



1999-2000

A n n u a l R e p o r t



National Ageing Research Institute Incorporated

M i s s i o n S t a t e m e n t

To be the centre of excellence in Australia in medical research (biological, clinical and service delivery) into the causes and consequences of ageing and its social accompaniments.

We aim to achieve this by:

Conducting research into all aspects of the biology of ageing, including, but not limited to, the cause, prevention and cure of disease, and the relief of suffering associated with ageing.

Conducting and promoting research and inquiry into the provision and effectiveness of clinical care, health services and technologies provided to the aged.

Conducting and promoting research into the health status and health needs of the aged.

Developing the highest academic standards of study and practice in medicine as it relates to the aged.

Providing and promoting education concerning ageing by the expansion, advancement and dissemination of knowledge concerning all aspects of ageing.



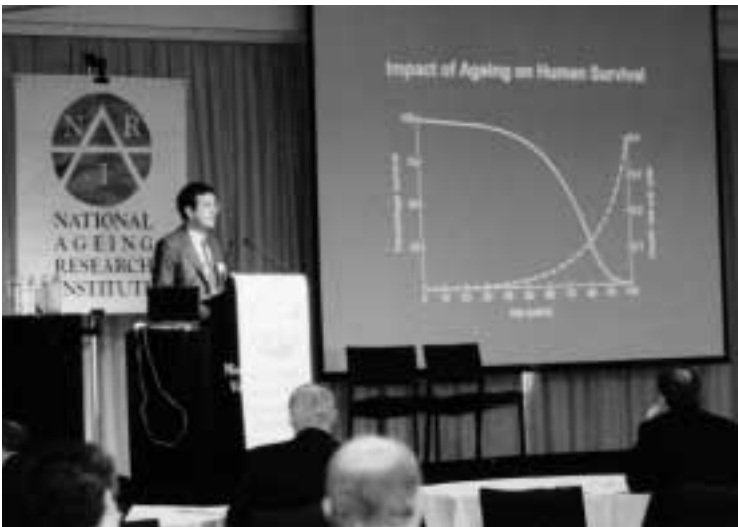
National Ageing Research Institute

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Our ageing nation

THANKS TO ADVANCES IN MEDICINE AND TECHNOLOGY, WE ARE ALL LIVING LONGER. IN 1921, THE AVERAGE LIFESPAN FOR MEN WAS 59 YEARS, AND 63 YEARS FOR WOMEN. BY THE CLOSE OF THE TWENTIETH CENTURY, THE AVERAGE MAN AND WOMAN COULD EXPECT TO LIVE FOR 77 AND 83 YEARS RESPECTIVELY.



NARI's inaugural Science of Ageing Conference

According to international comparisons, Australia has the sixth highest life expectancy in the world, and our population is ageing rapidly. People aged over 65 years currently make up 13 per cent of our population, but this will increase to one in five by 2027, and by 2052, to a staggering one in four (ABS 1999 Populations Projections for 1997-2051). In the next 20 years, the number of Australians over the age of 80 will rise 80 per cent, from around 426,000 to more than three-quarters of a million.

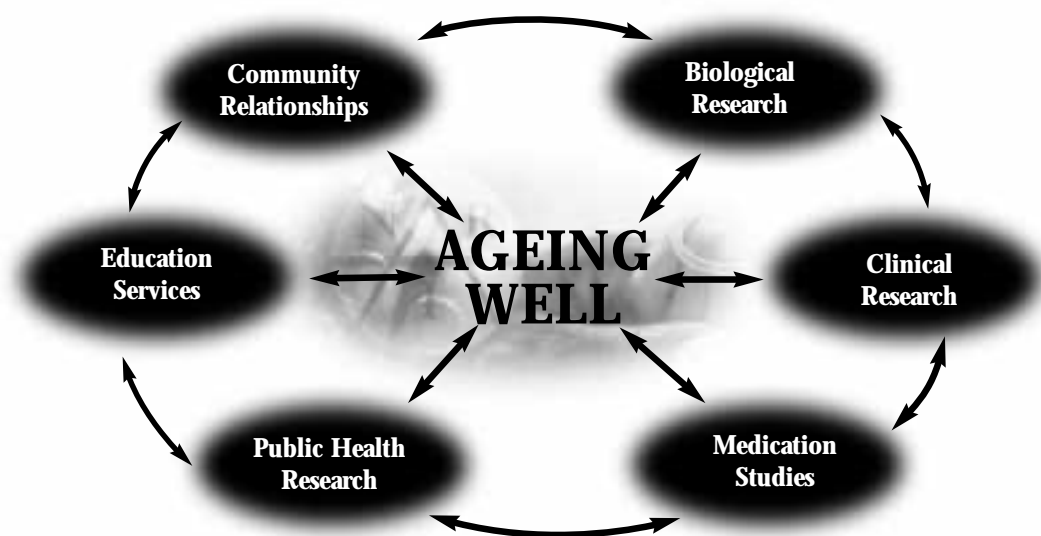
Our increasing longevity is certainly cause for celebration, but it presents a new challenge: maintaining health and vitality so that we can enjoy one of the most rewarding times of our lives.

