



# *Annual Report* 2002 - 03



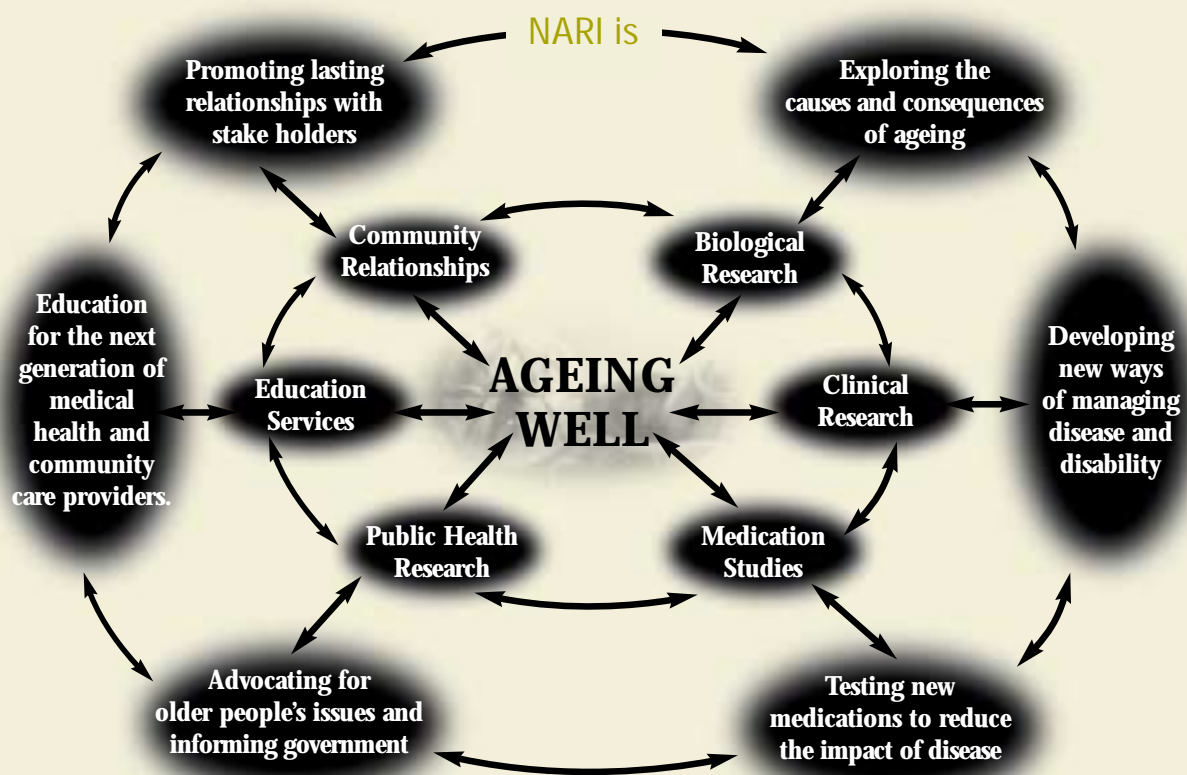
National Ageing Research Institute Incorporated

# Mission Statement

To be the centre of excellence in Australia for research (preventative and public health, service delivery, clinical and biological) into ageing and improving the life and health of older people.

NARI aims to achieve this by:

- Providing and promoting education concerning ageing by the expansion, advancement and dissemination of knowledge concerning all aspects of ageing
- Conducting and promoting research into the health status and needs of the aged
- Conducting and promoting research and inquiry into the provision and effectiveness of clinical care, health services and technologies provided to the aged
- Conducting research into the biology of ageing, including, but not limited to, the cause, prevention and cure of disease and the relief of suffering associated with ageing
- Developing the highest academic standards of study and practice in medicine as it relates to the aged





*Healthy Ageing and Healthy Lifestyles*

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# Board of Management



**PRESIDENT**  
Mr Alan Castleman  
Company Director



Professor Richard Larkins AO  
Dean  
Faculty of Medicine, Dentistry and Health Sciences  
The University of Melbourne



**VICE PRESIDENT**  
Ms Judith King  
Company Director



Mrs Sheila Rimmer AM  
Council on the Ageing (Australia)



**SECRETARY**  
Mr Doug Robertson  
Lawyer



Dr Paul Scown  
Chief Executive Officer  
Melbourne Health



**TREASURER**  
Mr Neil Hewitt OAM  
Retired Partner – KPMG



Professor Fred Mendelsohn  
Director  
Howard Florey Institute of Experimental  
Physiology and Medicine



**EXECUTIVE DIRECTOR**  
Professor Allan McLean  
National Ageing Research  
Institute



Mr Victor New  
Law School  
The University of Melbourne



Mr John Grace  
Lawyer



Mr David Simmons  
Distinguished Member Australian Association  
of Gerontology



Ms Kate Spargo  
Company Director

# President's Report



President:  
*Mr Alan Castleman*

forward in ageing research.

I am very pleased with the continuing energetic activities of our Director Professor Allan McLean widening NARI's linkages with other Institutes and Universities throughout Australia, and playing an important role in Aged Care and Service Delivery through his other role as Director of Aged Care at Melbourne Health. Our other staff have advanced their work during the year as described throughout this report. The Honourable Michael MacKellar has played an important role in supporting Professor McLean in initiating and promoting linkages with Governments at State and Federal levels.

During the year management continued to reduce administration costs however these savings were outweighed by a decrease in Contract Research income and reduced infrastructure support we received. Whilst we managed to improve on our competitive funding from the NHMRC, aggregate financial support for recurrent and infrastructure funding from the government fell some \$100,000 over the prior year, and we had a substantial reduction in revenue because of a fall off in Clinical Trial activity. The overall result was a very tight year and unfortunately we incurred another financial loss.

We thank former staff members of NARI Ms Fay Maxey and Mr Mark Bradbeer for their long standing dedication to the work of the Institute. The Board acknowledges with appreciation Fay's loyal service to the Board and the Institute over many years.

I would like to thank the Board for their support throughout the year, in particular our Vice-President Judith King, Treasurer Neil Hewitt and Mr John Grace who have assisted me greatly. The end of the Financial year saw the retirement of our Treasurer Neil Hewitt OAM and Professor Richard Larkins AO. Both these

The celebration of the 25th Anniversary of NARI has been a focal point of this year, acknowledging the achievements in geriatric medicine, research, education and training activities that have been undertaken by NARI over the past 25 years. It is evident that NARI's multidisciplinary approach to ageing has been recognised as the way

members joined the Board at the Institute's incorporation. In fact Professor Larkins was a member of the Institute's Committee of Management for many years prior to that date. Both have made significant contributions to the Board process. Neil Hewitt retires to concentrate on other commitments and Professor Larkins has assumed the role of Vice Chancellor at Monash University. We thank them both.

The Board welcomes Professor James Angus, Dean of the Faculty of Medicine, Dentistry and Health Sciences who fills the position vacated by Professor Larkins.

Finally I wish to thank all of our supporters, the Victorian Government Department of Human Services for its core grant and other contract grants, the Commonwealth Government Department of Health and Aged Care, our many corporate and private donors, and all of our volunteers for their support.

The contributions of these organisations and people, together with our staff and collaborators in other institutions are all necessary to allow our work to succeed.

The research work of the institute is of increasing importance today as the number of older and much older people in the population increases. Our work benefits us all by improving health and lifestyle of our older community, and it also potentially saving huge amounts for governments by improving the efficiency and effectiveness of aged care.

Far more however could be done if we were able to have more resources through systematic program funding. Our experience demonstrates that the economic return to government is very large from work such as we perform, and of course the value to the community of better health and care is another huge consideration which is not valued in economic models.

We proudly look forward to another constructive year.

# Executive Director's Report



Executive Director:  
*Professor Allan McLean*

the 25th Anniversary of the founding of the Institute entitled "Maximising the benefits of Australia's demographic changes". This was jointly sponsored by the NHMRC, CSIRO and Australian Unity under the leadership overall of our Vice-President, Ms Judith King and Mr Alan Castleman.

