriginal communities is adequately addressed. A vaccine could also potentially prevent rheumatic fever. Jonathan Carapetis has been awarded a National Heart Foundation grant to work collaboratively with us in the Top End and with Alex Brown and colleagues in central Australia to assess some potential new tests for diagnosing rheumatic fever and possibly identifying those at risk for rheumatic fever.

## Distribution of Various Virulence Factors in Group A Streptococcus Isolates from Invasive and Non-Invasive Disease Cases in the Northern Territory and South-Western Sydney

■ The Northern Territory of Australia has a high rate of group A streptococcus (GAS) related disease in the Indigenous population. The long-term objective of this project is to provide a suitable vaccine antigen for the treatment of GAS-related invasive diseases. Manifestations of GAS disease may range from non-complicated pyoderma (impetigo) to rheumatic heart disease, glomerulonephritis and necrotising fasciitis. The first step in microbial colonisation is to interact with the extracellular matrix (ECM). Previous studies have shown that some fibronectin binding proteins (FBP) are sufficient for adherence to and internalisation of eukaryotic epithelial cells *in vitro*. This project will study associations of various FBPs in isolates taken from invasive cases from across the Northern Territory, as well as a comparative study of south-western Sydney isolates. The differences in the expression of other virulence factors among isolates from invasive GAS cases will also be studied.

Investigators: David Kemp, Bart Currie, Shelley Walton, Terry Speed, Pearly Harumal, Deborah Holt, Katja Fisher  
Funding: NHMRC Program in Medical Genomics

## Tinea in the Top End

■ As part of the skin health initiative, Karen Koh, the first Royal Darwin Hospital (RDH) dermatology registrar, is looking at clinical and treatment aspects of tinea in the Top End. Tinea, like scabies, is a potential entry point for streptococcal bacteria. The predominant skin fungus in remote communities is *Trichophyton rubrum*, which is spread from person to person. It causes particularly severe fungal nail disease and, to date, treatments have usually been unsatisfactory. A new daily tablet has become available and preliminary work in the Top End shows excellent responses, although reinfection is likely to occur with current overcrowded conditions. Based on this study, new guidelines will be recommended for the next edition of the *CARPA Standard Treatment Manual*.

## Rheumatic Heart Disease

■ This year we have continued to study the clinical, pathogenetic and public health aspects of rheumatic fever/rheumatic heart disease. At a service delivery level the priority is identifying patients who already have heart valve damage so that they can commence secondary prophylaxis with penicillin to prevent further valve damage. It is cumulative valve damage which is the cause of morbidity and occasional tragic fatal heart failure in teenagers and young adults. Primary prevention to stop episodes of rheumatic fever will only be realistic when the overcrowding of rural Aboriginal communities is adequately addressed. A vaccine could also potentially prevent rheumatic fever. Jonathan Carapetis has been awarded a National Heart Foundation grant to work collaboratively with us in the Top End and with Alex Brown and colleagues in central Australia to assess some potential new tests for diagnosing rheumatic fever and possibly identifying those at risk for rheumatic fever.

Investigators: Karen Koh, Colin Parker, Bert Pruijm, David Ellis, Loyla Leysley, Bart Currie  
Funding: Australasian College of Dermatologists; CRCATH

Investigators: Bart Currie, Geoffrey Angeles, Loyla Lesley, Norma Bengler, Alex Brown, Karen Edmond, Angela Kelly, Jonathan Carapetis, Kumar Visvanathan, Nigel Curtis  
Funding: National Heart Foundation; NHMRC Centre of Clinical Excellence

Investigators: Armando Del Vecchio, Bart Currie, Mark Walker, KS Sriprakash, Michael Maley  
Funding: NHMRC Project Grant 9936609

Investigators: Mandy Edwards,  
David Gordon, KS Sriprakash  
Funding: CRCATH



Mandy Edwards at work in the laboratory.

### Anti-Attachment Peptides: A novel therapeutic strategy to control group A streptococcal infection

■ Group A streptococcus uses several proteins to attach and invade host cells. Domains responsible for the host-pathogen interactions have been determined. This work will study whether peptides corresponding to these domains competitively inhibit GAS attachment to the host cells. If so, this will provide a novel approach to the prevention of skin and throat infections. We have standardised the adhesion assay and have a set of overlapping peptides representing the above domains, and are now about to commence the competitive inhibition studies.

### Aetiology Treatment and Prevention of Chronic Otitis Media in Aboriginal Infants: A randomised controlled trial (COMIT 1)

■ This study investigated whether early and prolonged antibiotic treatment could reduce chronic and severe otitis media, or middle ear infection, in Aboriginal infants. Tiwi infants less than 12 months of age with an asymptomatic middle ear effusion were randomly selected for administration of either amoxicillin or a placebo for a period of up to six months until October 2000. At the trial's completion, 101 babies had finished the study, thanks to the efforts of Tiwi staff and the support of the local community. While the study documented 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 remained high, and persistent disease continues to commence in early life. However, prolonged antibiotic treatment does substantially reduce the risk of persistent perforation. The extent to which increased antibiotic use in high-risk populations increases antibiotic resistance remains 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.

### Antibiotics for Persistent Nasal Discharge in Aboriginal Children: A randomised controlled trial (COMIT 3)

■ This study investigated whether antibiotics were indicated for Aboriginal children with persistent runny nose. Children who have excessive nasal discharge (rhinosinusitis) for at least 10 days were randomly assigned to receive amoxicillin or placebo for a period of two to four weeks. The primary outcome measure was resolution of nasal discharge at two weeks. Rates of bacterial eradication will be the secondary outcome measure. A pilot study documented rhinosinusitis in more than 50% of young primary school children. Although similarly high rates were documented at the time of enrolment, poor compliance with the intervention meant that only 34 children could be randomised. Clinical outcomes were not improved in the antibiotic group. Further microbiological and clinical analysis is currently progressing.

### Antibiotics for Chronic Suppurative Otitis Media in Aboriginal Children: A randomised controlled trial (COMIT 4)

■ This is the first study to describe the clinical course of chronic suppurative otitis media (CSOM) over a 12-month period in Aboriginal children. CSOM represents the most severe form of otitis media and is a major problem in rural and remote Aboriginal communities. The study is taking place in all three major Tiwi communities and the study team are extremely grateful to the local clinics, schools and Tiwi for Life workers for their support. Although CSOM is an extremely difficult condition to treat, a marked reduction in the amount of discharge has been reported, with one-third of children achieving dry ears during the course of the study. A randomised controlled trial of ciprofloxacin drops versus dexamethasone-framycetin-gramicidin drops in children who have persistent discharge despite standard treatment is also under way. The final assessment of the trial is scheduled for September 2001.

Investigators: Amanda Leach,  
John Mathews, Peter Morris,  
Al Yonovitz, Heidi Smith-Vaughan,  
Bev Hayhurst, Liz Stubbs,  
Yvonne Wood, Robyn Liddle,  
Una Pilakui, Marius Puruntatameri,  
Harold Koops, Melita McKinnon,  
Sylvester Black, Carla Kerinauia,  
Rhonda Kerinauia, Vicky Punguatji,  
Camilla Tipiloura  
Funding: NHMRC Project Grant  
980435; NHMRC Fellowship 997027  
(Morris)

Investigators: Yvonne Wood,  
Christine Lienert, Edna Gadil,  
Mark Bazely, Una Pilakui,  
Jaclyn Minnicon, Dana Minnicon,  
Marlene Minnicon, Sacha Cubillo,  
Lynette De Santis, Elsie Kerinauia,  
Jennifer Clancy, Agatina Black,  
Jason Palipuaminni, Mark Bazley,  
Amanda Leach, Peter Morris,  
Al Yonovitz. Funding: Office of  
Aboriginal & Torres Strait Islander  
Health Special Initiative Grant  
1999/033824; NHMRC Fellowship  
997027 (Morris)

Investigators: Peter Morris,  
Bev Hayhurst, Christine Lienert,  
Amanda Leach, Ross Bailie,  
John Mathews, Al Yonovitz,  
Heidi Smith-Vaughan, Liz Stubbs,  
Yvonne Wood, Cate Wilson,  
Robyn Liddle, Una Pilakui,  
Marius Puruntatameri,  
Camilla Tipiloura, Carla Kerinauia,  
Rhonda Kerinauia, Vicky Punguatji,  
Elizabeth Tipiloura, Sylvester Black  
Funding: NHMRC Project Grant  
100010; NHMRC Fellowship 997027  
(Morris)

### East Arnhem Runny Ears Study

■ This study, taking place in four East Arnhem Land communities, investigates the role of syringing ears with betadine plus insufflation of antibiotic drops compared with the standard application. Investigators are extremely pleased to be able to take part in the first collaborative research study (and the first visit to East Arnhem Land) for many years. A total of fifty-one children have been randomised. The preliminary analysis did not document any difference in clinical outcomes two months after the intervention. Hearing test tests are scheduled for later in the year.

### Improved Hygiene Measures for Children Attending Childcare: A randomised controlled trial (CHIPS)

■ The benefits of additional training and support to improve hygiene practices in childcare centres is being investigated in this study. Twenty childcare centres were 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. The trial commenced in March with around 450 Darwin and Palmerston families participating. Between 35 and 40 children are seen each day and families are interviewed every two weeks. Despite the enormous amount of work involved, the staff of the childcare centres have ensured that the visits are very enjoyable (even for the kids!). Data collection will continue until October. This will be only the second intervention study to be conducted in Australian childcare centres and it is wonderful to see Darwin families 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

■ This project coordinated the evidence-based assessment and interpretation of all relevant ear health knowledge by Darwin Otitis Guidelines Group members from MSHR, Northern Territory Hearing Services (part of THS) and Australian Hearing. The recommendations were launched nationally in Sydney on 23 August 2000. These recommendations represent an important addition to the information on best practice available to health-care providers for Aboriginal children. The investigators believe that they are currently the most comprehensive evidence-based guidelines available on otitis media in high-risk populations in the world.

### Prevention of Otitis Media with Prevenar and Training

■ This study investigates the prevalence of tympanic membrane perforation in children aged between six months and 2.5 years in a large number of Northern Territory Aboriginal communities. So far, 15 communities have been visited and at least another five communities should be seen by November. Perforation rates remain extremely high, although there are enormous differences between communities (range ~ 8 to 65%). The goal is to reduce perforation rates to less than 4% and preferably below 1% (a population with chronic suppurative otitis media (CSOM) in 4% of children is regarded as a massive public health problem by the World Health Organization). The new 7-valent conjugate pneumococcal vaccine (Prevenar) was introduced in June 2001. Later this year a training and service relationship with the child health program of THS will be consolidated. A repeat survey in the immunised cohort will evaluate the impact of this vaccine, and improved medical services are scheduled for 2003.

### Systematic Review Program

■ This project aims to improve the quality of our clinical trials and enhance our capacity to conduct systematic reviews. This year most of the team attended workshops run by the NHMRC Clinical Trials Centre and the Australasian Cochrane Centre. Two systematic reviews have been started and the program is currently seeking additional funding to support these activities.

Investigators: Peter Carter, Joe Daby, Glenn Wells, Ray Godwin, Emma Keene, Christine Wigger, Peter Silberberg, Yvonne Wood, Peter Morris  
Funding: The Colonial Foundation; NHMRC Fellowship 997027 (Morris)

Investigators: Cate Wilson, Karin Dunne, Christine Wigger, Edna Gadil, Christine Lienert, Liz Stubbs, Diana Kirk, Kim Hare, Jemima Beissbarth, Ross Bailie, Karen Edmond, Amanda Leach, Peter Morris, Heidi Smith-Vaughan, Robyn Liddle, Zhiqiang Wang, John Mathews, Coralie Mathews, Sue Skull, Leslee Roberts.  
Funding: NHMRC Project Grant 100009; NHMRC Fellowship 997027 (Morris)

Investigators: Peter Morris, Deidre Ballinger, Amanda Leach, Jeanette Scott, Armajit Anand, Al Yonovitz, Joe Daby, Barbara Patterson, Harold Koops, Liz Stubbs, Bev Hayhurst, the Darwin Otitis Guidelines Group  
Funding: Office of Aboriginal and Torres Strait Islander Health; NHMRC Fellowship 997027 (Morris)

Investigators: Peter Silberberg, Marie Munkara, Gabrielle McCallum, Elizabeth Hamilton, Peter Morris, Amanda Leach  
Funding: CRCATH (Wyeth Australia Pty Ltd); NHMRC Fellowship 997027 (Morris)

Investigators: Peter Morris, Amanda Leach, Peter Silberberg, Edna Gadil, Christine Wigger, Liz Stubbs, Jemima Beissbarth, Heidi Smith-Vaughan, Kim Hare, Cate Wilson, Karin Dunne, Christine Lienert  
Funding: NHMRC Fellowship 997027 (Morris)

### Ear Health Training Workshops

■ The Ear Health and Education Unit continues to collaborate with the Aboriginal Hearing Program of Northern Territory Hearing Services, and Australian Hearing Services in the provision of ear health training. This year's workshops have targeted Aboriginal health workers and both remote and community nurses using the Recommendations for Clinical Care Guidelines (see above) as the primary information source. While the NHMRC has not funded this type of activity in the past, the unit is optimistic that changes in the preferred outcomes of Aboriginal health research will mean that even more dissemination activities will be possible in the future.

### Study Towards a Simple and Rapid Test for Group B Streptococcus

■ The aim of this project is to develop a simple and rapid diagnostic test for group B streptococcus that can be used during labour to determine intrapartum maternal colonisation. Two tests have been investigated and are the subject of current patent applications. One of these tests was developed in collaboration with the Gesellschaft für Biotechnologische Forschung (GBF) in Braunschweig, Germany after Robyn Marsh spent three months of last year studying there.

This project is funded by the Cooperative Research Centre for Aboriginal and Tropical Health. Robyn's time in Germany was funded by the Queen's Trust for Young Australians and the GBF.

### Collaborative Activities to Improve Malaria Control in Our Region

■ Study investigators have continued to provide tropical infectious disease advice to health personnel in East Timor, including the World Health Organization (WHO), Division of Health Services, and the non-government organisations Merlin and International Rescue Commission. This has included advice on malaria prevention and combination treatment protocols. Ongoing collaborative malaria studies with Dr Emiliana Tjitra and the Indonesian Ministry of Health are planned which will build upon the studies done to date. At the request of AusAID, Nick Anstey reviewed a major malaria control project in Mindanao, Philippines, and contributed to the design of the extension phase of the project. Because of significant chloroquine resistance in the area, recommendations were also made to the Philippines Department of Health for use of combination antimalarial therapy in regional malaria protocols. The team continued to contribute to Northern Territory and national guidelines for the diagnosis, treatment and prevention of malaria.