Right now, living longer comes at a heavy price. More than 60 per cent of men and women aged 75 years and over are affected by a disability or disease directly linked to ageing, which seriously compromises their quality of life. Socially, the health care costs shouldered by their carers and the community runs to billions of dollars every year, and this crisis is escalating.

As a nation, we have a responsibility to ensure the best possible quality of life for our ageing population. The National Ageing Research Institute (NARI) has taken up that challenge on behalf of all Australians. Our charter is ambitious, and compels the support of each and every one of us.

N A R I ' s g o a l s

AS A NATION, WE MUST ACKNOWLEDGE THAT AGEING REMAINS INEVITABLE. OUR POPULATION IS AGEING, AND THE FACT WE ARE LIVING LONGER IS JUST CAUSE FOR REJOICING - BUT ONLY IF WE CAN DO SO IN GOOD HEALTH.



The Ageing Well cycle seeks to represent the multidisciplinary inter-relationships between each of NARI's centres of basic & applied research, education, clinical services and community outreach.



A partnership in Ageing Well

We have taken up the challenge on behalf of the nation to improve quality of life for all older people, and make the universal hope of ageing well a reality. The National Ageing Research Institute (NARI) is the only research institute in Australia that focuses exclusively on ageing, and is equipped to deal with age-related issues from cell biology to service delivery.

Researchers at NARI have devised short and long term strategies to improve the expectation that we can face ageing with confidence. We undertake high quality biomedical, clinical, public health research and educational activities, and this unique multidisciplinary approach

has positioned NARI at the forefront of research into ageing, both here and overseas.

NARI's aims are to enhance quality of life, help older people live independently and ensure ageing well for all. We have already made great strides. With your help, we can continue our significant contribution.

President's report

IT IS EXCITING TO BE INVOLVED WITH THE VERY IMPORTANT AND URGENT WORK OF OUR INSTITUTE. SINCE TAKING OVER THE PRESIDENCY FOLLOWING LAST YEAR'S ANNUAL GENERAL MEETING, I HAVE BECOME MUCH MORE CLOSELY INVOLVED WITH THE STAFF AND STAKEHOLDERS OF NARI AS WELL AS THE WORK OF A NUMBER OF RELATED MEDICAL INSTITUTES.



Mr Alan Castleman

There is no doubt that Australia and Melbourne in particular, is a major centre for medical research and we at NARI are very pleased to be in a position to contribute to this great work.

The health of our older people is most important for people as individuals, for the community and for the economic impact on the nation. Yet, its importance is less recognised than many individual diseases and the health of children. There is no reason why ageing should receive less public attention and one of our challenges is to ensure that it receives its rightful share of research.

During the last year, two major changes have occurred at the Institute. Russell Fynmore, who was President of NARI and Chairman of the Board since its inception 5 years ago, stepped down, although he has continued on the Board. I express the thanks of the Institute and of fellow board members to Russell for the leadership, support and encouragement that he provided in creating the Institute and helping build it to what it is today.

The second major change is the announced retirement of Professor Robert Helme as executive director of the Institute. NARI has almost been synonymous with Rob as he was not only its founding Director but also Director of its predecessor organisations for the last 13 years. During this period he built the Institute and established a fine reputation in the areas of its specialities. His decision to retire at this time is personal and reflects his judgement that for the future NARI should have a new director. Rob will formally retire at the end of October with our very warm thanks for all that he has done and very best wishes for the future.

The Board has appointed Associate Professor Zeinab Khalil as Interim Director pending finalisation of a search for a new permanent director. Associate Professor Khalil has been director of Biomedicine at NARI since the Institute's inception and continues to concurrently hold that role. I am greatly indebted to her for agreeing to stand in during this period.