Professor Sir Gustav Nossal acted as Chairman of the Symposium, and distinguished speakers and invited discussants were recruited to address the diverse issues raised by the topic - health, science, economics, politics, and social welfare. The strongly positive themes which emerged were the opportunities for high quality of life in the setting of escalating longevity, and the powerful opportunity for older people to materially advance economic growth in Australia through continued participation in the workforce. I am very grateful to Australian Unity for generous resourcing of the occasion through the provision of the Australian Unity Conference Centre, facilities and support staff without fee, and for the overall coordination of the event by the Honourable Mr Michael MacKellar.

The Symposium reaffirmed the opportunity for NARI to influence the ageing and Aged Care policy agenda in Australia because of our holistic intellectual approach, and our ability to mount wide-ranging collaborative activities in the field.

NARI co-sponsored with the Aged Care Division, Victorian Department of Human Services a major Symposium on Hospital Demand Management. More than 300 health service professionals from across Victoria attended to discuss the opportunities to improve Aged Care services through better organisation and management. As part of this policy initiative NARI was awarded a major project grant in collaboration with the Clinical Epidemiology Unit of Melbourne Health to improve preventive follow-up after injuries related to falls in the elderly.

A prominent role for NARI in forthcoming national health research developments was foreshadowed through participation by Mr Castleman and me in the

In the last year the management of the Institute has involved the complementary processes of review and celebration of the preceding 25 years of activity, the response to substantial changes in our immediate operating situation, and ongoing strategic review.

The Board initiated a Symposium to celebrate

CSIRO P-Health launch as a major national priority by the Prime Minister.

NARI also participated with CSIRO in a joint presentation on Ageing research policy to the Victorian Parliament on behalf of The Australian Academy of Science, and The Academy of Technological Sciences and Engineering.

In the important area of national research policy formation, NARI was honoured through participation in the Working Group on Ageing & Preventive Healthcare reporting to the Prime Minister's Science, Engineering and Innovation Council (PMSEIC). I was nominated to make the Working Party presentation to the Prime Minister, senior members of Federal Cabinet, and other members of PMSEIC, and a supplementary presentation to the Co-ordinating Committee for Science and Technology (CSST) of the Commonwealth Public Service. I am now hopeful that there will be programmatic and broad support of Ageing research by diverse funding sources within the Federal Government, well beyond the current scope provided by NHMRC.

Following the recommendations of the NHMRC Scoping Study into Ageing Research in Australia, auspiced by NARI and the Centre for Education and Research on Ageing (CERA) of the University of Sydney, the NHMRC targeted six projects for ageing research. NARI was successful in being awarded three of these grants. One was to Associate Professor Stephen Gibson for a project examining pain and dementia, a second was awarded jointly to Dr Dina LoGiudice of NARI and Melbourne Health and Professor Flicker from the University of Western Australia to assess dementia in aboriginal communities, while the third was awarded jointly to me and Professor David Le Couteur of the ANZAC Institute, University of Sydney for the study of Geriatric Clinical Pharmacology.

Research applications during 2002/2003 represented continuing development of the strategic policy of NARI to develop collaborative network relationships in research with a major commitment to national and international collaborative projects. Research partners with complementary expertise include CSIRO, the Howard Florey Institute, the Mental Health Research Institute of Victoria, the University of Melbourne, the University of Western Sydney, the Menzies School of Health Research, and the ANZAC Institute and CERA at the University of Sydney.

Linkage of our efforts to local community need remains a major focus. NARI collaborated with the Victorian Rehabilitation Research Institute to re-define medical and functional criteria for subsidised taxi use within Victoria, and to simplify



*Professor Allan McLean, Mr Alan Castleman, the Honourable Kevin Andrews, Commonwealth Minister for Ageing and the Honourable Michael MacKellar at the 25th Anniversary Symposium*

administrative procedures. This project involved a fruitful interaction with the Taxi Directorate of the Victorian Department of Infrastructure, yielding a model attracting national interest. The Board has identified a priority for NARI to pilot a broad-based system of preventive assessment of falls that will be readily available to community practitioners.

The Institute remains productive despite extreme financial pressure. Reductions have been made in our core funding from the Victorian Government over the last 2 financial years, with these reductions now representing more than \$130,000 annually. Our financial result has also been heavily impacted by a \$90,000 provision for long service leave entitlements, with the accrual treated for simplicity and economy as a single, non-recurrent adjustment confined to the 2002/2003 financial year. Occupancy and maintenance costs escalate along with the overall costs of high technology research. It makes me particularly proud of the achievements and the hard work of the highly skilled and professional staff under these constraints. Professors Zeinab Khalil and Stephen Gibson and Dr Keith Hill continue to provide outstanding academic leadership in research and teaching as well as administrative support of the Institute, as detailed in their individual reports. Dr Paul Andrews and Ms Kerrie Holdsworth have provided disciplined and committed support to extensive changes in administrative structures, infrastructure and budgetary management, as well as change in relationships and reciprocal services with Melbourne Health and the University of Melbourne.

I am deeply appreciative of the unstinting support of the NARI Board for myself personally and the overall management of NARI. Their advocacy on behalf of NARI and the issue of ageing has been a fundamental determinant of our progress, while their leadership of an ongoing strategic review of the Institute resourced by the Department of Human Services will critically determine the long term future of NARI.

I commend this Annual report to you as a record of our activities and achievements in 2002/2003.



*Above left: Ms Natalie El Haber explains her research to the Honourable Gavin Jennings, Victorian Minister for Aged Care and Mr Alan Castleman, President of the NARI Board*

*Above: Sir Gustav Nossal AC with Ms Janet Wood (Chairperson) and Professor Dennis Lowther AM of the Victorian Minister's Advisory Council of Senior Victorians at the 25th Anniversary Symposium*

## Nari Highlights and Networks

Sharing the knowledge and outcomes of research is essential to achieving NARI's mission. Over the past year we have made major contributions to national and local events that shape the way health and community care are provided and research is conducted.

### 25th Anniversary Symposium

In March 2003 NARI convened a symposium in celebration of the 25 years of achievement since its inception. The symposium entitled "Maximising the benefits of Australia's demographic changes" was sponsored by Australian Unity, CSIRO and the NHMRC. Emeritus Professor Sir Gustav Nossal chaired the proceedings as five speakers shared their considerable expertise. They were Allen Consulting Group Co-chairman, Dr Vince Fitzgerald; Anglican Aged Care Services Group Executive Director, Helen Kurincic; General Manager, Service Sector CSIRO Telecommunications and Industrial Physics, Dr Robert Gill; the Federal Minister for Ageing, the Hon Kevin Andrews, and NARI Director, Professor Allan McLean.

More than 160 people attended, including senior personnel from Commonwealth and State Government departments, leading scientists and medical professionals from major institutes, and

representatives from community organisations. Lively discussion followed each of the presentations that covered economic issues, impact on business, the very real prospects for improved quality of life, and what science and technology can contribute to the autonomy and dignity of older people. The benefits beginning to flow from new scientific and health discoveries were discussed as was the changing requirements of aged care. Additionally, the symposium addressed some myths about aged care, with issues of particular relevance to women. The sensitive issue of elder abuse and end of life care was also considered.

The event was a great success and it is hoped that NARI will be able to convene a similar symposium addressing current aged care issues each year.

### Prime Minister's Science, Engineering and Innovation Council

Professor McLean was a member of an independent working group reporting on the topic "Promoting Healthy Ageing in Australia" for the Prime Minister's Science, Engineering and Innovation Council. In June 2003 the report was submitted to the Council at its 10th meeting and a presentation given by Professor Nick Saunders (working party Chair, Chair of the NHMRC) and Professor McLean.