### Improving the Diagnosis and Treatment of Malaria in Eastern Indonesia

■ Dr Emiliana Tjitra from the National Institute of Health Research and Development in Jakarta has now successfully completed her PhD with the International Health Program at MSHR. Following extensive health centre-based field studies in Sumba and Irian Jaya, she has evaluated current Ministry of Health clinical case definitions for malaria and developed 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, Dr Tjitra has also evaluated the efficacy of current treatment regimens for malaria in eastern Indonesia, and has evaluated newer treatment regimens for both falciparum and vivax malaria, including a randomised controlled trial in Irian Jaya of artesunate plus sulfadoxine-pyrimethamine versus sulfadoxine-pyrimethamine alone. These studies have contributed to the Ministry of Health's efforts towards the better diagnosis and treatment of malaria in eastern Indonesia. Ongoing studies with Dr Tjitra are planned.



Investigators: Peter Morris, Amanda Leach, Liz Stubbs, Jemima Beissbarth, Bev Hayhurst, Heidi Smith-Vaughan, Yvonne Wood  
Funding: NHMRC Fellowship 997027 (Morris)

Investigators: KS Sriprakash, Robyn Marsh  
Funding: CRCATH; Queen's Trust for Young Australians; Gesellschaft für Biotechnologische Forschung

Investigators: Nick Anstey, Bart Currie, Emiliana Tjitra, Paul Kelly, and regional Malaria Control colleagues  
Funding: NT Government Malaria Research Fellowships; AusAID

Investigators: Emiliana Tjitra, Nick Anstey, Bart Currie, Peter Morris, Ruth Boveington, Sri Suprianto  
Funding: NT Government Malaria-TB Research Fellowships; Mark Nicholson and Alice Hill; Tudor Foundation; NHMRC Fellowship 997027 (Morris)

*Nick Anstey and Emiliana Tjitra celebrate the completion of Dr Tjitra's PhD degree.*

## Do Nitric Oxide and Other Molecules Protect Against Severe Malaria?

■ This study is extending previous work into the role of nitric oxide (NO) and other important molecules produced by the immune system when protecting against life-threatening malaria. In collaboration with the Ministry of Health and Jayapura and Timika hospitals in Irian Jaya, Indonesia, the study team have recruited over 250 patients with and without severe malaria. Investigators have now shown that in this predominantly non-immune population white cell production of NO and other anti-disease molecules, such as prostaglandins, are highest in well people and lowest in those with severe malaria. In collaboration with colleagues at Duke University and University of Utah in the USA the study team is examining how differences in the ability to make these molecules affect the risk of developing severe malaria. This work may have important therapeutic implications in the management and prevention of severe malaria.

## Do Nitric Oxide Donors Stop Malaria Parasites from Sticking to Blood Vessels?

■ Investigators are examining whether nitric oxide (NO), an important molecule made by the body, prevents processes linked to the pathogenesis of severe and cerebral malaria. We have shown that NO makes the 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. These, and related field studies, are important in understanding the potential role of NO-related molecules in protection from disease and may have therapeutic implications.

The work's findings were presented at the XV International Congress of Tropical Medicine and Malaria during August 2000.

## The Role of Nitric Oxide, Antibodies to Parasite GPI, and Other Antidisease Molecules in Clinical Immunity to Malaria

■ Children and adults living in regions with malaria tolerate the presence of malaria parasites in their bloodstream much of the time without illness. Work on the project has shown that residents of Irian Jaya, Indonesia, and Madang, Papua New Guinea, produce high levels of nitric oxide, a small molecule that has previously been implicated in inhibiting disease responses. We have demonstrated that children and adults from Madang produce antibodies to a potentially important malaria parasite toxin, GPI. This work will better inform attempts to produce vaccines or drugs aimed at minimising an individual's disease response to malaria.

This work was presented at the Australasian Society for Infectious Diseases meeting during April 2001.

## Genes Protecting from Severe Malaria

■ It is not known why some people infected with the malaria parasite get 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 (Australia), Duke University and the University of Utah (USA), 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.

## Understanding How Malaria Affects the Lungs

■ Of the tens of thousands of adults that die of severe malaria each year, a large proportion die as a result of malaria making their lungs leaky and the lungs then filling with fluid. There is no specific treatment available for this grave complication. How and why this happens is not well understood; until it is, it will be difficult to design specific treatments. In studies of patients at Royal Darwin Hospital and Darwin Private Hospital, it has been shown that even in uncomplicated malaria, there is a significant increase in white cell activity in the lungs, and a significant reduction in airflow and in transfer of gas from the lungs to the blood. This occurs in both falciparum and vivax malaria, suggesting common underlying inflammatory mechanisms.



*This scan shows the increased white cell activity in the lungs during acute malaria.*

This work was presented at the annual meeting of the Australasian Thoracic Society in Melbourne during September 2000.

Investigators: Nick Anstey, Emiliana Tjitra, Helena Maniboey, Craig Boutlis, Jocelyn Saunders, Ating Solihin, Estelle Gray, Jodie Ridings, Hendra Widjaja, Kevin Baird, Maurine Hobbs, Don Granger, Brice Weinberg; Funding: National Institute of Health RO1 AI41764; NHMRC Scholarship 008120 (Boutlis)

Investigators: Nick Anstey, Estelle Gray, Jocelyn Saunders, Katharine Trenholme; Funding: NHMRC Project Grant 980437

Investigators: Craig Boutlis, Nick Anstey, Jodie Ridings, Charles Mgone, Moses Bockarie, Channe Gowda; Funding: Tudor Foundation; Mark Nicholson and Alice Hill; NHMRC Scholarship 008120 (Boutlis); NIH RO1 AI41764; logistical support from the Papua New Guinea Institute of Medical Research (PNGIMR).

Investigators: Maurine Hobbs, Grant Morahan, Don Granger, Brice Weinberg, Mark Levesque, Emiliana Tjitra, Hendra Widjaja, Esther Mwaikambo, Jocelyn Saunders, Jodie Ridings, Craig Boutlis, Nick Anstey; Funding: National Institutes of Health RO1 AI41764

Investigators: Graeme Maguire, Susan Jacups, Tim Cain, Travis Pearson, Patrick Ziesing, Dale Fisher, Bart Currie, Paul Marks, Nick Anstey; Funding: Perrett's Medical Imaging; NT Government Malaria Research Fellowships; NHMRC Centre of Clinical Excellence; National Institutes of Health RO1 AI41764; NHMRC Scholarship 987576 (Maguire)



Investigators Pallave Dasari and Mark Mayo with detergent samples being tested as part of a study into melioidosis in the Top End.

### The Epidemiology of Melioidosis in the Top End

With melioidosis being the most common cause of fatal bacteremic community-acquired pneumonia in the Top End, we have focussed our epidemiological studies on risks for infection with the causative organism *Burkholderia pseudomallei*. Risk factors identified include health risks such as diabetes, excessive alcohol intake, renal disease and excessive kava intake. As *B. pseudomallei* lives in soil and water, we have also commenced investigations into environmental risks for illness and severity of illness. Currently under investigation are the level of rainfall two weeks before admission to hospital and soil type involved in an inoculating event. The study is collaborative, utilising the expertise of RDH laboratory and clinical staff, THS public health educational staff, Menzies laboratory staff, and Flinders University's Northern Territory Clinical School (NTCS). Links have also been established with the Bureau of Meteorology and the Department of Lands Planning and Environment for work establishing the relationships of melioidosis to rainfall and soil.

### Clinical Aspects of Melioidosis

The prospective Top End melioidosis study has now documented over 300 cases of confirmed melioidosis since October 1989. During the 2000–01 wet season there were 31 new cases with four deaths directly attributable to melioidosis. Increased awareness amongst health staff in town and in rural centres, together with Australia's most experienced laboratory staff in identifying the bacteria *Burkholderia pseudomallei* (at RDH and the other Top End laboratories), have led to earlier diagnosis for patients with melioidosis. This, together with new treatment regimens for melioidosis developed by the Royal Darwin Hospital Division of Medicine and Intensive Care Unit, has resulted in significantly decreased mortality from melioidosis. The results of using the immune stimulant g-CSF have been particularly encouraging. Unusual clinical features of melioidosis continue to be seen, resulting in a wide range of illnesses on presentation. The recognition of *B. pseudomallei* as a potential pathogen and colonising bacteria for people with cystic fibrosis has important implications.

### Environmental Aspects of Melioidosis

This project is a collaborative effort involving three Australian institutes in Perth, Queensland and the Northern Territory. The project aims to collect environmental samples (water and soil) from different sites throughout the Top End of Australia. Once the samples are collected they will be tested for the presence of *Burkholderia pseudomallei*, a bacteria that causes melioidosis. The results of these studies will enable the environmental aspects of melioidosis to be studied. Aspects to be looked at are: what soil types the bacteria are found in; what sources of water the bacteria are found in; and what types of vegetation favour the bacteria. The study will give a better understanding of melioidosis in the Top End environment.

Investigators: **Bart Currie,**

**Susan Jacups**

Funding: NHMRC Project Grants 990975 & 139052; NHMRC Centre of Clinical Excellence

Investigators: **Bart Currie,**

**Nick Anstey,** Dale Fisher,

Sarah Huffam, Gary Lum,

Marilyn Hassell, Jim Burrow,

Dianne Howard, Dianne Stephens,

Sid Selva-Nayagam, Paul Snelling,

Vicki Krause, **Susan Jacups**

Funding: NHMRC Centre of

Clinical Excellence

Investigators: **Mark Mayo,**

**Daniel Gal, Susan Jacups,**

**Melita McKinnon,**

**Pallave Dasari,** Rob Norton,

Kellie Powell, Kay Howard,

Niki Foster, Tim Inglis,

**KS Sriprakash, Bart Currie**

Funding: NHMRC Project Grant

139052

*Melioidosis investigators have collected soil samples from a number of Top End locations, including farms, workshops and natural settings.*



*Mark Mayo and Susan Jacups collect soil samples from a Top End pig farm as part of their investigation of the causes of melioidosis.*

### Molecular Epidemiology of *Melioidosis*

■ Melioidosis is caused by the bacterium *Burkholderia pseudomallei*. Menzies School of Health Research currently has the largest collection of melioidosis bacteria in Australia (1200 isolates). The samples are from numerous sources such as soil, water, clinical specimens and animals. Using a molecular typing technique known as Pulsed-Field Gel Electrophoresis (PFGE), various DNA patterns of the bacteria are being identified. These patterns will be added to a computer database, where they will be compared for epidemiological relationships. The database will be used to answer questions such as: whether the cases of melioidosis from a community or region are from related strains of bacteria, or whether people that have more severe melioidosis are infected with specific strains. These results will help with prevention and treatment of melioidosis in the Top End of Australia and elsewhere. We are collaborating with colleagues at the Northern Territory Department of Primary Industry and Fisheries, Crocodylus Park and the Territory Wildlife Park.

Investigators: **Mark Mayo, Daniel Gal, Susan Jacups, Melita McKinnon, Pallave Dasari,** Graham Webb, Charlie Manolis, Anton Jan Maat, Kevin Fomiatti, Jill Millan, Helen Parkes, Jodie Low Choy, **KS Sriprakash, Bart Currie**  
Funding: NHMRC Project Grant 990975

### Neutrophil Response to *Burkholderia pseudomallei*

■ The response of the immune system to the melioidosis bacteria is examined in this project. The *in vitro* application of granulocyte colony stimulating factor (g-CSF), a protein which augments neutrophil (white blood cell) function is also being assessed in blood from healthy volunteers and patients who have risk factors for melioidosis (e.g. diabetes). Results from these studies will have implications for the treatment of melioidosis. Already the use of g-CSF in patients with severe melioidosis at Royal Darwin Hospital has been associated with significantly improved survival.

Investigators: **Pallave Dasari,** David Gordon, Grant Morahan, **Bart Currie**  
Funding: CRCATH; NHMRC Centre of Clinical Excellence



### Optimising Chronic Lung Disease Care for Indigenous Australians

■ This project involves the prospective study of a cohort of Indigenous Australians living in remote communities who have chronic respiratory disease. The efficacy of established management guidelines for chronic respiratory disease are being evaluated and the role of bacterial infection in this condition as a prelude to determining the role of prophylactic antibiotics and vaccination is being assessed. The ultimate aim of this project is to develop knowledge of the role of bacterial infection in chronic respiratory disease and to facilitate the development of new interventions for the condition, including vaccine development and prophylactic antibiotics. In addition, the work will facilitate the development of improved community-based management guidelines for chronic non-specific lung disease that are evidence-based and which can be implemented effectively in the context of community health centres in remote communities.

### Tiwi Lung Follow-Up Study

■ Whilst tobacco consumption plays a significant role in the development of chronic respiratory disease, this study hypothesises that additional factors, including early life events, are also likely to be important and amenable to primary preventive measures. The current study is a retrospective cohort study that has reviewed a birth cohort of Indigenous Australians living in a remote community in the tropical north. Subjects were assessed in early adulthood when the effect of other factors such as tobacco smoking were likely to be less significant. Although simple spirometry measures of lung function showed no association with early life events, an independent association was seen between lung size (total lung capacity) and birth weight and average weight gain in the first year of life, controlling for gender and general body size (as assessed by weight or height).

This work was presented to the European Respiratory Society Annual Meeting in Berlin earlier this year.

### Angurugu Lung Health Study

■ Many factors are thought to attribute to mortality due to chronic respiratory disease in Aboriginal Australians. Childhood and adult chest infections, tobacco smoking, environmental pollution (including wood smoke), family history, asthma, and poor nutrition have all been associated with the development of chronic non-specific lung disease (CNSLD)/COPD. Despite this there has been no comprehensive study of risk factors associated with the development of CNSLD in Aboriginal people. This study is a cross-sectional survey of a remote Aboriginal community to assess the burden of respiratory disease in this setting and assess normal values for spirometry in this population. In addition, a case-control study was employed to determine the contribution of putative risk factors for respiratory disease. Only by identifying the relative contribution of individual risk factors can strategies be developed to prevent and treat this condition. While specific risk factors have been identified in non-Aboriginal Australians, it cannot be assumed that these factors are the same in Aboriginal Australians, nor can it be assumed that the importance of established individual risk factors is the same in Aboriginal and non-Aboriginal Australians.