Medical research is undergoing major change with a far greater emphasis on collaborative team activity. Accordingly, we have increasingly arranged research to take place in association with other researchers and expect this pattern to continue. NARI has been investigating closer collaborative arrangements with other institutes which may lead to some structural changes in the future.

During the year, other Board changes have occurred. Mrs Dallas Sargeant, Dr. Peter Lynch, Mr Ben Foskett and Mrs Helen Shardey MLA all retired from the Board and we welcomed Mrs Sheila Rimmer as the representative of the Council on the Ageing (Australia). Mrs Rimmer, who resides in Sydney, is the National President of the Council on the Ageing. I particularly wish to thank Mrs Sargeant who has been a great long term supporter of the Institute and of aged related organisations.

Finally I wish to thank all 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 and our many corporate and private donors, and all of our volunteers for their support.

We depend as well on the support of the Melbourne Extended Care and Rehabilitation Service in which NARI is physically located for many services and of course for the opportunity to work with the patients of this Hospital.

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



Mr Alan Castleman
President

B o a r d o f m a n a g e m e n t



PRESIDENT:
Mr Alan Castleman
Company Director



VICE PRESIDENT:
Ms Judith King
Company Director



SECRETARY:
Mr Doug Robertson
Solicitor



TREASURER:
Mr Neil Hewitt OAM
Retired Partner - KPMG



DIRECTOR:
Professor Robert D Helme
*National Ageing Research
Institute*

**APPOINTED REPRESENTATIVE
BOARD MEMBERS:**



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



Professor Fred Mendelsohn
*National Health and Medical Research
Council
Director
Howard Florey Institute of Experimental
Physiology and Medicine*



Ms Sheila Rimmer AM
*President
Council on the Ageing (Australia)*



Professor Len Gray
*Director Aged Care Programs
North Western Healthcare Network*



Mr George Shaw
*General Executive
Western Health*



Mr John Grace
*Solicitor
Retired Partner
Freehill Hollingdale & Page*



Mr Victor New
*Law School
The University of Melbourne*



Mr Russell Fynmore AO
Company Director



Mr David Simmons
*Australian Association of Gerontology
Victorian Division*

OTHER BOARD MEMBERS:

Retiring Director's report

NARI IS NOW 6 YEARS OLD. THE INSTITUTE WAS CONCEIVED BY THE ADVISORY COMMITTEE OF ITS PREDECESSOR, THE NATIONAL RESEARCH INSTITUTE OF GERONTOLOGY AND GERIATRIC MEDICINE AND BROUGHT TO FRUITION BY A BOARD OF MANAGEMENT UNDER THE LEADERSHIP OF ITS INAUGURAL PRESIDENT, MR RUSSELL FYNMORE AO.



*Professor Robert
D Helme*

Russell chose to step down as President at the last Annual General Meeting of the Institute, and Mr Alan Castleman was elected as the second President of the Board. Alan has been on the Board since its inception and I am sure we will see a continuation of the excellent advice to Institute management by the Board under his leadership.

After 13 years as Director of the Institute, I have decided that new ideas and enthusiasm are needed at the highest level of management and I will take early retirement in October this year. This decision has been a difficult one as many of our research programs have started to bear fruit this year, and it would be good to follow them through to their just rewards. However, what must take precedence is the generation of new approaches to medical research that utilise the current advances in genomics, information technology and biology that follow from the human genome project and other advances in biotechnology, and to meld them with epidemiologic expertise that recognises the issues associated with ageing. I am certain this will occur under the new NARI Director.

One of the major developments during this past six years has been the growth in awareness of ageing as a natural part of community life. This was particularly evident during the celebrations that took place as part of the International Year of Older Persons during 1999. NARI contributed to this effort by convening the first national Science of Ageing Conference, as well as participating in a number of local events in Victoria. More recently we convened the first symposium on ageing for the Australian Academy of Science. At a broader community level our regular talkback on ABC radio has also contributed to the debate on the need to improve quality of life for older people. The challenge now is to translate this increasing awareness into a broader range of funded research endeavours that make a positive and permanent contribution to the lives of older Australians.

The details of our current research program are provided in the text of this annual report. Here I would like to highlight just a few projects.

The Biomedical Division has strengthened its position this year as the leader in this country under the leadership of Associate Professor Zeinab Khalil. After a somewhat prolonged gestation, the genetic biology laboratory has established its bone fides by publishing data on ageing fruit flies. Associate Professor Khalil herself produced

exciting data that lead us to patent for NARI a potential skin test for Alzheimer's disease.