*(L to R. Allan McLean, Chip Goodyear (CEO BHP Billiton), Rod Sharp (MD Australian Magnesium Corporation), Catherine Livingstone (Chairman, CSIRO), The Hon John Howard, PM and Dr Geoff Garrett (CE CSIRO).)*

The report made a number of recommendations with respect to ageing and ways to help Australians remain healthy as they age. The categories of recommendations included physical activity, nutrition, work and the social environment, the built environment, a national network of Healthy Ageing Research, and longitudinal studies of healthy and productive ageing. The full report can be found on the website of the Commonwealth Department of Education, Science and Technology at [http://www.dest.gov.au/science/pmseic/documents/Promoting Healthy Ageing report.pdf](http://www.dest.gov.au/science/pmseic/documents/Promoting%20Healthy%20Ageing%20report.pdf).

## CSIRO P-Health flagship

The CSIRO has assembled Flagship Programs to deliver scientific solutions that advance Australia's national objectives. Each program harnesses the resources of CSIRO and teams of partners to address a key national priority. The objective of the CSIRO's Preventative Health (P-Health) Flagship Program is to work in partnership to realise the enormous potential for reducing the incidence and severity of chronic diseases through recent advances in our ability to understand the origins and course of disabling illnesses and environmental public health issues. Its focus is to use preventative healthcare to help Australians live longer, healthier lives through early diagnosis and prevention. Professor McLean has been active in creating strategic linkages between the NARI research effort and the P-Health program. He was invited by

the CSIRO to speak about the P-Health program at the launch of the CSIRO National Flagships Program by the Prime Minister in April 2003.

## International Pain Congress

NARI reaffirmed its position as a leader in pain and ageing research when Associate Professor Stephen Gibson took to the podium before thousands of delegates at a prestigious international conference, in San Diego.

He spoke at the triennial conference for the International Association for the Study of Pain, in August, attended by more than 6000 delegates. His plenary presentation explored the differences in how younger and older people experienced and reported pain, and the impact of pain. He also presented an insight into the world's ageing population by revealing that 30 percent of people would be aged over 65 years, in some European and Asian countries, by 2050. The implications of this - large numbers of people needing effective pain management and services to better meet the needs of older people - prompted discussion at several workshops.

Nine representatives from NARI, including medical staff from the Pain Clinic at Melbourne Extended Care and Rehabilitation Service, attended the conference. Of their 14 poster presentations, those that created particularly strong interest were brain imaging by



*Above left: The Honourable Peter McGuaran, Commonwealth Minister for Science with Mr David Simmons (Board Member) on a visit to NARI*

*Above: Associate Professor Stephen Gibson speaks with volunteers at the Volunteer Appreciation event.*

## Nari Highlights and Networks cont...

Dr Michael Farrell, the body's pain control system by PhD student Lindy Washington, and how dementia modifies the pain experience by Dr Benny Katz.

Associate Professor Gibson is on the ISAP editorial committee for professional education and he is a member of the scientific committee for the Australian Pain Society.

(Extract from the Ageing Well Newsletter issue 31 – October 2002, article by Ms E Vamos)

### Visitor from Singapore

Ms Charmaine Magnus visited NARI and MECRS for two months from Tan Tock Seng Hospital in Singapore. Charmaine is an occupational therapist with a special interest in rehabilitation for older people. She spent time with the Falls and Balance Clinic, the Cognitive Dementia and Memory Service, and the occupational therapy department at MECRS, as well as reviewing the research activities related to these areas at NARI.

### Volunteers

NARI's volunteers continued their well-established tradition of commitment and support to a range of programs including our clinical research activities. Throughout 2002-2003 members of this highly valued and dedicated group assisted at a variety of internal and external events. Their arms and legs were in great demand by our researchers with no test deemed too hard to volunteer for!

One of the most memorable days in the calendar of NARI's events 2002-2003 was the Volunteer Appreciation Day held in December 2002 where NARI staff and students had the opportunity to thank NARI's volunteers who so generously give of their time, energy and resources in so many ways.

We thank you sincerely and look forward to your continued support for many years to come.

# Our People and Partnerships

The following people were involved with NARI for part or all of the financial year.

## Director

Professor Allan McLean *BSc(Med) MB BS (Hons I) PhD  
FRACP AFACHSE Grad Dip Mgt (Tech Mgt)*

## Deputy Director

Associate Professor Zeinab Khalil *MB BS (Hons) MSc PhD*

## Associate Professor

Associate Professor Stephen Gibson *BBSc (Hons) PhD MAPS*

## Senior Research Fellows

Dr Peteris Darzins *BM BS PhD FRACP FRCPC  
(to November 2002)*

Dr Keith Hill *BAppScPT Grad Dip Physio PhD*

## Research Fellows

Dr Irene Blackberry *MD PhD*

Dr Patricia Buckley *BNsg DipAppSci(CommHealth) Med:HRS  
GradDipHlthAdmin DocOrgDym (to November 2002)*