### Understanding severe *Acinetobacter* pneumonia

■ *Acinetobacter* species are a major cause of severe community-acquired pneumonia in tropical northern Australia, accounting for 10% of cases and 20% of deaths from bacteremic community-acquired pneumonia. In collaboration with Harald Siefert in Germany, we have identified the species of *Acinetobacter* that cause severe and fatal pneumonia. Studies are in progress to understand seasonal variation in *Acinetobacter* infections, and to determine the extent of community throat carriage of *Acinetobacter* in tropical Australia, particularly in at-risk people. We are also evaluating to what extent protocols for early treatment of severe community-acquired *Acinetobacter* pneumonia have reduced mortality.



Investigators: Graeme Maguire, Ross Bailie, Bart Currie  
Funding: CRCATH; Community Health and Anti-Tuberculosis Association; NHMRC Scholarship 987576 (Maguire)

Investigators: Graeme Maguire, Camilla Tipiloura, Peter Morris, Bart Currie  
Funding: Community Health and Anti-Tuberculosis Association; CRCATH; NHMRC Scholarship 987576 (Maguire)

Investigators: Graeme Maguire, Stephen McDonald, Norma Benger, Bart Currie  
Funding: Community Health and Anti-Tuberculosis Association; CRCATH; AMA-APMA Aboriginal Health Initiative; NHMRC scholarships 987576 & 987418 (Maguire & McDonald)

Investigators: Nick Anstey, Bart Currie, Marilyn Hassell, Didier Palmer, Brian Dwyer, Gary Lum, Susan Jacups, Harald Seifert, Ronan Murray  
Funding: NHMRC Centre of Clinical Excellence

*Chest X-ray of a patient with severe Acinetobacter pneumonia.*

## Antibiotic Resistance: An evolving problem

The use of broad-spectrum antibiotics in sick patients and those with chronic illnesses in hospitals around the world has been associated with emergence of multi-resistant bacteria. This has also occurred in Darwin. However, there is another factor that is especially important in driving antibiotic resistance in central and northern Australia: the need to use lots of antibiotics in over-crowded remote communities where there are many strains and large burdens of skin, respiratory and gut bacteria. It is under such circumstances that community-acquired multi-resistant *Staphylococcus aureus* has emerged and subsequently moved into the hospital environment. We are also documenting the resistance that is occasionally seen in patients with melioidosis, usually after doxycycline use for eradication therapy.

The Top End environment provides a unique opportunity to study tropical bites and stings. The program's prospective study of snakebites continues and has resulted in the clinical syndromes of each of the Top End's dangerous species being defined.



Bart Currie, leader of MSHR's Infectious Diseases Program, inspects a taipan collected by rangers in Kakadu National Park as part of the Tropical Toxinology program's study into snakebites.

## Tropical Toxinology

Most dramatic is envenoming by the western brown snake (*Pseudonaja nuchalis*), with early hypotensive collapse and potentially life-threatening bleeding resulting from the severe coagulopathy.

Geoff Isbister from the RDH Emergency Department has finished his prospective study of spider bites. Tracey Churchill has identified the spiders and Geoff has described for the first time clinical features of bites from some rare and some, as yet, unnamed species. Collaborators Lachlan Rash and Wayne Hodgson from Monash University are looking at the venom from our local mouse spider, *Missulena pruinosa*, which to date has not caused serious envenoming. Gerard O'Reilly, also from RDH's Emergency Department, has described the acute and delayed effects of *Chironex fleckeri* stings (hypersensitivity occurring at seven to ten days post-sting), as well as the clinical features of stings by the local 'Darwin carybdeid', a four-tentacled jellyfish possibly unique to our region.

## Global Warming, Environmental Change and Emerging Infectious Diseases

We are increasing our clinical surveillance for new and increasing infectious diseases that may relate to environmental changes occurring in the short term and global warming over the longer term. It is predicted that with global warming the tropical north of Australia will become both hotter and wetter. This is likely to expand the receptive area within Australia for mosquito-borne diseases such as malaria and the arboviruses Murray Valley Encephalitis, Japanese encephalitis and dengue. Melioidosis has recently been diagnosed in two people in central Australia (below the 'usual' endemic area of the Top End). Changing weather, together with environmental change from agricultural practices may well result in melioidosis becoming more common in parts of Australia other than the Top End. Leptospirosis has been increasingly diagnosed in north Queensland and also over the last year in the Top End, with several people falling critically ill. With the crisis in East Timor and the increase in movement of people and cargo between East Timor and Darwin, the predicted increase in imported cases of malaria and dengue has occurred. Rickettsial infections and possibly Ehrlichia may well be introduced. The introduction of Japanese encephalitis to the Torres Strait and subsequently the Australian mainland is of great concern. The large numbers of feral pigs across northern Australia (said to be over one million) provide a potential amplifying host for this virus, which can result in destructive and fatal neurological disease (very similar to MVE virus disease). There are currently enormous quarantine and primary production implications of various veterinary diseases not yet present in Australia.

Investigators: Bart Currie, Graeme Maguire, Nick Anstey, Gary Lum, Ronan Murray, Anne Arthur, Haran Sathianathan  
Funding: NHMRC Centre of Clinical Excellence; NHMRC Scholarship 987576 (Maguire)

Investigators: Bart Currie, Didier Palmer, Geoff Isbister, Gerard O'Reilly, Jim Burrow, Tracey Churchill, Phil Alderslade, Paul Horner, David Hirst, Melita McKinnon, Susan Jacups  
Funding: NHMRC Centre of Clinical Excellence

Investigators: Bart Currie, Nick Anstey, David Brewster, Susan Jacups  
Funding: NHMRC Centre of Clinical Excellence

### The Ability of Blood Mononuclear Cell iNOS Activity to Predict Response to Interferon Treatment of Hepatitis C

Standard treatment in Darwin for patients with hepatitis C is interferon-alpha and ribavirin for up to 12 months. However, only 10–30% of patients have sustained response to interferon alone, less than 5% to ribavirin alone and 30–60% to this combination drug treatment. This means that 40–70% of people receive therapy for hepatitis C without success, involving expensive thrice-weekly interferon injections, with flu-like side effects, for up to 12 months. In collaboration with RDH and Darwin Private Hospital liver clinic staff, and NTCS, investigators are examining whether peripheral blood mononuclear cell inducible nitric oxide synthase (iNOS) activity after one month of interferon treatment can predict those who will have sustained response to treatment. Early identification of those who won't respond means savings of unnecessary and expensive treatment and side effects.

### Ten-Year Follow-Up of a Cohort of Top End Patients with Systemic Lupus Erythematosus

Previous studies have shown high prevalence of systemic lupus erythematosus (SLE) in Top End Aborigines with a resulting high morbidity and mortality. In 1991 we identified a cohort of patients with SLE. In a ten-year follow-up of this cohort, the long-term outcomes in affected patients are being examined to identify common patterns of morbidity (potentially improving recognition), complications of the disease and/or treatment in a Top End setting, and potential strategies that may be useful in preventing the adverse outcomes identified.

### Nitric Oxide and Gut Damage in Diarrhoeal Disease

The study team are collaborating with David Brewster's team at the NTCS in their studies of gut damage from gastroenteritis and tropical enteropathy, both major problems in Top End Aboriginal children. Results show extremely high levels of nitric oxide (NO) production in gastroenteritis which is strongly associated with leakiness of the gut, underlying malnutrition and the potassium depletion found in the sickest children. NO was particularly high in *Cryptosporidium* infection, a major cause of gut damage. As part of NTCS trials of interventions to hasten recovery of gut damage and inflammation, investigators are continuing the studies to help understand the mechanisms to improve outcomes.

The work was presented at the 5th Commonwealth Congress on Diarrhoea and Malnutrition held in Darwin during April 2001.

### Collaborations to Improve Tuberculosis Control in Our Region

MSHR has been involved in projects to support tuberculosis (TB) control in our region since 1998. During 2000–01 the AusAID-funded project in Indonesia came to an end, however, collaborative links with the Indonesian Ministry of Health at national and provincial levels are continuing. Work has progressed on an AusAID-funded, THS-led TB support project in East Timor. Elements of the project included provision of technical support, training, guideline development and laboratory support. Investigators are working with international colleagues, THS and the Institute for Medical and Veterinary Sciences in Adelaide in a study of drug-resistant TB. A pilot study in East Timor has revealed high-level resistance in patients who have failed re-treatment.

In 2001, MSHR became a foundation member of STOP-TB, a World Health Organization initiative to coordinate global TB research and control activities.

### International Health Professional Training and Education

Together with colleagues in THS and East Timor, investigators have been involved in several training and education initiatives during 2000–01. Students from East Timor, Indonesia, Zambia, India and the Philippines have joined MSHR's Master of Public Health program. Treatise subjects in their home countries are being developed. Similarly, co-supervision of research by East Timorese students currently studying at other Australian universities is proceeding. The unit has contributed to module development and delivery of training courses for the East Timor TB control program as part of a Territory Health Services-led, AusAID-funded project.

Investigators: Nick Anstey, Dale Fisher, Susan Jacups, Melita McKinnon, Estelle Gray, Heather Hall  
Funding: NHMRC Centre of Clinical Excellence

Investigators: Nick Anstey, Susan Jacups, Bart Currie  
Funding: NHMRC Centre of Clinical Excellence

Investigators: David Brewster, Renata Kukorozovic, Brett Ritchie, Estelle Gray, Nick Anstey  
Funding: NHMRC Centre of Clinical Excellence; NHMRC Project Grant 980437

Investigators: Paul Kelly, Kay Withnall, Nathan Zweck, Vicki Krause, Einar Heldal, Jaime Sarmento, Gil da Costa, Filomena da Costa, Augusto Pinto, Filomeno Belo, Constantino Lopez, Augusto Tolan, Richard Lumb, Ivan Bastian, Stuart Collins  
Funding: AusAID; UNICEF

Investigators: Paul Kelly, Kay Withnall, Nick Anstey, Nathan Zweck, Vicki Krause, Gil da Costa, Jaime Sarmento, Filomena da Costa, Stuart Collins, Rob Condon  
Funding: AusAID

## INFECTIOUS DISEASES PROGRAM'S COLLABORATION PARTNERS

### *Adelaide Women's and Children's Hospital:*

David Ellis, Julian White

### *Australasian College of Dermatologists:*

Colin Parker

### *Australian Hearing Services, Darwin:* Al Yonovitz,

### *Caritas Norway:* Einar Heldal

### *Central Laboratories, Division of Health Services,*

*East Timor:* Augusto Tolan

### *Consultant ear-nose-throat specialist:* Peter Carter

### *Consultant research assistant:* Emma Keene

### *Crocodylus Park, Darwin:* Charlie Manolis,

Graham Webb

### *CSIRO, Darwin:* Tracey Churchill

### *Darwin Private Hospital:* Heather Hall,

Dale Fisher

### *Duke University Medical Center, North Carolina,*

*USA:* Mark Levesque, Brice Weinberg

### *Flinders Medical Centre, Adelaide:* Patrick Zeising

### *Flinders University of SA, Adelaide:* David Gordon,

Peter Roberts-Thomson

### *Georgetown University, Washington, USA:*

Channe Gowda

### *Gesellschaft für Biotechnologische Forschung,*

*Braunschweig, Germany:* G Singh Chhaatwal,  
Manfred Rohde

### *Institute of Medical and Veterinary Sciences,*

*Adelaide:* Ivan Bastian, Richard Lumb

### *Mahidol University, Bangkok, Thailand:*

Lek Wuthiekanun

### *Mimika Community Hospital, Irian Jaya,*

*Indonesia:* Hendra Widjaja

### *Ministry of Health, Jakarta, Indonesia:*

Sri Suprianto

### *Monash University, Melbourne:* Lachlan Rash,

Wayne Hodgson

### *Muhimbili Medical Centre, Tanzania:*

Esther Mwaikambo

### *Museum and Art Gallery of the Northern Territory:*

Phil Alderslade, Paul Horner, Barry Russell

### *National Centre for Disease Control, Canberra:*

John Mathews

### *National Centre for Epidemiology and Population*

*Health, Australian National University,*

*Canberra:* Leslee Roberts

### *National Institute of Health Research and*

*Development, Jakarta, Indonesia:*

Emiliana Tjitra, Sumarijati Arjoso

### *National TB Program/ Caritas East Timor:*

Filomeno Belo, Filomena da Costa,

Gil da Costa, Constantino Lopez,

Augusto Pinto, Jaime Sarmiento

### *Northern Territory Imaging:* Tim Cain,

Travis Pearson

### *NT Clinical School:* David Brewster

### *NT Dept Lands and Planning:* Blair Wood

### *NT Dept Education:* Ray Godwin

### *NT Dept Primary Industry and Fisheries:*

Kevin Fomiatti, Anton Janmaat, Jill Millan,

Helen Parkes

### *Papua New Guinea Institute of Medical Research,*

*Madang:* Moses Bockarie, Charles Mgone

### *Parks and Wildlife Commission of the NT,*

*Darwin:* Jodie Low Choy

### *Private dermatologist, Darwin:* Bert Pruijm

### *Queensland Institute of Medical Research,*

*Brisbane:* Katja Fisher, Michael Good,

Deborah Holt, David Kemp

### *Queensland Medical Laboratories, Darwin:*

Wayne Pederick

### *Reptile World, Darwin:* Graham Gow

### *Royal Children's Hospital, Melbourne:*

Jonathan Carapetis, Nigel Curtis,

Kumar Visvanathan

### *Royal Darwin Hospital:* Anne Arthur, Jim Burrow,

Christine Connors, Dale Fisher,

Marilyn Hassell, Dianne Howard, Sarah Huffam,

Geoff Isbister, Renata Kukorozovic, Gary Lum,

Paul Marks, Ronan Murray, Gerard O'Reilly,

Didier Palmer, Barbara Patterson,

Brett Ritchie, Sid Selva-Nayagam,

Paul Snelling, Dianne Stephens

### *Royal Melbourne Hospital, Melbourne:* Sue Skull

### *South Australian Museum, Adelaide:* David Hirst

### *South-Western Area Pathology Service,*

*Sydney:* Michael Maley

### *Territory Health Services:* Armajit Anand,

Alex Brown, Joe Daby, Michelle Dowden,

Karen Edmond, Angela Kelly, Jeanette Scott

### *Territory Health Services Centre for Disease*

*Control:* Vicki Krause, Nathan Zweck

### *Townsville General Hospital:* Rob Norton,

Kellie Powell

### *University Dept of General Practice, Calvary*

*Hospital, Canberra:* Coralie Mathews

### *University of Cologne, Germany:* Harald Seifert

### *University of Miami, USA:* David Taplin

### *University of Utah Health Sciences Centre, Salt*

*Lake City, USA:* Don Granger, Maurine Hobbs

### *University of Wollongong:* Mark Walker

### *US Naval Medical Research Unit #2, USA:*

Kevin Baird

### *WA Pathology Centre, Perth:* Nicki Foster,

Kay Howard, Tim Inglis

### *Walter and Eliza Hall Institute of Medical*

*Research, Melbourne:* Grant Morahan,

Terry Speed

### *Western Diagnostics, Perth:* Brian Dwyer

### *Western Diagnostics, Darwin:* Brian Truscott

### *World Health Organization, Dili, East Timor:*

Rob Condon

### *World Health Organization, Jakarta, Indonesia:*

Stuart Collins

### *Wright State University, Ohio, USA:* Larry Arlian,

Marge Morgan

### *Yale University School of Medicine, Connecticut,*

*USA:* Debra Bessen

## Education and Training

Program Leader: Dr Paul Kelly

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 diseases.

### Public Health Coursework

Degrees in public health are accredited by the Northern Territory University and have been delivered by the Menzies School of Health Research since 1994. The multidisciplinary nature of the program and the diverse backgrounds of the lecturers and students results in a program which contributes to the broad view of public health that is maintained by the School.

### Public Health Teaching

The courses comprising the Public Health Coursework Program are offered through distance education. Enrolments in 2000–01 included five international students with three of these students travelling to Darwin and the other two electing to study in their own countries (Indonesia and New Zealand).

Our collaborative working arrangements with the Flinders University of South Australia, the University of New South Wales and the Centre for Remote Health in Alice Springs have contributed to the coursework program and helped to strengthen our links with these organisations.

The Coursework Management Committee (CMC) is working towards re-accrediting the program in 2003 and is guided by the findings of the review of the Public Health Education and Research Program (PHERP).

### Enrolments

At the end of semester one 2001, there were 67 enrolments which included 39 continuing students, 28 new students and one cross-institutional enrolment. There were seven students undertaking their studies on a full-time basis with the balance studying on a part-time basis. Among the graduands, five students submitted a treatise and there are another two students due to submit their treatises later in the year, which will bring their studies in the Master of Public Health to an end.

### Graduands

Semester two 2000	Graduate Certificate in Public Health	3
	Graduate Diploma in Public Health	2
	Master of Public Health (Coursework)	3
	Master of Public Health (Treatise)	2
Semester one 2001	Graduate Certificate in Public Health	0
	Graduate Diploma in Public Health	0
	Master of Public Health (Coursework)	1
	Master of Public Health (Treatise)	3



*Program Leader, Education and Training, Dr Paul Kelly.*

## New Developments

- (i) Associate Professor Ross Bailie relinquished the role of coursework coordinator but has retained his role as Chair of the CMC and will continue to contribute to the planning and direction of the coursework program. Dr Paul Kelly was welcomed as Course Coordinator at the beginning of 2001.
- (ii) The possibilities of developing new courses are continuing to be investigated in consultation with staff of the Northern Territory University. Students in allied health courses may access the units offered through MSHR in the future.
- (iii) PHERP funding for a further three years has been assured under the innovations program through the Department of Health and Aged Care. This will allow further development of the course appropriate to the needs of our stakeholders, and strengthen our offerings in Indigenous, remote, rural and tropical health.
- (iv) Contributions were made to the following national public health teaching projects:
  - Development of an 'Infectious Diseases' module for the Population Health Education for Clinicians (PHEC)
  - National Curriculum Program: discussions were undertaken to formulate new national standards for public health teaching
  - Australian Network of Academic Public Health Institutions (ANAPHI): MSHR is a foundation member of this forum which discusses policy directions in public health teaching and research

## Short Courses/Workshops

■ Dr Joan Cunningham and Dr John Condon presented a very successful three-day workshop 'Introduction to Health Information and Health Research' in early August 2000. There were 19 participants and due to its success it is likely to be offered again.

A short course, Applied Biostatistics with STATA, was offered in August 2000 as a collaborative effort involving staff from MSHR, the Flinders University of South Australia, the Cooperative Research Centre for Aboriginal and Tropical Health and the University of Queensland. This course was offered part-time over 12 weeks and attracted 26 participants.

## Research

### POSTGRADUATE RESEARCH STUDY

The academic standing of MSHR 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 SA. Student research projects cover a broad scope from molecular biology to population health and health policy.

Postgraduate research students are supervised by senior staff of the School and external supervisors where appropriate.

### ENROLMENTS

In 2000-01, the total

enrolments in research degrees was 21:

Bachelor of Science (Hons)	2
Doctor of Philosophy	12
Master of Public Health (Research)	3
Master of Science	4

### GRADUANDS

There were a total of four graduands:

BSc (Hons)	1
Master of Science (MSc)	1
Doctor of Philosophy (PhD)	2

### FUNDING SUPPORT

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

- National Health and Medical Research Council
- Australian Kidney Foundation
- Cooperative Research Centre for Aboriginal and Tropical Health

### PLANS FOR 2001-02

Plans for 2001-02 include:

- strengthening the links between research and education
- formulation of a business plan for the education and training program
- exploring collaboration with other universities
- exploring articulation for Indigenous students to increase coursework enrolments
- develop on-line delivery of education materials
- formulation of a regular series of short courses to provide flexible learning options for coursework students, research students and MSHR staff
- active recruitment of high-quality research students
- involvement with University of Melbourne Advanced Medical Science program

## Indigenous Forum

Interim Convenor: Norma Bengler, Certificate in Health Promotion BFA,  
current studies: Master Education

As part of the restructure of MSHR over the last year, the Indigenous Forum was established to provide a framework for enhanced representation, support and participation of Menzies' Indigenous staff and students. This provides a balance as members of the former Aboriginal Policy and Health Education Unit were fully integrated into the projects in which they participated. The Forum meets on a regular basis with a strong focus on the genuine involvement of Indigenous staff in all MSHR activities, and for providing targeted professional development opportunities for members. The convenor is an integral part of the senior management team providing advice on all Indigenous aspects of employment and working appropriately with Indigenous members. Advice is provided in collaboration with all members of the Forum.

With the Forum's establishment, Mai Katona decided that it was time to hand over the reins and responsibility for the development of Indigenous research capacity within MSHR. We wish to recognise the efforts and sacrifice that Mai has made over the last four years to raise the awareness of Indigenous issues within MSHR, particularly with regard to the conduct of research, and to developing Indigenous capacity. Mai continues to work with MSHR and we look forward to her continuing support.

During 2000–01, members of the Indigenous Forum have both visited some interesting places and worked on diverse projects . . .

### Panama

As part of the Top End Healthy Skin feasibility study, Norma travelled to the San Blas Islands, Panama with Dr Shelley Walton. During this trip they worked with the field epidemiology survey team from the University of Miami under the guidance of Professor David Taplin to collaborate on a scabies clinical field trial with Kuna Indians. This proved to be a very interesting trip with all participants learning from each other, and has assisted in the development of a consultative approach for gaining informed consent from a community.

Project Officer: Norma Bengler

*Members of MSHR's Indigenous Forum: (back row, left to right) Melita McKinnon, Khalee Press, Sarah Walton, Joe Fitz, Geoffrey Angeles, Kalinda Griffiths; (front row, left to right) Loyla Leysley, Norma Bengler (Interim Convenor).*



## Yarrabah

Project Officer: Loyla Lesley

■ The Rheumatic Fever project was wrapped up in 2000 with a trip to the community of Yarrabah in North Queensland by project officer Loyla Lesley. Loyla worked in collaboration with health workers, workshopping the information and resources, and strengthening links for future Rheumatic Fever work and the future skin health program.

## Video and Editing

Project Officer: Peter Thomsen

■ Peter Thomsen has been working on videos to support information dissemination and research transfer for several projects within MSHR and for other agencies including: the MSHR Diabetes project, THS Tobacco Action Program social information video, recording conferences and working in collaboration with IHEC and community projects to provide training and editing. Peter is also the current Chair of the Aboriginal Ethics Subcommittee and a member of the Top End Human Research Ethics Committee.

## Feasibility Study for Top End Healthy Skin Project

Project Officers: Norma Bengler and Michelle Dowden

■ The purpose of the feasibility study was to consult with Top End communities, key stakeholder organisations, and other interested parties about the possibilities of implementing a coordinated 'Healthy Skin Program' across the Top End region of the Northern Territory. Such a program would aim to assess the level of community interest and current scabies reduction strategies, and to document past and current intervention.

## Healthy Skin Team

Project Officers: Loyla Leysley and Norma Bengler

■ Following recommendations arising from the feasibility study for a healthy skin project (see above), the healthy skin team is currently working with both Port Keats (Wadeye) and Oenpelli (Karnbarlanya) communities, who run their own community treatment and clean-up days. The project officers will be evaluating the lead-up processes and the effect of the clean-up day, and outcomes from the local programs.

## Prevention of Otitis Media with Prevenar and Training

Project Officer: Marie Munkara

■ Project officer Marie Munkara carries out community consultation with remote Indigenous communities in the Top End and in central Australia with a view to obtaining consent for the conduct of the Prevention of Otitis Media with Prevenar and Training (PrOMPT) project within that community (the PrOMPT project is conducted by the MSHR Ear Health and Education Team). This has entailed visiting communities and speaking to councils, health centres and local people. If approval is given for the project to go ahead, the next stage will be the logistics of accommodation for the project team and a schedule appropriate for the community. The numbers of children in the required age group was not as high as originally anticipated due to a number of factors, such as a bush holiday. Some communities felt that their priorities lay elsewhere, and although it would have been good to have the extra numbers it was great to see them making their own decisions about their children's health.

Marie Munkara has also worked on a permits protocol, which is now completed, and a code of practice for visiting Aboriginal communities.

## A Community Intervention Project: Reducing the risk of diabetes and cardiovascular disease

Project Officer: Joseph Fitz

■ This project seeks to determine if people are at risk of getting diabetes or heart disease. Screening participants for the project will take about six weeks to complete. There are a number of people involved in this project from other states, and overseas, as well as Julie Brimblecombe (Project Officer), Tomer Shemesh (Blood Processing Laboratory), Dr Dorothy Mackerras and Professor Kerin O'Dea.

## Top End Group Training

■ A number of Indigenous trainees have secured permanent positions at MSHR. One success story is Khalee Press, who now manages MSHR's reception area. Khalee has completed certificate level two and three in office administration and is currently studying for an advanced certificate in office administration.



## Finance and Administration Division

Acting Associate Director: Mr Grant Lindsay

### Introduction

As part of the strategic restructure of MSHR, various support services functions were grouped into a single division in April 2001. The Finance and Administration Division provides the facilities, services and infrastructure necessary to achieve the School's research and education objectives. Headed by the Associate Director Finance and Administration, the division has provided wide-ranging support to MSHR's research projects, and to over 70 full-time researchers operating in central Australia, the Tiwi Islands, Indonesia, East Timor, Papua New Guinea, the Kimberley (Western Australia), and across the Top End of the Northern Territory. The division also provides direct support to the Cooperative Research Centre for Aboriginal and Tropical Health (CRCATH), the joint venture of which MSHR is the centre agent.

Mr Grant Lindsay assumed the position of Acting Associate Director Finance and Administration on formation of the division. This position is charged with ensuring the provision of high-level service support to MSHR's research activities to ensure that the reputation of MSHR as an international research institute is maintained.

### Operations Section

As part of the restructure, front office operations and laboratory support were brought under a single manager. As operations manager, Sue Hutton is responsible for the efficient, effective and timely provision of operational support and infrastructure in order to facilitate maximum output from all MSHR/CRCATH staff in Darwin and other locations.

### Laboratory Support

With some 20 funded projects, 15 full-time researchers, and two PhD, two masters, and two honours students requiring support, the dedicated team in laboratory support have been kept very busy. Major equipment purchases included DNASTAR Lasergene software, a rotor-Gene real-time PCR system, and an Eppendorf Thermal Cycler (PCR). Both PCR equipments were purchased through an NHMRC capital equipment grant on a dollar-for-dollar basis.

### Front Office Operations and Administrative Support

The front desk staff present a smiling and helpful welcome to MSHR and ensure the administration requirements of staff, students and visitors are well met. Khalee Press completed her traineeship in early 2001 and has assumed full duties in the front office. As part of the restructure and allocation of tasks, front office assumed responsibility for travel arrangements from March 2001. The responsibilities of the Grants Administration Officer, Gabrielle Falls, were extended and, with our Graphic Designer Jeni Wie, was transferred to the Research Support Group responsible to the Deputy Director's office. This has meant increased support to researchers in the preparation of grants submissions and also in the publication and presentation of their findings. Gabrielle, with Grant Lindsay, was also responsible for the production of the 1999–2000 annual report and the organisation of the 2000 Annual Oration, presented by former chairman of the Governing Board, Professor John Young AO.



*Acting Associate Director,  
Finance and Administration,  
Grant Lindsay.*

Manager: Sue Hutton

Staff: Jo Bex (Supervisor),  
Jann King and Kalinda Griffiths  
(CRCATH Trainee)

Staff: Gabrielle Falls (until April 2001, Grants Administration Officer), Tracey Burke (Senior Receptionist), Anastasia Beare (until December 2000), Sheila Taylor (relief Receptionist), Khalee Press (trainee Receptionist), and Jeni Wie (until April 2001, Graphic Designer)

## Communication and Information Systems Section

Transition from a technology focus to a systems focus has continued throughout the year, with particular requirements identified by a review of MSHR's information technology in December 2000. The Database Manager, Robyn Liddle, was transferred to the Research Support Group under the Deputy Director in April 2001, and all IT training has been outsourced. The IT redevelopment project moved into high gear in June 2001 with the appointment of a consultant project officer. The project aims to provide MSHR with a fully redesigned and revitalised communications and information systems package by the end of December 2001.