Dr Briony Dow *BSW MA PhD (from February 2003)*

Dr Christopher Driver *BSc (Hons) Dip Ed PhD (to March  
2003)*

Ms Lisa Engel *RN RM BN Grad Cert D Ed*

Dr Michael Farrell *BAppScPT, Grad Dip Geront, MGeront,  
PhD (to January 2003)*

Ms Betty Haralambous *BSW MSW (from January 2003)*

Dr Dina LoGiudice *MB BS PhD FRACP*

Ms Joan Nankervis *BSW Grad Dip VET*

Ms Deborah Osborne *MPH MSc*

## Clinical Research Fellows

Dr Eric Seal *MB BS FRACP*

Dr Kylie Staggard *MB BS FRACP*

Dr Mark Yates *MB BS FRACP*

## Research Nurses

Mr Mark Bradbeer *BSc (Hons) MSc RN*

Ms Aileen Kalogeropoulos *RN BAppScNs*

Ms Shelley Waters *RN (from December 2002)*

## Research Officers / Research Assistants

Dr Jonathan Bruce Barber *BEd MED PhD*

Ms Kirsten Black *BA (Hons)*

Ms Fiona Bremner *BOccTherap (from January 2003)*

Mr George Georgiou *BSc (Hons)*

Ms Marcia Fearn *BA (Hons)*

Dr Bereha Khodr *BSc (Hons) PhD*

Ms Freda Vrantsidis *BBSc Post Grad Inf Serv*

Dr Hua Hie Yong *BSc (Hons) MPsych PhD*

*(October 2002 to May 2003)*

Dr Zhanli Yin *MBBS PhD*

## Research Students

Mr Khaled Azar *BSc (from January 2003)*

Dr Maryam Bassirat *BSc (Hons) PhD (to April 2003)*

Ms Leonie Carabott *BBSc (Hons) (to December 2002)*

Mr Goksel Dogany *BSc (Hons)*

Ms Natalie El Haber *BSc (Hons)*

Dr Robert Gan *MD*

Mr Terry Haines *BAppScPT*

Ms Kimberley Hearne *BSc (from January 2003)*

Ms Christel van Hintum *MS*

Dr Bereha Khodr *BSc (Hons) PhD (to May 2003)*

Ms Catherine Jones *BAppSci(PT)*

Ms Tamara Leigh-Brawn *BBSc (Hons) (to December 2002)*

Ms Kate McKenzie *BBSc (Hons)*

Ms Shylie Mackintosh *BAppScPT, MSc*

Ms Janet Maxwell *BBS (from January 2003)*

Dr Andyda Meliala *MD*

Ms Kate Murray *BAppScPT MPhysio*

Ms Angela Nicholas *BBSc (Hons)*

Ms Helen Poliviou *BSc (Hons)*

Ms Rajna Rimac *BSc BPod (Hons) MSc*

Ms Renee Rocuzzo *BSc (Hons) (to December 2002)*

Ms Dora Rosa *(from January 2003)*

Ms Melissa Russell *BPhysio*

Ms Narmatha Satkunanathan *BSc (Hons)*

Ms Judy Tang *BSc (from January 2003)*

Ms Willeke Walsh *BAppSciPT*

Ms Lindy Washington *BSc (Hons)*

Dr Hua Hie Yong *BSc (Hons) MPsych PhD (to October 2002)*

## Associates of the Institute

Associate Professor David Ames *MB BS MD MRCPsych  
FRANZCP*

Professor Leon Flicker *MBBS Dip Epi PhD FRACP*

Dr Benny Katz *MB BS FRACP*

Dr Craig Ritchie *MB ChB MRC Psych*

Dr Jenny Schwarz *MB BS Grad Dip Ed FRACP*

Mr Geoff Sussman *JP PhC MPS AF AIPM MSHP MSMA  
MAWMA*

Dr James Tulloch *MB BS MMed FRACP*

## Visiting Scientists and Students

Ms Asa Aman

Mr Matthias Carlström

Ms Kristin Kvernød

Dr Ian Leong MD

Ms Kajse Nilsson

Ms Vesna Poljak

## Corporate Services

Dr Paul Andrews *BSc (Hons) PhD GradDipCompSci MACS*

Ms Lynette Bon *BHA Assoc Fellow ACHSE*

Ms Fiona Franchi *(to February 2003)*

Ms Kerrie Holdsworth *BAppSci MBA (from April 2003)*

Ms Fay Maxey

Ms Beverly Wyburn

## Consultants to the Institute

Berringer Management Services

Davies Collison and Cave Patent Attornies

Freehill Hollingdale and Page

The Honourable Michael MacKellar

Mediclin Pty Ltd

Gorman ProMed Pty Ltd

Griffith Hack Patent Attornies

Piper Alderman Lawyers

PriceWaterhouseCoopers

## Collaborators

### Melbourne Extended Care and Rehabilitation Service

Ms Julie Bernhardt

Ms Jenny Callaghan

Ms Liz Facci

Ms Kathryn Gould

Dr Benny Katz

Ms Michelle Kronberg

Mr Stephen Malkin

Ms Anne McGann

Ms Jacqui McGrory

Ms Jo Pearce

Dr Jenny Schwarz

### The University of Melbourne

Associate Professor Kim Bennell, School of Physiotherapy  
Professor Prithi Bhathal, Department of Anatomy and Cell  
Biology

Professor Ed Byrne, Centre for Neuroscience, Neuroscience  
Victoria

## Our People and Partnerships cont...

Dr Shyamali Dharmage, Department of General Practice and Public Health  
Associate Professor Greg Dusting, Howard Florey Institute  
Professor John Furness, Department of Anatomy and Cell Biology  
Associate Professor Ken Gayler, Department of Biochemistry and Molecular Biology  
Ms Nancy Guo, Howard Florey Institute  
Dr Norman Hughes, Department of Anatomy and Cell Biology  
Dr Mark Jenkins, Centre for Genetic Epidemiology  
Professor Richard Larkins, Dean, Faculty of Medicine, Dentistry and Health Sciences  
Associate Professor Bruce Livett, Department of Biochemistry and Molecular Biology  
Professor Colin Masters, Department of Pathology  
Professor Joan McMeeken, School of Physiotherapy  
Professor Terry Nolan, School of Population Health  
Dr Richard Osborne, Department of Medicine  
Dr Beverley Phillips, School of Physiotherapy  
Dr Jane Sims, Department of General Practice and Public Health  
Dr Martin Stebbing, Department of Anatomy and Cell Biology  
Dr Qiao Xin Li, Department of Pathology

### Royal Melbourne Hospital

Associate Professor David Ames  
Dr Caroline Brand  
Dr Jack Metz  
Professor John Wark

### Monash University

Professor John Bradshaw, Department of Psychology  
Professor Donald Campbell, Monash Institute of Health Services Research  
Ms Erin Cassell, Monash University Accident Research Centre  
Associate Professor Peteris Darzins, Monash Institute of Health Services Research  
Dr Lesley Day, Monash University Accident Research Centre  
Ms Kathryn Garland, Caulfield Pain Management Centre, Department of Medicine  
Dr Jason B Mattingley, Department of Psychology  
Associate Professor Steven McKechnie, School of Biology, Monash University  
Professor George Mendelson, Caulfield Pain Management Centre, Department of Medicine  
Professor Phillip Nagley, Department Biochemistry and Molecular Biology  
Dr Joanne O'Neill, Department of Pharmacology  
Professor Nicholas Saunders, Dean of Medicine, Faculty of Medicine, Nursing & Health Sciences  
Mr Geoff Sussman, Department of Pharmacy Practice, Victorian College of Pharmacy  
Professor Barbara Workman, Kingston Pain Management Centre, Department of Medicine (Public Health)  
Dr Chunfang Zhang, Department Biochemistry and Molecular Biology

### Other Collaboration

Ms Kathryn Bailey, Western Health  
Ms Anne Bryan, Villa Maria Carer Services  
Mr Andrew Dalton, ADHealth Pty Ltd  
Dr Ian Darby, School of Medical Sciences, RMIT University  
Dr Karen Dodd, Department of Physiotherapy, LaTrobe University  
Dr Michael Dorevitch, Centre for Applied Gerontology  
Ms Janet Fricke, LaTrobe University  
Dr Robert Gill, CSIRO Telecommunications & Industrial Physics, Sydney  
Associate Professor Patricia Goldie, LaTrobe University  
Dr Prue Hart, Department of Microbiology & Infectious Diseases, School of Medicine, Flinders University, Adelaide

Professor Richard Head, Director CSIRO P-Health Flagship Program, Adelaide  
Ms Rani Hughes, Doutta Galla Community Health Service  
Dr Joseph Ibrahim, Western Health  
Ms Lea Kewish, North West Occupational Therapists  
Professor David Le Couteur, CERA, University of Sydney  
Dr Michael Leong, Princess Alexander Hospital, Queensland  
Ms Melissa Lindeman, School of Health and Sciences, Batchelor Institute of Indigenous Tertiary Education, NT  
Dr Colin Little, Specialist Allergist, Melbourne  
Ms Maree Mastwyk, Mental Health Research Institute  
Professor John McCallum, College of Social & Health Sciences, University of Sydney  
Mr Robert Moss, Ballarat Health Service  
Dr Michael Murray, St Georges Hospital  
Professor Kerin O'Dea, Menzies School of Health Research, Darwin  
Ms Rachel Oliphant, Villa Maria Carer Services  
Dr Ben Ong, LaTrobe University  
Associate Professor Susan Quine, University of Sydney  
Dr Peter Rendell, Australian Catholic University  
Mr Russell Renhard, LaTrobe University  
Dr Craig Ritchie, Peninsula Healthcare Network  
Ms Mary Rydberg, Villa Maria Carer Services  
Ms Anastasia Sagris-Desmond, Bayside Health  
Dr Sam Scherer, Royal Freemasons' Homes  
Ms Robyn Smith, Northern Health  
Dr Tony Sparrow, Deakin University  
Dr Philip Street, St Georges Hospital  
Professor John Trinder, The University of Melbourne  
Dr Nicholas Voudouris, LaTrobe University  
Ms Michelle Vu, Western Health  
Dr John Waterston, Alfred Hospital  
Mr Robert Webb, Moreland Community Health Service  
Ms Barbara Whiteford, Care Connect

### International Collaboration

Professor Darrell R Abernethy, National Institute on Aging, National Institutes of Health, USA  
Professor Alan Allport, Oxford University, UK  
Professor Robert Arking, Wayne State University, Michigan, USA  
Mr Michel Bedard, McMaster University, Canada  
Professor Susan Brain, King's College, London  
Dr Richard Stanley Burns, Cleveland Clinic Foundation, USA  
Professor Robert Cone, University of Connecticut Health Centre, USA  
Dr Winard Dittich, University of Hertfordshire, UK  
Dr Richard Gracely, National Institutes of Health, USA  
Professor Thomas Hadjistavropoulos, Department of Psychology, University of Regina, Canada  
Dr Ngaire Kerse, University of Auckland, New Zealand  
Ms Shari Lowe, Hamilton Health Sciences Corporation, Canada  
Ms Esther McEvoy, Hamilton Health Sciences Corporation, Canada  
Associate Professor Willie Molloy, McMaster University, Canada  
Professor Fred Nyberg, University of Uppsala, Sweden  
Dr Alexandra Papaioannou, McMaster University, Canada  
Ms Andrea Vertesi, Hamilton Health Sciences Corporation, Canada

### Organisations

Alzheimer's Association  
BioMelbourne Network  
CERA  
Church Nursing Home Association for the Blind  
Centre for Applied Gerontology  
Parkville Lodge  
Neuroscience Victoria & National Neuroscience Facility



*Above left: Mr George Georgiou analyses data.*

*Above: Ms Rajna Rimac explains the operation of the wound healing stimulator to a research volunteer.*

# Research Report

## Biomedical Research

**DIRECTOR BIOMEDICAL RESEARCH:** Associate Professor Zeinab Khalil

**DIRECTOR CLINICAL RESEARCH:** Associate Professor Stephen Gibson

**RESEARCH TEAM:** Mr Khaled Azar, Dr Bruce Barber, Ms Leonie Carabott, Mr Goksel Dogany, Dr Christopher Driver, Dr Michael Farrell, Dr Robert Gan, Mr George Georgiou, Ms Kimberley Hearne, Ms Catherine Jones, Dr Bereha Khodr, Ms Tamara Leigh-Brawn, Ms Janet Maxwell, Ms Angela Nicholas, Ms Rajna Rimac, Ms Dora Rosa, Ms Narmatha Satkunanathan, Ms Judy Tang, Ms Christel van Hintum, Dr Hua Yong, Dr Zhanli Yin.