Staff: Tony House (Manager), Pavel Stulik (Systems Administrator), David Arthur (Senior IT Officer), Robyn Liddle (until April 2001, Database Manager), Mandy Noble (until June 2001, IT Training), and James McArthur (until March 2001, casual IT Officer).

## Finance and Accounting Section

The excellent preparation of the section in anticipation of the new tax system, which began in July 2000, ensured a smooth introduction of processes to meet the new requirements. Similarly, preparations for the changes to the fringe benefit tax arrangements were also put in place. This was achieved while maintaining financial management of over 130 research grants, managing a budget of almost \$7.8million, and providing financial management support to the CRCATH. Indicative of the professional support provided by the finance and accounting 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 in September 2000.

Staff: Yolanda Jackson (Manager), Margarita Bassett, Judy Johnson (60% position), and Tricia McDonald (50%position).

## Human Resources Section

The human resources team has continued to maintain the high standard of management required to maintain MSHR's diversified workforce. This has been achieved in a period of high staff turnover and the increased numbers of research staff and students that have resulted from the increased research and teaching activity of the School. The team has managed the recruitment and induction of over 63 new personnel, and helped 64 personnel leave MSHR's employ, in addition to maintaining the requirements of existing staff.

Staff: Catheryn Young (until December 2000, Personnel Officer), Grant Lindsay (from December 2000) and Judy Johnson (40% position)

## Building Management

The increases in staff numbers and research activity over the last year have further increased the pressure on work space, with thoughts now being given to future expansion requirements. Building operating costs are being maintained at the reduced levels achieved in the last financial year, despite the increased usage, due to the promotion of efficiency measures and an active greenhouse gas emission reduction program.

Staff: Grant Lindsay and Sue Hutton

# Publications

2000–01

an academic structure that facilitates collaborative research and communication

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- Robinson G, Bailie R, Kondalsamy-Chennakesavan S, Togni S, Curnow J. *Tiwi Coordinated Care Trial Transition Year Evaluation Report*. Darwin: NTUniprint. 2000.
- Robinson G, Bailie R. *Tiwi Coordinated Care Trial Final Local Evaluation Report. Volumes 1 and 2*. Darwin: NTUniPrint. 2001.
- Runcie M, Bailie R. *Evaluation of Environmental Health Survey Data:*

*Indigenous Housing*. Menzies School of Health Research & CRC for Aboriginal and Tropical Health Research Report. July 2000.

- Sarmiento J, Haldal E, Krause V, Zweck N, Kelly P (Eds). *Manual of the National Tuberculosis Programme of Timor Lorosae*. Health Care Division, Caritas Dili & Division of Health Services, East Timor Transitional Authority. Dili, East Timor, March 2001.
- Simpson G, Anstey NM. *The Agusan del Sur Malaria Control and Prevention Project: Consolidation and Integration Phase: Review and Project Design Document*. Canberra: AusAID, 2001.
- Wakerman J, Matthews S, Hill P, Gibson O. *'Beyond Charcoal Lane': Aboriginal and Torres Strait Islander health managers: issues and strategies to assist recruitment, retention and professional development*. Alice Springs: Centre for Remote Health. 2000.

## IN PRESS

- Kelly P, Morgan S, Johnston F, Peacock D, Harrison C, Baillie R. *Infectious Diseases. The Population Health Education for Clinicians Project*. Canberra: Commonwealth Dept Health & Aged Care.
- Kelly PM. *Tuberculosis. Tropical Health Orientation Manual*. Darwin: Top End Division of General Practice.
- Kelly PM. *Mosquito-borne Diseases. Tropical Health Orientation Manual*. Darwin: Top End Division of General Practice.

## Other Professional Activities

### COMMITTEE MEMBERSHIP

- O'Dea, K. 1996–present, Member, Working Party on 'Science of Nutrition in Diabetes', Australian Diabetes Society 1997–2001, Member, Board, Murdoch Institute 1997–present, Member, NHMRC Aboriginal and Torres Strait Islander Health Research Agenda Working Group 1999–present, Member, NHMRC 1999–present, Member, Consultancy for the development of Evidence-Based Guidelines for the Prevention and Treatment of Type 2 Diabetes, NHMRC 1999–present, Member, Scientific Advisory Committee, Melbourne Collaborative Cohort Study 1999–present, Member, National Heart Foundation of Australia, NT Division

2000–present, Member, Diabetes Research Consultative Committee 2001, Member, Consultative Committee for the National Centre for Epidemiology and Population Health, ANU 2001, Member, National Diabetes Strategies Committee

- Baillie, R. Member of an NHMRC GrantNet Advisory Group for the 2001 funding round
- Anstey, N. 1999–present, Member, World Health Organization Roll Back Malaria Emergency Network
- Cass, A. 2001, Secretary, Kidney Check Australia Taskforce (constituted by Australian Kidney Foundation and Australian and New Zealand Society of Nephrology)
- Cunningham, J. 2000–present, President, Australasian Epidemiological Association 1999–present, Consultant, Australian Indigenous HealthInfoNet 2000–present, Member, Global Health Network Advisory Group
- Currie, B. 2000–present, Council member, Council on Rheumatic Fever, World Heart Federation Scientific Advisory Board 1990–present, Member, National Antibiotic Guidelines Writing Group 1990–present, Commonwealth quarantine medical officer, Australian Quarantine and Inspection Service 1989–present, Chairperson, Scientific Program Committee, World Melioidosis Congress, Perth 2001 1990–present, Member, Royal Darwin Hospital Drugs and Therapeutics Committee 1990–present, Chairperson, Royal Darwin Hospital Infection Control Committee 1996–present, Chairperson, Northern Territory Rheumatic Heart Disease Control Program Advisory Committee 2001, Member, National Arbovirus Committee
- Kelly, P. 1999–present, Member, Task Group to Review Guidelines for Refugee Health Screening of Refugees, Department of Health and Aged Care, Canberra 2001, Member, Australian Network of Academic Public Health Institutions 2001, Deputy Chairman, Regional Committee, Australasian Faculty of Public Health Medicine
- Leach, A. 2000–present, Member, Scientific Advisory Committee to International Symposium on Pneumococci and

Pneumococcal Diseases 1998–present, Member, WHO Technical Advisory Group on Pneumococcal Carriage

- Sriprakash, KS. 2001, Member, NHMRC GrantNet Advisory Group, Microbiology and immunology 2001, International scientific adviser, Lancefield Symposium May–August 2000, Visiting scientist, Braunschweig, Germany; partly funded by the Australian Academy of Sciences and Menzies School of Health Research
- Walton, S. 2000–present, Scientific adviser, HREC of Menzies School of Health Research and Royal Darwin Hospital 2001, Member, Darwin Region Institutional Biosafety Committee 1995–2000, Executive Member of the Darwin Sub-Branch Committee, Australian Society of Microbiology

## EDITORIAL BOARDS/PUBLICATION REVIEW

- O'Dea, K. 1997–present, Member, Editorial board, *Public Health Nutrition* 1999–present, Member, Editorial board, British Nutrition Society Textbook Series on Nutrition 2001, Member, Editorial board, *Australian and New Zealand Journal of Public Health*
- Baillie, R. 2001–present, Editorial committee: Environmental Health
- Anstey, N. 2000–present, Referee, *American Journal of Tropical Medicine and Hygiene* 2000–present, Referee, *Clinical Chemistry* 2000–present, Referee, *Acta Tropica*
- Cunningham, J. 1999–present, Reviewer, *Australia and New Zealand Journal of Public Health* 1999–present, Reviewer, *Journal of Population Research* (formerly *Journal of the Australian Population Association*) 2000–present, Reviewer, CRC for Aboriginal and Tropical Health's occasional paper series 2000, Reviewer, Health Inequalities Research Collaboration
- Kelly, P. 2000–present, Assistant editor, *The Northern Territory Disease Control Bulletin* 2001, Referee, *Medical Journal of Australia* 2001, Referee, *Journal of Paediatrics and Child Health*
- Mackerras, D. 1996–2000, Member, Editorial committee, *Australian and New*

*Zealand Journal of Public Health*  
1997–present, Member, Editorial  
committee, *Nutrition Today*

## CONFERENCE PRESENTATIONS

### INVITED

- O'Dea, K.** July 2000, Social inequalities in health: Neuroendocrine pathways, Social Inequalities in Health, Canberra, Australia  
July 2000, Insulin resistance and risk of macrovascular disease in Aborigines and Torres Strait Islanders, International Symposium on Insulin Resistance and Atherosclerosis, Osaka, Japan  
November 2000, Interventions to reduce the impact of diabetes among Indigenous Australians: The hunter-gatherer lifestyle and beyond, International Congress of Behavioural Medicine, Brisbane, Australia  
November 2000, Community-based interventions to improve Aboriginal health, Australian Medical Association Conference, Darwin, Australia  
April 2001, Diabetes and cardiovascular disease in Indigenous Australian populations, 5th Commonwealth Congress on Diarrhoea and Malnutrition, Darwin, Australia
- Baillie RS.** Water and Health in Remote Aboriginal Communities. Presentation at an EnHealth Council Workshop, Melbourne, March 2001.
- Anstey, N.** April 2001, Nitric Oxide and Diarrhoeal Disease, 5th Commonwealth Congress on Diarrhoea and Malnutrition, Darwin, Australia
- Cass, A.** June 2001, The impact of delayed referral to nephrology care, 8th Asia Pacific Forum in Nephrology, Gold Coast, Australia
- Currie, B.** May 2001, Indigenous Health in Australia: Infections and Infestations, Australasian College of Dermatologists 34th Annual Scientific Meeting, Adelaide, Australia  
June 2001, Premedication for Antivenom Anaphylaxis in Toxinology *Chironex Fleckeri* Marine Infections Management of Snakebite, Adelaide University Faculty of Health Sciences Clinical Toxinology Short Course, Adelaide, Australia
- Kelly, P.** November 2000, Out of conflict, hope: A national tuberculosis programme for East Timor, Conflict and Violence in Indonesia and East Timor, Northern Australian Research Unit, Australian National University, Darwin, Australia
- Leach, A.** July 2000, The burden of bacterial respiratory infection in Australian Aboriginal children, International Conference on Emerging Infectious Diseases, Atlanta, USA
- Mackerras, D.** July 15–17 2000, Public health nutrition: Assessing what works, 3rd PHAA Food and Nutrition Conference, Melbourne, Victoria
- Walton, S.** November 2000, Recent advances in scabies research, School of Medicine, University of Miami, Miami, Florida, USA  
Oct–Nov 2000, Invited scientist on a scabies clinical field trial, San Blas Islands, Republic of Panama, Central America
- OTHER**
- Anstey, N.** August 2000, Nitrotyrosine in cerebral malaria in children. Possible organ-specific regulation of NO production modulated by parasite-endothelial cytoadherence, XV International Congress for Tropical Medicine and Malaria, Cartagena, Colombia  
April 2001, Therapy of uncomplicated malaria: A randomised trial comparing artesunate plus sulfadoxine/pyrimethamine versus sulfadoxine/pyrimethamine alone in Irian Jaya, Australasian Society for Infectious Diseases, Melbourne, Australia
- Boutlis, C.** April 2001, Nitric oxide production is increased in adults with asymptomatic *Plasmodium falciparum* malaria, Australasian Society of Infectious Diseases, Melbourne, Australia
- Cass, A.** November 2000, End-stage renal disease in Indigenous Australians: A disease of disadvantage, 6th International Congress of Behavioural Medicine, Brisbane, Australia  
October 2000, Factors associated with late referral of end-stage renal disease patients, 33rd Annual Scientific Meeting of the American Society of Nephrology, Toronto, Canada  
October 2000, The impact on mortality of late referral of end-stage renal disease patients to nephrological care, 33rd Annual Scientific Meeting of the American Society of Nephrology, Toronto, Canada  
October 2000, Remoteness and disadvantage affect the incidence of end-stage renal disease in Australia, 33rd Annual Scientific Meeting of the American Society of Nephrology, Toronto, Canada
- Cunningham, J.** November 2000, Hospital procedures among patients identified as Indigenous, 1997–98, Public Health Association of Australia, Canberra, Australia  
June 2001, Fewer hospital procedures among Indigenous patients in Australia, Congress of Epidemiology 2001, Toronto, Canada
- Currie, B.** November 2000, Snakebite in the Northern Territory: Clinical facts or eminence-based Medicine?, RACP-AFPHM Annual Scientific Meeting, Alice Springs, Australia
- Kelly, P.** September 2000, A year in Timor Lorosae, Northern Territory Centre for Disease Control Workshop, Katherine, Australia  
March 2001, The new NTP manual, East Timor National TB Control Programme Seminar, Dili, East Timor  
May 2001, Tuberculosis in East Timorese refugees, Darwin 1999, Royal Australasian College of Physicians Annual Scientific Meeting, Sydney, Australia
- Leach, A.** November 2000, The burden of bacterial otitis media in Aboriginal children, AMA Learning Lessons, Darwin, Australia  
August 2001, Microbiology of respiratory infections in Aboriginal children, Respiratory infections in Indigenous Australian children, Alice Springs, Australia  
August 2001, Multidisciplinary approach to research in Aboriginal otitis media., National Seminar: Otitis media in Aboriginal and Torres Strait Islander populations, Sydney, Australia
- Mackerras, D.** July 18–19, Workshop Convenor, Advanced study and training in public health nutrition, Melbourne, Vic
- Sriprakash, KS.** August 2000, Epidemiology of post-streptococcus glomerulonephritis, GBF seminar series, Braunschweig, Germany
- Walton, S.** January 2000, Defining the immune response in scabies, Second Congress of the Federation of Immunological Societies of Asia-Oceania, Bangkok, Thailand

# Research funding

streamlined, efficient and transparent financial and administrative processes

## New Research Support 2000–01

FUNDER	INVESTIGATOR	TITLE	YEARS FUNDED	SPA
Australasian College of Dermatologists	Currie BJ	Networked dermatology training/research position	2001–03	\$45,000; \$45,000
Australian Brewers' Foundation	d'Abbs P; Togni S	The Northern Territory Living With Alcohol Program 1991–2000: A Policy Analysis	3/2001–12/2001	\$37,200
Channel 7 Children's Research Foundation (SA)	Sayers SM; Wang Z	Analysis of social and perinatal influences on child health and markers of chronic adult diseases in Aboriginal people	2000–01	\$30,000
Channel 7 Children's Research Foundation (SA)	Sriprakash KS	Architecture of a pathogenicity island in the group A streptococcus genome and tissue tropism for infection (Year 2)	2000–01	\$25,000
Channel 7 Children's Research Foundation (SA)	Sayers SM	Social and perinatal influences on child health and markers of chronic adult disease in Aboriginal people	2000–01	\$45,000
Colonial Foundation	Carter P; Daby J	Examination of the effect of ear toilets on otorrhoea, tympanic membrane healing and hearing thresholds in Aboriginal and Torres Strait Islander people with chronically discharging ears	2000–01	\$136,486
Colonial Foundation	Hoy WE	Renal research	2001–03	\$300,000; \$300,000; \$300,000
CRC Aboriginal & Tropical Health B-0072	Sriprakash KS; Gordon D; Katona M; Benger N	A biomedical and integrated approach to skin hygiene in Aborigines: Anti-attachment peptide: A novel therapeutic strategy to control GAS Infection	2000–03	\$80,746; \$80,000; \$80,000
CRC Aboriginal & Tropical Health B-0088	Maguire GP	Optimising chronic lung disease care for Indigenous Australians	2001–03	\$73,750; \$50,000; \$13,398
CRC Aboriginal & Tropical Health CI-0102 (NT Office of Communications, Science and Advanced Technology D00-0562)	Matthews S	Audit of health research in the Northern Territory	2000–01	\$24,500
CRC Aboriginal & Tropical Health HS-0089	Connors C	Feasibility study for multicentre scabies intervention	9/2000–12/2000	\$55,367
CRC Aboriginal & Tropical Health HS-0089	Currie BJ	Healthy skin feasibility study	1/2001–6/2001	\$7,906
CRC Aboriginal & Tropical Health HS-0090	Barnes A	Community population measurement for health services researching and decision making (Stage 1)	8/2000–11/2000	\$55,000
CRC Aboriginal & Tropical Health PH-0019/3 (Wyeth Australia Pty Ltd evaluation)	Morris PS; Leach AJ	Impact of conjugated pneumococcal vaccine on perforation rates in a high risk population: A before and after study	2001–03	\$260,826; \$225,619; \$231,787
CRC Aboriginal & Tropical Health PH-0093 (Territory Housing)	Bailie R	Preliminary community housing infrastructure needs survey (CHINS) data analysis for the NT	2000–01	\$47,790
CRC Aboriginal & Tropical Health PH-0128 (Australian Centre for International Agricultural Research project)	Cutter S; Ruben A	Scoping project on dog ecology in Flores: Indonesia	5/2001–6/2001	\$20,000
CRC Aboriginal & Tropical Health S0101HS (Commonwealth Dept Health & Aged Care)	Barnes A; Fejo L	Incontinence: The hidden problem that can affect anyone: Caring for our people	3/2001–9/2001	\$34,000
CRC Aboriginal & Tropical Health (Rio Tinto Aboriginal Foundation Fellowship)	Mayo MJ	Indigenous Scientist /Researcher Fellowship	2001–02	\$40,000
National Health & Medical Research Council 137203	Sayers SM; Wang Z	Analysis of perinatal influences on Aboriginal child health and potential markers of chronic adult disease	2001–02	\$75,000; \$75,000



FUNDER	INVESTIGATOR	TITLE	YEARS FUNDED	\$ PA
National Health & Medical Research Council 137205	Kemp DJ; Walton SF; Currie BJ	Antigens, allergens and immune responses to normal and crusted scabies	2001–03	\$100,000; \$100,000; \$100,000
National Health & Medical Research Council 137206	Walton SF; Kemp DJ	Genetic variation and host-parasite interactions of <i>Sarcoptes scabiei</i>	2001–03	\$97,500; \$97,500; \$97,500
National Health & Medical Research Council 139052 (to Uni WA)	Inglis T; Norton R; Currie BJ	An investigation into the importance of potable water as a source of melioidosis in Northern Australia	2001–03	\$120,000; \$120,000; \$120,000
National Health & Medical Research Council Med Genom (to QIMR)	Kemp DJ; Walton SF; Speed T; Currie BJ	Gene discovery for the scabies mite <i>Sarcoptes scabiei</i>	2001–03	\$529,100; \$519,750; \$60,500
National Heart Foundation of Australia G 00M 0671 (to RCH, Melbourne)	Carapetis JR; Robins-Browne RM; Currie BJ	Towards a diagnostic test for rheumatic fever: B cell alloantigens in Aboriginal Australians	2001–02	\$34,200; \$34,200
Territory Housing	Bailie R	Environmental Health Survey Year 2 Evaluation	7/2001–10/2001	\$25,000
The Menzies Foundation	Cunningham J	Menzies Fellowship	2000–02	\$100,000; \$100,000
<b>CRCATH IN-KIND PROJECTS: COMMENCING 2000–01</b>				
CRCATH B-0104	Currie B	Melioidosis and pneumonia	from February 2001	
CRCATH CI-0095	Cunningham J	Placing Indigenous mortality in an international context	from October 2000	
CRCATH CI-0117 (ATSIC consultancy)	Bailie R	CHINS atlas of Indigenous housing and infrastructure	from April 2001	
CRCATH HS-0015	Cunningham J	Why are fewer hospital procedures recorded among patients identified as Indigenous?	from October 2000	

## Continuing Research Support 2000–01

FUNDER	INVESTIGATOR	TITLE	YEARS FUNDED	\$ PA
CRCATH B0013	Sriprakash KS	Towards a simple and rapid test for group B streptococcus that can be used during labour	1999–2001	\$53,411 pa
CRCATH PH0032	Currie B	Rheumatic fever prophylaxis	1997–2001	\$43,902 pa
CRCATH PH0048	Ivers R	The Tobacco Project: Development and evaluation of a community	2000–01	\$20,764
CRCATH PH0081	Morris P	Acute otitis media in Aboriginal children: A video study	5/2000–12/2000	\$6,000
CRCATH PH0098	Bailie R	Socioeconomic and environmental determinants of health in Indigenous communities in the NT	2001–02	\$67,658; \$66,338
Dept Industry, Science & Resources (to Uni Wollongong)	Walker MJ; Sriprakash KS; Ranson MR; McArthur JD; Currie BJ; Chhatwal GS	Travel: Development of novel vaccines and therapies to prevent infection by the flesh eating bacterium, <i>Streptococcus pyogenes</i>	2000–02	\$13,500
NHMRC 987418/ 08688G	McDonald SP	Scholarship	1998–2001	\$26,409; \$25,497; \$25,913; \$13,515
NHMRC 008120/ 22799Y	Boutlis C	Scholarship: The role of nitric oxide in clinical immunity to <i>Plasmodium falciparum</i> and <i>Plasmodium vivax</i>	2000–01	\$25,497; \$27,255
NHMRC 008502/ 11516D	Ivers R	Scholarship: Tobacco programs for Indigenous people in the Northern Territory	2000–01	\$25,497; \$13,515
NHMRC 100009	Bailie R; Edmond K; Leach AJ	Improved hygiene measures for Australian childcare centres: A randomised controlled trial	2000–02	\$63,743; \$345,023; \$31,035
NHMRC 100010	Bailie R; Leach AJ	Amoxycillin for persistent nasal discharge in rural and remote Aboriginal children: A randomised controlled trial	2000–01	\$185,173; \$41,565
NHMRC 124317	O'Dea K; Giles G; Hodge AM; Rowley K; Sinclair AJ	Predictors of cardiovascular disease mortality in the Melbourne Collaborative Cohort Study	2000–02	\$111,619; \$116,671; \$119,305
NHMRC 124319	O'Dea K; Rowley K; McDermott R; Lee AJ; Daniel M; Simmons D	Community-based interventions to reduce the risk of diabetes and cardiovascular disease in Indigenous Australians	2000–04	\$346,364; \$369,985; \$352,286; \$383,936; \$357,822
NHMRC 1999/ 033824	Leach AJ; Yonovitz A; Koops H; Mathews JD	Improving medical services for rural and remote Aboriginal children with chronic suppurative otitis media	2000–03	\$90,133; \$90,133; \$90,133

## Continuing Research Support 2000–01 continued

FUNDER	INVESTIGATOR	TITLE	YEARS FUNDED	\$ PA
NHMRC 980434	Burns C; Currie BJ; Maruff P; Spillane P	Adverse health effects of excessive kava and alcohol use in Aboriginal people	1998–2000	\$74,683; \$70,398; \$80,058
NHMRC 980435	Leach AJ; Yonovitz A; Morris PS; Mathews JD	Aetiology, treatment and prevention of Aboriginal otitis media	1998–2001	\$230,322; \$224,017; \$202,851
NHMRC 981010	O'Dea K; Best JD; Leonard D	Nutritional Indicators of Cardiovascular Disease in Aborigines and Torres Strait Islanders	1998–2000	\$43,760; \$41,275; \$48,923
NHMRC 987576/ 11990C	Maguire GP	Scholarship: <i>Haemophilus influenzae</i> in suppurative lung disease	1998–2001	\$25,827; \$25,497; \$25,913; \$13,516
NHMRC 990498 (to Monash Uni)	Bertram J; Hoy WE	Glomerular number and size in Australian Aborigines and African Americans	1999–2001	\$74,222; \$88,321; \$93,301
NHMRC 990975	Sriprakash KS; Currie BJ; Myers G	Factors influencing the epidemiology and virulence of the agent of melioidosis, <i>Burkholderia pseudomallei</i>	1999–2001	\$65,421; \$68,783; \$72,532
NHMRC 9936609 (to Uni Wollongong)	Walker MJ; Sriprakash KS; Currie BJ	Development of mucosal anti-adhesive vaccines against group A streptococcus	1999–2001	\$93,586; \$97,840; \$102,350
NHMRC 997027/ 16253K	Morris PS	Fellowship: Understanding generalisability: How to get the most out of Cochrane reviews on the use of antibiotics in children with respiratory disease in rural and remote Aboriginal communities?	1999–2003	\$19,720; \$60,632; \$63,708; \$64,879; \$43,193
NHMRC 997509/ 12491K	Condon J	Scholarship: Health services and other factors which affect cancer survival in Aboriginal people in the Northern Territory	1999–2002	\$25,497; \$5,580; \$27,255; \$20,333
National Institutes of Health via Duke University	Anstey NM; Tjitra E	Nitric oxide and severe malaria	1997–2002	\$136,414; \$143,937; \$138,651; \$144,977; \$150,776
New Children's Hospital	Cass A	Scholarship: Early antecedents of renal and cardiovascular disease in Aboriginal children	1998–2001	\$23,360; \$23,360; \$28,997; \$14,498
Ramaciotti Foundations RA024/99	Walton SF; Morahan G	Defining the protective immune responses to scabies	2000–01	\$12,000
The Wellcome Trust 059475	Anstey NM; Leach AJ; Kemp DJ; Sriprakash KS; Mathews JD	Enterprise-3500 Server Package	2000–02	\$136,351; \$44,975; \$47,388
<b>CRCATH IN-KIND PROJECTS</b>				
CRCATH B0043	Kemp DJ; Walton SF; Currie BJ	Antigens, allergens and immune responses to normal and crusted scabies	1998–2003	
CRCATH PH0039	Leach A	Antibiotic treatment: middle ear	1998–2001	
CRCATH PH0044	Clough A; Burns C; Currie B	Adverse health effects of excessive kava and alcohol use in Aboriginal communities	1998–2000	

# staff list

■ establish formal links with a number of universities in the south and east of Australia ■

## MSHR Staff 01/07/2000–31/06/2001

NAME	QUALIFICATIONS	POSITION TITLE	START	END
ALLOCK Gaynor	RN/RM A Dip N	Clinical Research Officer	22/10/00	6/12/00
AMAGULA Mary	–	Project Assistant	28/9/99	–
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	–	–
BARKER Sally	B Soc Work	Project Officer	15/11/00	28/2/01
BASSETT Margarita	–	Accounts Officer	–	–
BAZELEY Mark	–	Project Officer	13/11/00	–
BEISSBARTH Jemima	BSc	Technical Officer	4/10/00	–
BENGER Norma	Cert Health Prom	Research Assistant	–	–
BEPUKA Dorothy	–	Project Officer	22/6/00	31/12/00
BEX Joanne	–	Laboratory Technical Officer	15/5/00	–
BINKS Michael	BSc	Technical Officer	10/11/97	3/11/00
BIRITUALAWUY Dianne	–	Research Officer	26/11/98	25/10/00
BLACK Agatina	–	Project Officer	14/11/00	13/11/01
BOUGHTON Robert	PhD	Research Fellow	1/3/00	15/9/00
BOVEINGTON Ruth	Cert LabTech, Cert Basic Secretarial	Administrative Assistant, Malaria/TB	–	–
BRIMBLECOMBE Julie	BSc Grad Dip Nat & Diet	Project Officer	20/11/00	–
BURKE Tracey	–	Receptionist	–	–
CLANCY Jennifer	–	Project Assistant	30/10/00	20/12/00
CLARK Louise	RN RM BA DipEd MTH	Senior Research Officer	–	–
CLOUGH Alan	BSc (Hons I), MSc, Dip Ed	Senior Research Officer	–	–
COUNAHAN Megan	–	Research Officer	21/2/00	1/9/00
CUBILLO Sachah	–	Project Officer	18/9/00	17/9/01
CUNNINGHAM Joan	ScD,ALM,AB,Cert Health Economics	Menzies Fellow	3/7/00	–
CURNOW Jayne	BA (Hons)	Visiting Research Assistant	1/3/00	9/3/01
CURRIE Bart	MBBS, FRACP, FAFPHM, DTM&H	Professor; Head Tropical Medicine & International Health Unit	–	–
D'ABBS Peter	BA(Hons), MA, PhD	Senior Research Fellow	–	–
DALY Paul	MBA	Senior Research Officer	13/6/00	4/9/00
DEL VECCHIO Armando	AssocDip Podiatry, BSc (Hons)	Technical Officer	–	–
DeSANTIS Lynette	–	Project Assistant	13/9/00	12/9/01
DJIRIMBILPILWUY Frank	–	Casual Project Assistant	23/2/01	30/6/01
DOUGALL Annette	Bsc (Hons)	Research Assistant	14/2/01	–
DUNNE Karin	Enrolled Nurse	Project Officer	14/3/01	–
EDWARDS Mandy	B App Sc (Biotechnology)	Technical Officer	–	–
EDWARDS Tahnia	–	Project Officer	2/5/00	25/1/01
FALLS Gabrielle	–	Administration Officer	–	–