The biomedical researchers at NARI have been making significant contributions to ageing research in Australia and throughout the world. Our collective research endeavours cover the full spectrum of activity, from the basic biological aspects of ageing and age-related disease, through laboratory based clinical investigations and more applied clinical research studies in real life settings. Indeed, over the past year we have seen the remarkable translation of our research from the basic laboratory to the clinic and beyond. In doing so, NARI is recognised as one of Australia's leading ageing research institutes and it is pleasing to see that many of our findings have now been incorporated into routine clinical practice and are already having a positive

impact on the health outcomes of older people. Here we provide a snapshot of some of the studies that have been undertaken over the past year.

### Biological determinants of the sinusoidal pseudocapillarisation of old age

Ageing changes to the liver endothelium (sinusoidal pseudocapillarisation) results in loss of sinusoidal fenestrations, which are the pores in the sinusoidal endothelium that allow bi-directional passage of macromolecules (such as nutrients). We propose to test our principal hypothesis that pseudocapillarisation is secondary to age-related oxidative stress either from endogenous or exogenous gut-derived sources. The aims of this research project are also to investigate the effects of model mediators of endogenous oxidative stress on the hepatic sinusoidal endothelium and compare these effects to those seen in the ageing liver. The results of our studies will provide a target for therapeutic and preventative interventions for liver diseases of older age, and may guide public health approaches to successful ageing.

### Pharmacology of the Hepatic Artery and Functional Support of the Liver in Ageing

Changes in liver biochemistry and energetic state, drug metabolism, handling of neurotoxins, and lipoprotein metabolism are associated with age. We propose a primary mechanistic hypothesis that the neuromuscular and pharmacological control mechanisms of hepatic



Visiting Swedish student Ms Lisa Landerholm tests the skin reactions of a research volunteer.

## Research Report cont...

artery, is impaired in ageing. Control of hepatic artery tone therefore offers a method for targeted liver oxygenation. Our hypothesis for therapy is that the intracellular oxygen deficit may be reversed, and global liver function improved in ageing, by an increase in hepatic arterial flow. The data indicates that age differences in contraction in hepatic and coeliac arteries are related to differences in histological structure and neuromuscular control and this might contribute to restricted oxygen availability in ageing liver.

### Vitamin E improves neurovascular function and accelerates wound repair

Previous studies in our laboratory have attributed delayed wound repair with age to a decline in sensory nerve function and microvascular blood flow at the injury site. We also provided evidence for a role for free radicals (toxic oxygen-derived species) in these effects. The aim of this study was to investigate the effect of short and long-term treatment with vitamin E (a free radical scavenger) on the repair of full thickness wounds. We demonstrated that both treatments are equally effective in reducing oxidative stress, improving neurovascular function and accelerating wound repair with age. A note of caution is that there was an initial increase in wound size in response to treatment that could reflect possible adverse side effects of antioxidants. We raise the notion that free radicals are essential for early stages of the repair process and recommend that the basic mechanisms of pathological disease should be taken into account when considering antioxidants as therapeutic agents.

### A novel $\alpha$ -conotoxin alleviates neuropathic pain and accelerates functional recovery of injured neurons

In this study, we investigated the effects of a compound ( $\alpha$ -conotoxin Vc1.1) extracted from a species of cone shell in modulating neuropathic pain (pain resulting from nerve damage). We also examined its ability to accelerate the functional recovery of the injured nerves. Injection of  $\alpha$ -conotoxin Vc1.1 near the injured nerve significantly attenuated pain in response to mechanical and thermal stimuli and accelerated its functional recovery. As this novel analgesic acts via blocking a particular neuronal channel that remains intact with advancing age, its future therapeutic use to reduce chronic pain in older adults is very promising (PCT/AU02/00411).

## From Bench to Bedside and Beyond

### Improving tissue repair with advancing age: bridging the gap between basic science and clinical medicine

Delayed wound repair is a common clinical problem of old age. The body responds to injury by increasing local blood supply to the injured area bringing vital nutrients (growth promoting factors) and helping to remove waste products. Activation of a subset of sensory nerves, namely the C fibres, is an essential prerequisite for initiation of the injury response and subsequent tissue repair. We showed that sensory nerves undergo physiological decline with ageing and established a relationship between this decline and a delay in tissue repair. We suggested that direct

pharmacologic or electrical stimulation of C fibres may provide one strategy to accelerate tissue repair. Our research has shown that the major delays in recovery observed in wound healing and peripheral neuropathy with age and diabetes can be reversed by the use of low frequency Sensory Nerve Stimulation technique (Patent No: **2003904303**). NARI's researchers have been able to develop an effective treatment strategy that is specifically tailored to accommodate physiological changes that occur with advancing age.

### A novel skin test for early diagnosis of Alzheimer's disease

Alzheimer's disease (AD) constitutes a growing public health crisis. Early and accurate diagnosis is essential in order to provide appropriate treatment. We report here on the utility of a novel skin test for early diagnosis of AD that is based on the detection of peripheral vascular deficits. Patients with mild cognitive symptoms were recruited from an outpatient memory clinic operating at MECRS and assessed using gold standard clinical tools for AD diagnosis. A non-invasive skin test to determine the ratio of a vascular response to a provocative agent compared to saline (**Patent No: 2002951599**) was examined for diagnostic utility. The results to date indicate that the test has an 82% diagnostic sensitivity and a 97% diagnostic specificity. We conclude that the test has potential clinical utility as an early diagnostic marker of AD.

### Monitoring treatment effectiveness of cholinesterase inhibitors in Alzheimer's disease

Cholinesterase inhibitors (Aricept and Exelon) are currently available for the treatment of Alzheimer's disease patients. The current view is that these drugs act by blocking the enzymatic degradation of the neurotransmitter acetylcholine (involved in memory) thus increasing its availability in neuronal synapses. Our recent work in the biology laboratory has demonstrated another possible mechanism of action for the therapeutic efficacy of these drugs. We found that these drugs also increase microvascular blood flow by overcoming the toxic vasoconstriction effects of amyloid beta peptides. The novelty of this discovery is that we can monitor the effectiveness of these drugs in peripheral skin microvasculature. These findings have been translated into our clinical work where we are now monitoring the effectiveness of treatment in Alzheimer's disease patients by monitoring the magnitude of change in skin vascular responses following treatment.

## Pain Research:

### A comparison of beliefs about pain in chronic pain patients of different age

This project is exploring age-related differences in the acceptance of pain, stoic attitudes to pain report, beliefs about pain symptoms and effective pain treatments in chronic pain patients aged from 20-100 years. A large sample of 300 pain free community

dwelling older persons and 420 patients from several multidisciplinary pain management clinics were interviewed using standardised psychological questionnaires. To date, findings reveal that older adults are more stoic than their younger counterparts and that stoicism has been shown to affect the willingness to report pain as well as influence coping strategy use and adjustment to persistent pain. Other pain attitudes also vary as a function of age and highlight the importance of cognitive beliefs in shaping the pain experience.

### Age differences in pain perception and report.

We examined the psychological and physiological reasons for age-related alterations in pain perception and report using experimental models of clinical pain in human volunteers. Some of our more recent findings include an ageing effect on pain thresholds that is dependent on the duration of noxious stimulation. Furthermore, we found that the temporal summation of pain intensity ratings occurs at slower stimulation frequencies in older people. These findings emphasise the primary role of C fibre inputs in temporal summation processes and may also suggest some important age-related change in the plasticity of central nervous system mechanisms. Our studies also demonstrate a concurrent age-related decline in endogenous analgesia with older persons and this may reduce the ability of older adults to cope with severe and persistent pain states.

### Pain management for community dwelling older persons.

Persistent pain has dramatic consequences on quality of life, including an increased risk of depression, anxiety, functional disability, interference with family relationships and social isolation. Attitudes, beliefs and coping self-efficacy are known to play an important role in mediating the relationship between pain and the consequent levels of suffering. A continuing series of studies at NARI have been investigating the most effective types of pain management strategies for older persons with chronic pain. Overall, the results suggest that conditioning and expectation mechanisms should be utilized by clinicians to enhance treatment effects in both young and older adults. Furthermore, our findings reinforce the benefit of multidisciplinary pain management for older persons suffering from chronic pain.

### Pain perception in persons with Alzheimer's disease.

Those with Alzheimer's disease receive fewer analgesic medications than other older adults matched for age, despite having similar levels of comorbid medical disease and injury. This apparent anomaly of unrelieved pain and suffering has started to attract widespread international condemnation of aged health care facilities, although there remains one important, untested assumption; Do older adults with Alzheimer's disease feel pain in the same way and to the same

extent as non-demented adults? A current study seeks to answer this fundamental question by using experimental pain stimuli to examine pain sensitivity and the central nervous system pain processing (using fMRI) in older adults with Alzheimer's disease. The findings should help guide the practice of pain assessment and management as well as inform routine clinical care for this highly dependent and vulnerable group.

### The influence of mood state on the reported severity of pain

There is a well-documented association between mood state, particularly levels of anxiety, and the reported severity of clinical pain. The present study is using a learning-conditioning paradigm to systematically manipulate psychological factors, including beliefs and levels of anxiety. We have shown that an experimentally induced increase in anxiety is accompanied by higher subjective ratings of painful stimuli with a more rapid nociceptor response in the presence of anxiety. This may suggest a descending modulatory influence of anxiety on nociceptive processing that extends into the periphery. These experiments provide important new insight into the way in which psychological factors might modify pain transmission.

## Cognitive Neuroscience Research

### Music changes the patterns of brain activity and improves blood circulation in patients with Alzheimer's disease

In patients with dementia, the capacity to comprehend music is commonly retained even when language abilities have been lost. Case studies suggest that music may have beneficial effects on the cognitive and social capabilities of dementia patients. NARI's researchers have been able to provide the first objective evidence to support these observations. Using a novel measure of vascular flow together with an EEG coherence measure of cortical brain function, we show that behavioural changes associated with music are accompanied by improved vascular function and a clear pattern of coherent brain activity in patients with Alzheimer's disease. We have been awarded a Neuro Science Research Grant from Pfizer to determine whether the efficacy of both music and Aricept is enhanced when they are used in tandem. Positive outcomes would contribute to improved quality of life for patients and their carers.

### Dementia in Australian Indigenous communities

Research indicates advances in the assessment and management of dementia are beneficial. Unfortunately the vast majority of this research has been performed on

non-Indigenous groups and therefore cannot be easily translated to Australian Indigenous communities. The limited data available indicate there may be a higher prevalence of dementia in Indigenous communities, with cerebrovascular disease, injury and excessive alcohol use being common underlying and potentially reversible causes. Further research is needed to determine the magnitude of the problem of dementia in the Indigenous population. Before this can be ascertained an appropriate means of assessing a person with memory problems and possible dementia needs to be developed in a culturally sensitive manner. This study is working to develop and validate an assessment tool that is specific for those of Indigenous background. A study will then be performed to determine the prevalence and underlying causes of dementia, in a representative sample of older Indigenous people living in the Kimberley region of Western Australia. This will have significant implications for the planning of effective and culturally appropriate services for older Indigenous people with dementia and their families and carers.

### Delirium

The most obvious behavioural signs of delirium are deficits in attention and memory. We are using electrophysiological measures of brain function in conjunction with passive tasks to determine where, in the chain of information processing of auditory stimuli, people with delirium show deficits. We have found that there are no significant differences between young and old subjects in pre-attentional and later attentional phases critical to sensory memory formation. Having confirmed the methodology we are now undertaking the next phase of the study in which we are examining and comparing the responses of delirious and demented patients.

## Public Health Research

**ACTING DIRECTOR:** Dr Keith Hill

**RESEARCH TEAM:** Ms Kirsten Black, Dr Irene Blackberry, Ms Fiona Bremner, Dr Patricia Buckley, Ms Briony Dow, Ms Natalie El Haber, Ms Lisa Engel, Mr Terry Haines, Ms Betty Haralambous, Ms Marcia Fearn, Ms Kate McKenzie, Ms Shylie MacKintosh, Ms Kate Murray, Ms Joan Nankervis, Ms Deborah Osborne, Ms Melissa Russell, Ms Freda Vrantsidis, Ms Willeke Walsh.

*The Public Health Division has continued to attract funding for a diverse range of projects in the service system development and evaluation, health promotion, and training areas. The strong mix of staff with research and clinical experience, and a growing range of well credentialed collaborators has positioned us well during the*



*Above left: Tai Chi for arthritis*

*Above: Ms Melissa Russell, Ms Melita Taylor and Dr Irene Blackberry discuss the design of a Falls diary.*

*past 12 months for a strong contribution to research, practice, and ultimately improving health and well being outcomes for older Australians.*

## Service system development: research and planning

### Evaluation of falls prevention services

Two projects have involved evaluation of falls prevention programs. Building on the evaluation of Falls Clinics project last year, a new project is trialing a standardised minimum data set. Data is being received and analysed from the majority of the Victorian Falls Clinics. The evaluation will determine the utility of the data collected, as well as provide the basis to evaluate outcomes from these Clinics. A second evaluation was undertaken of four acute hospital falls prevention projects in metropolitan and regional Victoria. Outcomes highlighted the challenges associated with falls prevention in the acute hospital setting, and that substantial time and a range of strategies are required to achieve sustained practice change. Both projects were funded by the Department of Human Services.

### Evaluation of home-based rehabilitation in Victoria

An evaluation of the range of home-based rehabilitation options in metropolitan and regional / rural Victoria and the development of a framework for best practice in home-based rehabilitation in Victoria is currently being conducted. Project components include a survey of outcome measures currently used in home-based rehabilitation, focus groups with participating teams, survey of referring agencies, recruitment of patients from seven home rehabilitation services, and

evaluation of outcomes for patients and carers. Funded by the Department of Human Services.

## Health and well-being of older people

### Health promotion in residential aged care settings.

Two projects had a strong focus on working with staff in residential aged care facilities to support residents to undertake / maintain health promoting behaviours. The first of these was the "supporting Supported Residential Services (SRS's) – strengthening health promotion practice in aged care" project, which was designed to improve the health status of SRS residents. This was achieved by working with staff from SRS's to raise their awareness of health promotion strategies that could be applied to their practice, using an action research approach. The second project was an extension to the "Well for Life" project, which aimed to facilitate resident participation in physical activity and nutrition through staff training. The rollout has been undertaken in residential care facilities in the Loddon Mallee Region and the Northern Metropolitan Region, and involved staff training and provision of support resources. Both projects were funded by the Department of Human Services.