NAME	QUALIFICATIONS	POSITION TITLE	START	END
FERNANDO Sylvester	–	Casual Project Assistant	16/8/99	–
FITZ Joseph	Cert Project Officer	Project Officer	–	–
FLYNN Kathryn	B Nurs (RN), Commercial Pilot	Project Assistant	–	11/12/00
FOWLER Penny	–	Executive Secretary	13/9/00	–
GADIL Edna	MD	Project Officer	19/4/01	–
GAL Daniel	BSc(Hons)	Research Assistant	5/6/00	–
GARDINER Donald	PhD	Senior Research Fellow	–	11/12/00
GIBNEY Katherine	–	Research Assistant	2/5/00	3/1/01
GRAY Estelle	BSc(Hons)	Technical Officer	–	–
HAMILTON Elizabeth	RN	Project Officer	19/3/01	–
HARE Kim	BSc(Hons), GradDipEd, Dip Datametrics	Technical Officer	27/9/00	–
HARRIS Christine	BSc(Hons)	Project Officer	13/11/00	26/4/01
HARTAS Jon	BAppSc	Research Assistant	–	23/8/00
HAWTHORNE Paula	BSc(Hons)	Technical Officer	–	15/9/00
HAYHURST Bev	MPHC, BEd(HonsI), DipTeach, DipTeach (Multiply-Handicapped Deaf)	Senior Research Officer	–	9/3/01
HOFFMANN Ben	PhD	Research Officer	12/12/00	–
HOUSE Tony	BMath & CompSc	IT Manager	–	–
HURLEY Patricia	RN	Project Officer	17/4/00	4/9/00
HUTTON Susan	MSc(Med), MASM	Laboratory/Building Manager	–	–
JACKSON Yolanda	BBus (Accounting), CPA	Finance Manager	–	–
JOHNSON Judith	–	Assistant Accounts/Salaries Officer	4/10/99	–
KATONA Mai	BA(Sociology, Admin), DipEd	Aboriginal Health Unit Manager	–	–
KELLY Angela	B HSC(RN)	Community Coordinator	–	20/4/01
KELLY Paul	MBBS, DTM&H, DA (UK), PhD, FAFPHM	Senior Research Fellow	–	–
KEMP David	BSc(Hons), PhD	Acting Director	–	5/7/00
KERINAIUA Ainsley	–	Project Assistant	–	–
KERINAIUA Carla	–	Project Assistant	22/6/99	–
KING Jann	–	Laboratory Support Officer	–	–
KIRK Dianne	BSc Biol & MSc Biol	Technical Officer	16/10/00	–
LALARA Paul	–	Casual Project Assistant	28/9/99	–
LANGLANDS Audrey	–	MPH Administrative Assistant	–	–
LAWRIE Paula	BSc	Technical Officer	–	3/11/00
LEACH Amanda	BAGSc(Hons) MAgSc, PhD	Senior Research Officer	–	–
LEYSLEY Loyla	AHW Cert, CertMatHealth, Immunis. Cert	Trainee Research Assistant	–	–
LIENERT Christine	EN	Project Assistant	9/10/00	–
LIDDLE Robyn	BBiolSc, GradDipCompSc	Database Administrator	–	–
LIDDLE Helen	–	Project Co-ordinator	1/2/01	28/3/01
LINDSAY Grant	MBA, BA (Mil Stud), GAICD, AIMM	Business Manager/Acting Associate Director Finance and Administration	15/12/99	–
LOWELL Anne	PhD	Research Fellow	–	30/8/00
MACKERRAS Dorothy	BSc, DipNutr&Diet, MPH, PhD	Senior Lecturer (Father Frank Flynn Fellow)	–	–
MASTIN Julie	BATSI, BAppSc	Casual Project Assistant	–	–
MAYO Mark	AssocDipAppSc	Laboratory Assistant	–	–
MAYPILAMA Elaine	–	Project Leader	22/6/00	23/5/01
MUNKARA Marie	–	Project Officer Planning	16/10/00	–
MCARTHUR Helen	RN	Project Coordinator Planning	24/10/00	5/1/01
MCARTHUR James	–	Casual IT Officer	6/9/99	14/2/01
MCCALLUM Gabrielle	RN	Project Officer	19/3/01	–
MORRIS Peter	MBBS, FRACP, PhD	NHMRC Fellow	–	–
NOBLE Mandy	–	IT Officer	20/3/00	1/6/01
O'DEA Kerin	BSc, PhD	Director	5/6/00	–
O'GRADY Kerry-Anne	BSc N Grad Dip PH Mapp Epid	Senior Research Officer	14/3/00	12/1/01
PEREZ Faith	–	Technical Officer	11/12/00	–
PEREZ Grace	–	Technical Officer	13/12/99	–
PIERS Leonard Sunil	MBBS, MD, PhD	Senior Research Officer	29/3/01	–
PILAKUI Monica	–	Project Assistant	–	–

NAME	QUALIFICATIONS	POSITION TITLE	START	END
PRESS Khalee	–	Receptionist	4/5/01	–
POLKINGHORNE Theresa	–	Project Assistant	7/12/00	20/12/00
PUNGUATJI Victorianna	–	Project Assistant	15/2/00	28/3/01
PURUNTATAMERI Marius	AHW	Project Officer	22/5/00	–
REID Alison	MSc BSc (Hons)	Senior Research Officer	26/2/01	–
RICHARDSON Catherine	DipBioRes, GradCert MgmtDevEdTrg	Academic Administrator	3/8/99	–
RIDING Jodie	BSc	Research Assistant	9/1/01	–
RUNCIE Myfanwy	BSc(Hons), PhD	Senior Research Officer	12/4/00	25/9/00
SAUNDERS Jocelyn	BSc(Hons), PhD	Research Fellow	–	9/3 01
SCARLETT Maria	–	Project Development Officer	31/8/00	–
MAIN Naomi	BSc	Technical Assistant	21/2/00	–
SHEMESH Tomer	BSc	Research Assistant	18/6/01	–
SILBERBERG Peter	MBBS	Research Officer	20/12/00	–
SMITH-VAUGHAN Heidi	PhD, BSc	Research Officer	–	–
SRIPRAKASH Kadaba	BPharm, MPharm, PhD	Principal Research Fellow	–	30/4/01
STACEY Natasha	PhD	Research Officer	23/3/00	7/7/00
STUBBS Elizabeth	MPH	Technical Officer	6/4/95	–
STULIK Pavel	DCSc, GradDipIT, PhD Physics, AdCertIT	Systems Administrator	11/11/99	–
TAYLOR Keith	–	Administration Assistant	13/6/00	–
TAYLOR Sheila	–	Relief Reception & Renal Support	–	24/3/00
THOMSEN Peter	Cert ComWelf, Cert 2 Film & Video Prod	Aboriginal Health Educator	–	–
TIPILOURA Camilla	–	Project Assistant	29/5/00	–
TIPUNGWUTI Dulcie	–	Project Assistant	7/3/00	–
TIPUNGWUTI Wendy	–	Project Assistant	28/5/00	–
TOGNI Samantha	BA(Hons), MA	Project Manager/Research Officer	–	–
TRENHOLME Katharine	BSc, MSc, PhD	Senior Research Fellow	–	28/11/00
WALES Nonie	BA, BSocSc(Hons)	Research Assistant	–	20/12/00
WALTON Shelley	BAppSc(Dist), PhD	Research Fellow	–	–
WANG Zhiqiang	PhD	Senior Research Officer, Biostatistics	–	–
WELLS Glenn	–	Administration Assistant	25/9/00	–
WIE Jeni	BAppSc	Web Design & Media Support Officer	12/3/01	–
WIGGER Christine	RN RM	Project Officer	26/4/01	–
WILLIAMS Edwina	BSc (Hons)	Research Assistant	19/2/01	–
WILSON Catherine	EN, Degree Psy (Hons)	Project Officer	5/6/00	–
WITHNALL Kaye	BSc, DipEd	Senior Laboratory Advisor	–	18/8/00
WOOD Yvonne	RN, MPH	Project Officer	2/5/00	28/2/01
YONOVITZ Al	PhD	Hearing Scientist	–	28/3/01
YOUNG Catheryn	–	Salaries/Personnel Officer	–	15/12/00
<b>INTERNATIONAL HEALTH PROGRAM STAFF IN INDONESIA AND PAPUA NEW GUINEA</b>				
ALBION Mr Roy	BSc	Casual Specialist Malaria Microscopist	–	–
COLLINS Dr Stuart	MBBS, DTM&H, MPH	Research Associate	–	–
KRISTIANI Ms Yusi	DipLabTech	Research Assistant, Jayapura, Indonesia	–	–
MANIBOEY Helen	MD	Clinical Research Officer, Jayapura, Indonesia	–	–
SUPRIANTO Mr Sri	DipLabTech	Casual Specialist Malaria Microscopist	–	–
SUSILOWAH Ms Ida	DipLabTech	Research Assistant, Jayapura, 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	–	–

## Visiting Masters of Public Health Lecturers

NAME	QUALIFICATIONS	AFFILIATION
ALDERSLADE Ann	AALIA, BA(Hons), Mlib, Grad Cert PSM Mngmt	THS
BARNES Tony	BSc(Hons IIA), MSc	CRCATH
BEAVER Carol	MSc Health Economics, BEcon, Grad Dip Man	THS/WHO
BREWSTER David	BA(Hons), MD, MPH, FRACP, PhD	FUSA
CONDON John	MBBS, MPH, Dip FRACOG, DTM&H, FAFPHM	THS
CONNORS Christine	MBBS, DRACOG, FAFPHM, MPH	THS
CUNNINGHAM Joan	ScD, ALM, Cert Health Economics	ABS
D'ABBS Peter	BA(Hons), MA, PhD	Qld Health
EVANS Kayte	MB BS, FRACGP, FAFPHM, MPH, MMedSci	GPURU
HAYHURST Beverley	Adv Dip Tchng, BEd, MPH Grad Cert Comm Dev	THS
HEARD Sam	MBBS, DRACOG, MRCP	GPURU
JUDD Jenni	M Ed, Dip Health and Physical Education, FACHPER	THS
MACDOUGALL Colin	BA(Hons), MA	FUSA
O'ROURKE Peter	BSc(Hons), BA Hons, PhD, GCEd	UQ
PIROZZO Sandi	BSc, MPH	UQ
PYNE Colleen	AALIA	THS
ROBINSON Gary	BA(Hons), PhD	NTU
SHORT Stephanie	Dip Pty, MSc, BA(Hons), PhD, FACHSE	UNSW
VEMURI Sivaram	BEcs, MEcs, PhD	NTU
WAKERMAN John	MBBS, MTH, FAFPHM	CRH
WEERAMANTHRI Tarun	MBBS, DTMH, FRACP, PhD, FAFPHM	THS

## Research Students

<p><b>Pallave Dasari</b> Commenced: Semester one 2001 Completion date: November 2001 Supervisor: Prof Bart Currie (MSHR) Research topic: Killing of <i>Burkholderia pseudomallei</i> (the causative agent of melioidosis) by phagocytes collected from patients with risk factors of melioidosis Project description: Neutrophil response to <i>Burkholderia pseudomallei</i>: The basis of this project is to examine the response of the immune system to melioidosis before and after the in-vitro application of granulocyte colony stimulating factor, a protein, of healthy subjects versus the various risk populations for melioidosis. Results from these studies have implications for the treatment of melioidosis. This study requires blood to be donated from adult volunteers to study their immune response to melioidosis. The desired white blood cell population will be isolated from the blood and examined for its reaction to melioidosis bacteria using established scientific protocols for the ingestion and killing of bacteria by white blood cells.</p>	<p>BSc (Honours), Northern Territory University Semester one 2001 November 2001 Prof Bart Currie (MSHR) Killing of <i>Burkholderia pseudomallei</i> (the causative agent of melioidosis) by phagocytes collected from patients with risk factors of melioidosis Neutrophil response to <i>Burkholderia pseudomallei</i>: The basis of this project is to examine the response of the immune system to melioidosis before and after the in-vitro application of granulocyte colony stimulating factor, a protein, of healthy subjects versus the various risk populations for melioidosis. Results from these studies have implications for the treatment of melioidosis. This study requires blood to be donated from adult volunteers to study their immune response to melioidosis. The desired white blood cell population will be isolated from the blood and examined for its reaction to melioidosis bacteria using established scientific protocols for the ingestion and killing of bacteria by white blood cells.</p>
<p><b>James Ponds</b> Commenced: Semester one 2001 Completion date: November 2001 Supervisors: Prof David Brewster (NT Clinical School); Mrs Sue Hutton (MSHR) Research topic: Probiotic treatment of Aboriginal Children with diarrhoeal disease: use of <i>E. coli</i> probes on stool</p>	<p>BSc (Honours), Northern Territory University Semester one 2001 November 2001 Prof David Brewster (NT Clinical School); Mrs Sue Hutton (MSHR) Probiotic treatment of Aboriginal Children with diarrhoeal disease: use of <i>E. coli</i> probes on stool</p>