### Falls prevention in residential care and hospital settings

Two falls prevention programs are being implemented in hospital and residential care settings. Together with Western Health, we are entering the third year of the 3 year "Avoiding the Tumble" project. A multi-factorial program is being sequentially rolled out to all acute



*Ms Marcia Fearn, Ms Joan Nankervis and Ms Betty Haralambous finalise a project report.*

## Research Report cont...

and sub-acute wards and residential care units at Western Health. Key elements of the project including comprehensive training for falls consultants on target wards (including change management and adult learning principles), validation of a falls risk assessment tool, and audits of nursing activities and the environment. In addition, general staff education has been achieved through the highly successful interactive 'SPLATT Attack' program that highlights falls risk factors and falls prevention strategies. A second project has been conducted in collaboration with MECRS, targeting falls prevention in two residential care facilities. The intervention phase incorporated an exercise program, environmental audit, education component for staff, residents and families, action research, a medical intervention with general practitioners, and the introduction of a falls risk assessment. Both projects were funded by the Department of Human Services.

### Physical activity programs for older people

Several projects have investigated factors influencing participation in physical activity, and outcomes associated with different types of physical activity. In a study funded by Villa Maria carer Support Services, three types of physical activity programs have been investigated. Over 100 older carers participated in a supported physical activity program through 9 community centres in the Eastern Metropolitan Region. The carers participated in up to twice weekly programs of strength training, tai chi, or yoga for a six-month period. Improvements were identified on a number of physical and psychological outcomes. A second project involved older people participating in

another form of exercise, a Feldenkrais program, an approach which uses gentle movement and increased awareness of posture and movement. The program aims to improve balance, coordination, flexibility and overall health and well-being. This project, which is due for completion in the latter half of 2003, is funded through LaTrobe University. Another small pilot study was undertaken to evaluate the feasibility of a simplified type of tai chi (Tai Chi for Arthritis) for frail older people receiving community services. Those completing the program achieved small improvements on a number of balance and mobility related measures, and reported subjective improvements associated with the program. Funded by Care Connect Inc.

Although there are increasing studies highlighting the benefits associated with different types of physical activity for older people, over half of older Australians are not doing enough physical activity to achieve a health benefit. Factors influencing participation in physical activity programs have been explored as part of two projects. One of these projects, funded by the Department of Human Services, investigated the role of psychological, physiological, socio-cultural and socio-environmental factors relating to participation in physical activity by older people. Comparisons were made between the Western and Eastern Metropolitan Regions of Melbourne. These regions reflect differences in socio-economic status, contain a high proportion of people from culturally and linguistically diverse (CALD) backgrounds, and represent two of most rapidly ageing regions in Melbourne. Focus groups revealed a range of key themes influencing participation, including awareness that physical activity is important for health; existing health problems were

perceived both as barriers and motivators for participation; socio-cultural perceptions influenced participation in physical activities; aspects of the environment were barriers to participation predominantly in areas of low socio economic status; and access to services was a factor influencing participation. A second study funded by the Diabetes Australia Research Trust, aims to investigate the impact of using a simple pedometer as a facilitator for increasing time spent walking in older people with Type 2 diabetes. Participants were randomly allocated to a group recommended to undertake walking, or a group with similar recommendations but with additional feedback from a pedometer. Psychological mediators underpinning exercise behaviour were also investigated using questionnaires. Outcomes are being evaluated at three and six months following commencement of the program.

## Training and resources

The Public Health Division have continued to have a strong focus on providing workforce training opportunities for staff working in a range of areas relating to improved health and service delivery for older people. These have included community care assessment training programs, falls prevention training, training in the use of the Priority of Access tool, and training for Personal Alert Victoria assessors and service providers. Details about these training programs are included in the education section of this report.

## Other activities and achievements

Public Health staff continued to participate on a number of committees, working parties, professional associations and peak agencies representing the interests of older Australians, including representation on Department of Human Services committees, the Australian Association of Gerontology, the Nutrition Society of Australia, and OT Australia. These representations have seen continued contribution to the academic and practice areas of public health and healthy ageing. During the past 12 months, staff of the Public Health Division published 19 reports, book chapters and papers and presented more than 20 conference papers, posters, seminars and workshops.

## Falls, Balance & mobility research

While there has been a steady growth in the research base in understanding mechanisms of balance disturbance and falls risk, and in identifying effective approaches to reducing falls and falls injuries, there remain considerable gaps in existing knowledge. In addition, innovative approaches are required to translate effective research findings into practice. The NARI research efforts investigating falls, balance and mobility aims to address these issues.

## Measurement of falls risk

Validation of falls risk assessment in acute and sub-acute hospital settings has been the focus of two current studies. In the acute hospital, a modified version of the NARI developed Falls Risk for Hospitalised Older People (FRHOP) is being investigated for reliability, predictive validity, and sensitivity to change. In the sub-acute hospital setting, a simple screen has been used as the basis for informing interventions in a large randomised trial. Preliminary outcomes indicate this approach to be one of the first effective interventions using a randomised trial design in reducing falls in this setting. Funding for both projects is from the Department of Human Services.

Detection of falls risk is also the basis for another study investigating the heritability of balance. In this study, a range of force platform and simple clinical measures are being evaluated in a large sample of identical and non-identical twins. Preliminary analyses indicate a likely heritable element contributing to the observed trend for familial hip fracture risk.

## Factors associated with falling

Some clinical groups have increased risk of falling. Current studies are investigating factors contributing to falls risk in two of these groups – people with stroke, and people with inner ear (vestibular) dysfunction. Improved assessments and understanding of contributors to falls risk in these groups will be used to inform improved management programs to reduce long term falls risk in these groups. Funding for the stroke research is from LaTrobe University, and for the vestibular research program is from the Garnett Passe and Rodney Williams Memorial Foundation.

## Treatment approaches for the management of falls

For those with established falls risk, targeting intervention programs to reduce future risk of falling is important. A study targeting vestibular dysfunction is currently underway to investigate the effectiveness of current rehabilitation approaches. In a separate study, older people presenting to an Emergency Department after a fall, and who are discharged back home, are being invited to participate in a randomised trial. Based on a comprehensive assessment in their home, participants in the intervention group will be referred to a range of targeted falls prevention actions. Funded by the Department of Veterans' Affairs (Victoria) and the Department of Human Services.

# Education Services

Over the past 12 months, education has continued to be a key element of NARI's work. In contrast to previous years however this work has been decentralised into activities undertaken by the research divisions. Education activities involve both training for university undergraduate and post-graduate students, as well as options for training for staff working with older people. A large part of the Institute's activity involves the supervision of research projects undertaken by postgraduate students from many different health professions.

NARI staff also lecture to a number of university courses for both undergraduate and postgraduate students. At an undergraduate level these have included presentations to medical, physiotherapy, nutrition, ergonomics, and science honours students. At a postgraduate level these have included presentations to medical and physiotherapy health professionals.

## Medical Student Teaching and New Clinical School

In previous years NARI co-ordinated the teaching of geriatric medicine to medical undergraduates at the University of Melbourne through a Special Clinical School. Under the new medical curriculum this training is undertaken by the RAPP (Rehabilitation, Aged care, Psychiatry of old age and Palliative care) Clinical School. NARI academics are involved in curriculum development and assist in teaching.

An additional arm of NARI's training program addresses training needs for staff working with older people. These programs have included:

## Community care assessment training program

NARI has continued to offer a successful training program for community care assessment staff since September 2001. The program is designed to meet the professional development needs of community based aged and disability assessment staff and addresses the directions of the State Government Primary Care Partnership policy on needs assessment and service co-ordination. The two day program, developed by Melissa Lindeman and Joan Nankervis, is regularly conducted at NARI and has also been run "off site" in regional areas. Other organisations have also invited NARI to tailor the program to address specific training issues for their staff.

## Falls prevention training programs

A full day training seminar (*Footsure at Broadmeadows*) was provided for medical, nursing and allied health staff from Broadmeadows Health Service. The program provided a multidisciplinary approach to preventing falls and fall related injuries in the acute care setting. NARI is also a partner in the Bayside Division of General Practice *Commonwealth Falls Prevention Demonstration Project*. As part of this project, NARI have developed and conducted training sessions for general practitioners, allied health practitioners, and home care workers. Training programs for allied health professionals, and for home care workers have also been conducted as part of the Melbourne / Moonee Valley Primary Care Partnership *Foothold on Safety project* being auspiced by Dousta Galla Community Health Service. The allied health training program included a modification of the successful SPLATT Attack program, modified from the hospital setting for the community setting.

## Priority of Access (PoA) tool training

Three half-day training sessions were held for Western Metropolitan Region (WMR) Local Government Home and Community Care (HACC) services in the use of a Priority of Access tool for determining whether clients were a high, medium or low priority for accessing services. The tool was developed by NARI in 2002 and uses information obtained through Service Co-ordination tools to allocate a priority level.

## Personal Alert Victoria (PAV) Information Strategy

The PAV Information Strategy, conducted in May 2003, aimed to ensure that all key stakeholders were appropriately informed about the revised DHS guidelines for assessment and prioritisation for PAV. The Strategy was structured around two main themes: PAV providers; assessors / HACC Response Service Providers. Training sessions were conducted with 393 PAV providers and assessment staff across each region. Funded by the Department of Human Services.



*Above left: Leg muscle strength testing in the Falls and Balance Laboratory*

*Above: Measuring skin oxygen level in the Wound Clinic*

## Clinical Services

The multidisciplinary clinics at MECRS form the basis of an important relationship between clinical practice and research. These clinics focus on the assessment and management of complex problems associated with ageing. In collaboration with NARI these services play an important role in the provision of education, research and in publications.

### Cognitive Dementia and Memory Service

**CO-DIRECTORS:**

Associate Professor David Ames, Dr Dina LoGiudice

**CLINICAL TEAM:**

Ms Liz Clifford, Ms Deborah Leighton, Ms Anne Morieson, Ms Kay Richter, Ms Sylvia Sully, Ms Anne Unkenstein, Ms Christel van Hintum

**CLINIC SECRETARY:**

Ms Marlene Tupper

The Cognitive Dementia and Memory Services at MECRS is lead by Associate Professor David Ames and Dr Dina LoGiudice. The clinic team has joined forces with Associate Professor Zeinab Khalil to conduct a clinical study (supported by the NHMRC) to test the validity of a novel skin test for early diagnosis of Alzheimer's disease. Another study also

supported by the NHMRC is currently being undertaken in collaboration with Associate Professor Steven Gibson to assess pain in patients with dementia.

### Pain Management Clinic

**DIRECTOR:**

Dr Benny Katz

**CLINIC TEAM:**

Ms Kathryn Bailey, Mr Mark Bradbeer, Dr Michael Farrell, Mr Stephen Malkin, Mr Max Neufeld, Dr Sam Scherer, Ms Veronica Roux, Ms Emily Holsman

**RESEARCH FELLOW:**

Associate Professor Stephen Gibson

**CLINIC SECRETARY:**

Ms Marlene Tupper

The Pain Management Clinic for older persons is lead by Dr. Benny Katz. Associate Professor Stephen Gibson supervises research undertaken at the clinic including the collection and review of the basic demographic information collected for each patient referred to the clinical service and information from investigator driven scientific clinical research. The latter is aiming to improve our knowledge of pain in older persons, developing a better understanding of chronic pain and its impact on function, mood and quality of life as well as optimising current treatment approaches and trialing new and novel methods of pain relief.



*Research nurse Ms Shelley Waters explains the drug interactions in a clinical drug trial*

## Clinical Services cont...

### Falls and Balance Clinic

**CO-DIRECTORS:** Dr Keith Hill, Dr Jenny Schwarz

**CLINIC TEAM:** Dr Tony Chamberlain, Ms Liz Facci, Ms Aileen Kalogeropoulos, Ms Anne McGann, Ms Sarah McKenzie, Mr Steve Malkin, Ms Joanna Pearce, Ms Gabrielle Scolier, Dr Eric Seal,

**CLINIC SECRETARY:** Ms Marlene Tupper

The Falls and Balance Clinic run by Melbourne Extended Care and Rehabilitation Service and NARI continues to provide leadership in a key component of falls prevention management for older people with high falls risk. The Clinic hosts a range of visitors from local, interstate and overseas, including Charmaine Magnus, an Occupational Therapist from Tan Tock Seng Hospital in Singapore, who spent 3 months at the Clinic.

The Clinic team continue to review and modify practice based on research and best practice. In the past 12 months, a new client feedback letter has been introduced, to explain in plain language the recommendations from the Clinic staff, and to be used as a basis for assessing client's uptake of recommendations. In combination with the Bundoora Extended Care Centre Clinic, the Clinic staff have continued to lead a Victorian Falls Clinic Coalition. The Coalition meets intermittently to provide an opportunity for interaction, sharing, and upskilling between Falls Clinics, and an avenue to discuss key issues of general concern to Clinics. In addition, Clinic staff have an ongoing role in training, being

involved in a number of the NARI falls prevention training programs as presenters

### Wound Management Service

**CO-DIRECTORS:** Dr Peteris Darzins, Dr Sally Warmington

**CLINIC TEAM:** Mr Greg Duncan, Ms Rebecca Jessup, Ms Claire Martin, Ms Christina Neilsen, Ms Isabel Ricketts, Ms Michelle Robins, Mr Geoff Sussman

**RESEARCH FELLOW:** Ms Rajna Ogrin – PhD student researcher, Associate Professor Zeinab Khalil

**CLINIC SECRETARY:** Ms Marlene Tupper

The Wound Management Service is lead by Associate Professor Peteris Darzins and Dr Sally Warmington. The research activities of the clinic are carried out under the supervision of Associate Professor Zeinab Khalil. The aim is to provide evidence based treatment protocols that are tailored to the individual needs of each patient and to introduce new assessment protocols to ascertain the adequacy of treatment. Current research at the clinic (supported by the NHMRC) is testing the efficacy of a new protocol of sensory nerve stimulation as an adjunct in the treatment of neuropathy and chronic leg ulcers. This is considered a cost-effective means to explore the potential for sensory nerve manipulation to influence healing.

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## Theses

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**Bereha Khodr,** PhD thesis, Department of Medicine, University of Melbourne. *"Oxidative stress, Ageing and Tissue Repair."* 2003

**Matthias Carlstrom,** *"Studies on the vascular activity of beta amyloid protein: Relevance to Alzheimer's disease."* MSc Pharmacology, Uppsala University 2002

**Mr Goksel Doganay** BSc (Hons) thesis, Department of Medicine, University of Melbourne *"Studies on modulating the toxic vascular actions in Alzheimer's disease."* 2002

**Mr Gavin Higgins,** BSc (Hons), Department of Biochemistry & Molecular Biology, Monash University, *"Functional and molecular changes in aged sensory nerves."* 2002

**Kristin Kvernrod,** *"Studies on the modulation of nicotinic receptor function by beta amyloid protein: Relevance to Alzheimer's disease."* MSc Pharmacology, Uppsala University 2002

**Asa Aman,** *"Is Substance P1-8 a Modulator of Peripheral Inflammation?"* MSc Pharmacology, Uppsala University 2003

**Kajsa Nilsson,** *"Studies on the validation of a non-invasive skin test for early diagnosis of Alzheimer's disease."* MSc Pharmacology, Uppsala University 2003

**Rene Rocuzzo,** BSc (Hons) thesis, Psychology Department, University of Melbourne. *"Age related differences in the placebo response."* 2002.

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# Key Financial Reports

## Key Financial Reports

The financial details for the year ended 30 June 2003 have been published in a separate financial report booklet that is available from the Institute upon request.

### Key Details

The total operating income for the year was \$2,047,490 compared to \$2,049,614 for the previous year. A decrease in State Government grants and Contract Research income was contrasted with increases in NHMRC grant income, Public Health research grant income and Donations and Bequests.

Total Operating expenditure was \$2,255,789 compared to \$2,047,490 in 2002. Despite savings in administration costs, an extra allowance made for long service leave liabilities and limited infrastructure support affected the result.

### Major Financial Supporters

State Government Department of Human Services combined Operational, Workforce Development and Projects (\$757,417) and other major Research grants (\$359,606), Federal Government NHMRC Competitive grants (\$378,663) and other Contract Research (\$318,742).

## A Special Thanks

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