<p><b>Armando Del Vecchio</b> F/T candidature to date: Supervisors: Research topic: Project description:</p>	<p>MSc, Northern Territory University One year Prof Bart Currie (MSHR); Dr KS Sriprakash (MSHR) Distribution of various virulence factors in group A streptococcus (GAS) isolates from invasive non-invasive disease cases in the Northern Territory and south-western Sydney The long-term objective is to provide a suitable vaccine antigen for the treatment of GAS-related invasive diseases. The Northern Territory of Australia has a high rate GAS-related disease and is especially high in the Indigenous population. The manifestations of GAS disease may range from non-complicated pyoderma (impetigo) to rheumatic heart disease, glomerulonephritis and necrotising fasciitis. The first step in microbial colonisation is to interact with the extracellular matrix (ECM). Previous studies have shown that some fibronectin-binding proteins (FBP) are sufficient for adherence to and internalisation of eukaryotic epithelial cells in vitro. This project will study association of various FBPs in isolates from invasive cases taken from across the NT as well as a comparative study of south-western Sydney isolates. It will also study differences in the expression of other virulence factors among isolates from invasive GAS cases.</p>
<p><b>Jodie Low Choy</b> F/T candidature to date: Supervisors: Research topic:</p>	<p>MSc, Northern Territory University 2 years Prof Bart Currie (MSHR); Dr Anton Janmaat (Berrimah Veterinary Laboratories, NT Dept Primary Industry and Fisheries) Veterinary aspects of melioidosis in the Northern Territory</p>
<p><b>Robyn Marsh</b> F/T candidature to date: Supervisor: Research topic: Project description:</p>	<p>MSc, Northern Territory University 1.5 years Dr KS Sriprakash (MSHR) Study towards a simple and rapid test to detect group B streptococcus in labour The aim of this project is to develop a simple and rapid diagnostic test for group B streptococcus that could be used to determine intrapartum maternal colonisation. Two tests have been investigated and are the subject of current patent applications. One of these tests was developed in collaboration with the Gesellschaft fur Biotechnologische Forschung (GBF) in Braunschweig, Germany after Ms Marsh studied there for three months of last year. This project is funded by the Cooperative Research Centre for Aboriginal and Tropical Health, with Ms Marsh's time in Germany funded by the Queen's trust for Young Australians and the GBF.</p>
<p><b>Sreedevi Aithal</b> F/T candidature to date: Supervisors: Research topic:</p>	<p>MPH (research), University of Sydney 1.5 years Dr Al Yonovitz (Australian Hearing Service, Darwin); Dr Peter Morris (MSHR) Otitis media and speech perception in cross-language context</p>
<p><b>Venkatesh Aithal</b> F/T candidature to date: Supervisors: Research topic:</p>	<p>MPH (Research), University of Sydney 2 years Dr Al Yonovitz (Australian Hearing Service, Darwin); Dr Peter Morris (MSHR) Behavioural and electrophysiological studies in binaural hearing with Aboriginal children</p>
<p><b>Jill Barclay</b> F/T candidature to date: Supervisor: Research topic:</p>	<p>PhD, University of Sydney 3 years Dr Komla Tsey (Dept Social and Preventative Medicine, UQ) Royal Flying Doctor Service: The nurses' story</p>
<p><b>Craig Boutlis</b> F/T candidature to date: Supervisors: Research topic: Project description:</p>	<p>PhD, Northern Territory University 2 years Assoc Prof Nicholas Anstey (MSHR); Prof Bart Currie (MSHR) The role of nitric oxide and other anti-disease mechanisms in clinical immunity to malaria Children and adults living in regions with malaria tolerate the presence of malaria parasites in their bloodstream much of the time without illness. Work on this project has shown that residents of Irian Jaya, Indonesia and Madang, Papua New Guinea, produce high levels of nitric oxide, a small molecule that has previously been implicated in inhibiting disease responses. In the last year, the project has demonstrated that children and adults from Madang produce antibodies to a potentially important malaria parasite toxin, GPI. The work will better inform attempts to produce vaccines or drugs aimed at minimising an individual's disease response to malaria.</p>

<p><b>John Condon</b> F/T candidature to date: Supervisors: Research topic: Project description:</p>	<p>PhD, Northern Territory University 1.25 years Prof Bruce Armstrong (NSW Cancer Council); Prof Tony Barnes (CRCATH) Health services and other factors which effect cancer survival of Aboriginal people in the Northern Territory Cancer survival is much lower for Indigenous people than for other Australians. This project is investigating why this is so, particularly focusing on health service factors which may be associated with lower cancer survival, and how this can be improved. Factors to be investigated include late diagnosis of cancer, access to medical services in remote communities, access to and effectiveness of specialist cancer treatment services, and the presence of other chronic diseases. During the past twelve months a literature review of cancer in Indigenous peoples and an evaluation of data quality in the NT Cancer Register have been completed.</p>
<p><b>Alan Cass</b> F/T candidature to date: Supervisors: Research topic: Project description:</p>	<p>PhD, University of Sydney 2 years Dr Joan Cunningham (MSHR); Dr Wendy Hoy (MSHR) Social determinants of end-stage renal disease in Australia The project is examining the interaction of biological, socioeconomic and cultural factors as they affect renal disease patterns in Australia. Significant regional variation in the incidence of end-stage renal disease (ESRD) for both Indigenous and non-Indigenous Australians has been described, and strong associations between the incidence of ESRD and the markers of poor education, unemployment, house crowding and low income have been demonstrated. Research proposals are being developed to examine access to renal treatment services, especially transplantation, for Indigenous ESRD patients. By identifying the barriers to accessing services, strategies will be identified to reduce disparities between Indigenous and non-Indigenous Australians.</p>
<p><b>Alan Clough</b> F/T candidature to date: Supervisors: Research topic:</p>	<p>PhD, Northern Territory University 1.5 years Assoc Prof Ross Baillie (MSHR); Prof Bart Currie (MSHR); Dr Chris Burns (Heart Foundation) Health effects of heavy use of kava and alcohol in eastern Arnhem Land</p>
<p><b>Pearly Harumal</b> F/T candidature to date: Supervisors: Research topic: Project description:</p>	<p>PhD, Northern Territory University 3.5 years Prof David Kemp (QIMR); Prof Bart Currie (MSHR) Antigens, allergens and immune responses in normal and crusted scabies Scabies has afflicted man for hundreds of years and still affects an estimated 300 million people worldwide at any one time. The development of a vaccine against scabies would improve the quality of life of many individuals. Recent progress in the development of successful vaccines against other ectoparasites (e.g. the cattle tick <i>Boophilus microplus</i>) suggests that a vaccine against scabies may be realistic. These vaccines target 'concealed' antigens such as those found in the parasite gut. The central aim of this project is to utilise recombinant DNA methods to construct a cDNA library from human scabies mites and to identify potential vaccine candidates by screening with sera that contain antibodies raised against scabies antigens. Significant progress has been made so far.</p>
<p><b>Rowena Ivers</b> F/T candidature to date: Supervisors: Research topic:</p>	<p>PhD, Northern Territory University 3 years Assoc Prof Ross Bailie (MSHR); Dr Peter d'Abbs (Qld Health, Northern Zone Management Unit); Assoc Prof Robyn Richmond (UNSW) Tobacco programs for Indigenous people in the Northern Territory: what is the evidence for existing programs for Indigenous people?</p>
<p><b>Graeme Maguire</b> F/T candidature to date: Supervisor: Research topic:</p>	<p>PhD, University of Sydney 2 years Prof Bart Currie (MSHR); Assoc Prof Ross Bailie (MSHR) Chronic lung disease in Aboriginal Australians</p>
<p><b>Stephen McDonald</b> F/T candidature to date: Supervisors: Research topic:</p>	<p>PhD, Flinders University of South Australia 3 years Dr Wendy Hoy (MSHR); Prof Lindon Wing (FUSA); Assoc Prof Ross Bailie (MSHR) Correlation of vascular and renal disease with their risk factors in an Aboriginal community.</p>



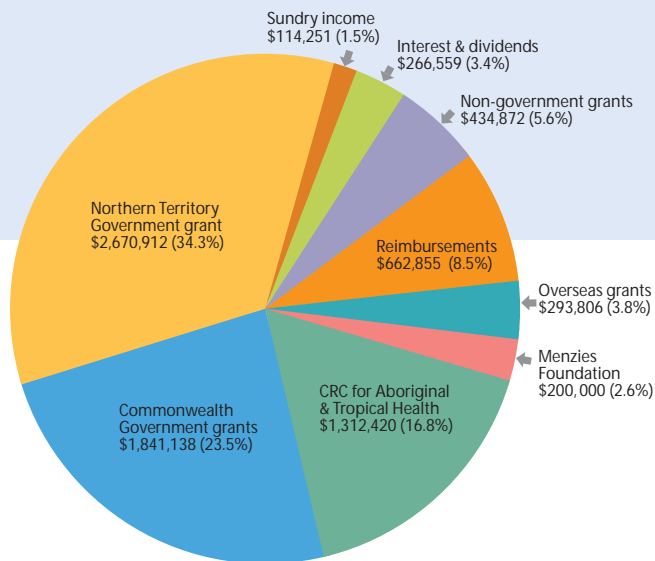
<p><b>Gurmeet Singh</b></p> <p>F/T candidature to date:</p> <p>Supervisor:</p> <p>Research topic:</p> <p>Project description:</p>	<p>PhD, University of Sydney</p> <p>3 years</p> <p>Dr Wendy Hoy (MSHR); Dr John Knight (Uni of Sydney); Prof Kerin O’Dea (MSHR)</p> <p>Understanding the early antecedents of renal disease in a high-risk population: Dimensions and features of kidneys by ultrasound examination in Aboriginal children; relationship to birth weight, infant weight, body size and clinical characteristics</p> <p>The main aim of the project is to ascertain the relationship between kidney volume (a surrogate marker of nephron numbers) and size at birth in two distinct populations, one a community and the other a birth cohort. This is based on the Fetal Origins Hypothesis which postulates that an adverse intrauterine environment leads to the formation of a lesser number of nephrons which, in turn, makes the kidney more susceptible to insults in later life. This may be one possible explanation for the high rates of renal failure seen in Aboriginal communities in the Top End.</p>
<p><b>Danielle Smith</b></p> <p>F/T candidature to date:</p> <p>Supervisor:</p> <p>Research topic:</p> <p>Project description:</p>	<p>PhD, Flinders University of South Australia</p> <p>1.5 years</p> <p>Dr Colin MacDougall (FUSA); Prof Fran Baum (FUSA); Dr Jeannie Devitt (Danila Dilba/CRCATH)</p> <p>Using a community development approach to address a health issue in a remote Indigenous community</p> <p>The research is looking at the value of using a community development approach to address a health issue in a remote Indigenous community. Ms Smith, a CRCATH scholarship student, is using the ‘Improving Growth Promotion in the NT’ project, which she is helping to implement, as a case study of the use of a community development approach. The objective of the project is to improve child growth in the community by increasing family and community involvement in growth promotion, and to improve child growth in the NT by using the findings from this research to improve Territory Health Service’s Growth Assessment and Action Program. On completion of 12 months’ intensive field work in the community, the qualitative data gathered in this period was analysed, written up and fed back to community members. A second data collection has recently been completed.</p>
<p><b>Emiliana Tjitra</b></p> <p>F/T candidature to date:</p> <p>Supervisors:</p> <p>Research topic:</p> <p>Project description:</p>	<p>PhD, Northern Territory University</p> <p>3.5 years (complete)</p> <p>Assoc Prof Nick Anstey (MSHR); Prof Bart Currie (MSHR)</p> <p>Improving the diagnosis and treatment of malaria in Eastern Indonesia</p> <p>Following extensive health centre-based field studies in Sumba and Irian Jaya, Dr Tjitra has evaluated current Ministry of Health clinical case definitions for malaria and developed 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, Dr Tjitra has also evaluated the efficacy of current treatment regimens for malaria in eastern Indonesia, and has evaluated newer treatment regimens for both falciparum and vivax malaria, including a randomised controlled trial in Irian Jaya of artesunate plus sulfadoxine-pyrimethamine versus sulfadoxine-pyrimethamine alone.</p>
<p><b>Andrew White</b></p> <p>F/T candidature to date:</p> <p>Supervisors:</p> <p>Research topic:</p>	<p>PhD, Flinders University of South Australia</p> <p>2.75 years</p> <p>Dr Wendy Hoy (MSHR); Dr J Knight (New Children’s Hospital, NSW)</p> <p>Antecedents of renal and cardiovascular disease in Aboriginal children</p>

# Financial overview

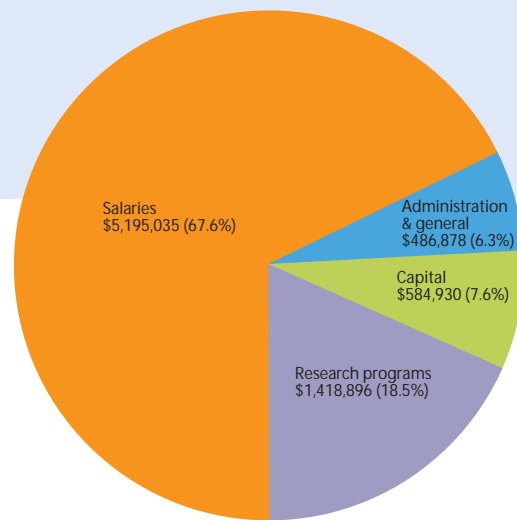
■ a major increase in funding is a vote of confidence in MSHR ■

## Financial Overview for the Year Ended 30 June 2001

### INCOME



### EXPENDITURE



### Donations

#### GENERAL RESEARCH

Various Anonymous Donors	\$101,412
S Frey	\$1,000
Country Women's Association of the Northern Territory	\$1,129
Tudor Foundation	\$9,244
In memory of Group Captain Wilfred Stanley Arthur	\$1,035
JE & CA Purdie	\$20
PA Gatenby	\$200
<b>Total</b>	<b>\$114,040</b>

## For Further Information . . .

### **Research and policy matters**

Professor Kerin O'Dea	Director	08-8922 8605
Associate Professor Ross Bailie	Interim Deputy Director Research and Education	08-8922 8835
Miss Nicki Crute	Executive Administration Officer	08-8922 8597

### **Administration and public relations**

Mr David Morgan	Associate Director (Finance and Administration)	08-8922 7877
Mrs Yolanda Jackson	Financial Controller	08-8922 8594
Mrs Sue Hutton	Interim Operations Manager	08-8922 8025

### **Research administration and ethical issues**

Miss Gabrielle Falls	Senior Research Administrator	08-8922 8624
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### **Population Health and Chronic Diseases Program**

Dr Joan Cunningham	Interim Program Leader	08-8922 8797
Miss Tracey Burke	Research Administration Officer	08-8922 7833

### **Infectious Diseases Program**

Professor Bart Currie	Interim Program Leader	08-8922 8056
Mrs Jill Albion	Research Administration Officer	08-8922 7837

### **Education and Training Program**

Dr Paul Kelly	Interim Program Leader	08-8922 8837
Mrs Catherine Richardson	Academic Administrator	08-8922 7873

### **Indigenous Forum**

Mrs Norma Bengier	Interim Convenor	08-8922 8839
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## **Acknowledgements**

Written by Menzies School of Health Research

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*'Utnenge-akerte ayeye (Story  
about sick spirit leaving the  
body)', by Kathleen Wallace,  
Keringke Arts, Santa Teresa,  
Northern Territory*



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