The pain research group published several papers on the mechanisms of pain that distinguish young from older adults, and this was associated with international recognition in this field with contributions to several symposia at the triennial meeting of the International Association for the Study of Pain in Vienna and invitations to contribute to publications of the Association. We also had visits to NARI of two senior international pain research scientists, Dr Rick Gracely from the National Institutes of Health in the USA and Dr Marshall Devor from Israel. We also had the honour of providing the only Australian sub-editor to the prestigious IASP journal "Pain".

Although the achievements of the cognitive research group are not so well known internationally, there is a sense that all the experience gained by our graduate students in the use of quantitative EEG over the past few years is about to achieve recognition. A number of PhD theses have been successfully submitted and approved, and this will continue over the next 12 months under the excellent leadership and scholarship of Dr Judith Dunai. NARI continues to attract scholars from all over the world to work with our biomedical scientists. This year has been no exception with visitors from the UK, Sweden, Korea and China, including Hong Kong.

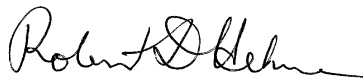
Our achievements in Public Health over the past year will, I believe, prove pivotal to the development of NARI's influence on the quality of life of older Australians over the next several years. Unlike the Biomedical Division, this has been achieved on the local stage through steady growth in partnerships between the Division and the Departments of Health and Aged Care in both State and Commonwealth jurisdictions. Victoria now has a range of multidisciplinary clinics oriented at providing care as well as a fertile training and research environment for the next generation of health care practitioners in aged care. Multi-disciplinary research in falls prevention is one example of this development. This is largely the result of the efforts of Dr Keith Hill, and he is to be congratulated on his progress in this area, one which is of vital importance to older people if they are to maintain their independence in the community.

Education is the key to translating research into action. Dr Peteris Darzins and Ms Jenny Gough have continued to lead our Education Division in providing positive knowledge, attitudes and skills to all health care disciplines involved in aged care over the past several years. Unfortunately, Jenny has now moved on in her career and we wish her well. On the other hand, Peteris now has a small but increasing band of enthusiastic research students to help forge new approaches to this important area of NARI's activities.

Finally, it is important to acknowledge the important contribution of the Corporate Services Division. During this year, a number of issues have had to be addressed, including the Y2K bug, terms and conditions for employment, intellectual property, financial reporting, budgeting, and taxation issues. Next year they will grapple with the implications of closer liaison with other research

organisations the financing of the relocation of NARI to more appropriate facilities. These matters may preoccupy the Board, the new Director and the administrative team, the aims of the Institute will remain focused - to change the health system in ways that improve quality of life for all older people.

I wish the Board, staff, students, and the loyal group of older people who support the Institute every success in their endeavours. I will watch the future growth of NARI with pride and satisfaction.



Professor Robert D. Helme
Director

Interim Director's report

Ageing Well in the New Millennium and Beyond

Over the past decade NARI has developed as a centre of excellence in medical research into ageing, health service evaluation and delivery of quality aged care education programs. NARI is facing ageing in the new millennium with great confidence. We have short and long term strategies in place to help our older adults age well, maintain a healthy lifestyle and enjoy a robust old age, including the development of new and useful therapies for age related disorders. NARI's researchers also have long term strategies in place for determining how to retard the ageing process and increase life expectancy, thereby prolonging vitality and life itself.

With the recent announcement that sequencing of the human genome is nearly complete, ageing research is a step closer to identifying those genes that are involved in ageing and age-related diseases. In reality, ageing and age-related diseases are the product of an interaction between genes and environment. Ageing research will benefit greatly



from this technology. We will be able to work out multiple gene diseases which are caused by the interaction of many genes. Many age-related diseases are in fact complicated polygenic diseases. This new technology will help us unravel these diseases.

The human genome project will enable every individual to know whether they are susceptible or resistant to a particular disease and thus enable us to tailor our lifestyle to fit our genetic make-up. In other words for each individual, we will be able to plan a scientifically based health promotion strategy not only for ageing well but also for a longer and more healthier life.

NARI, being at the forefront of ageing research, will be able to provide specific health promotion and disease prevention programs that are tailored to suit individual requirements. It is with great pride therefore to believe that the future in ageing research is with NARI. We congratulate those who sequenced the human genome, which has to be the most exciting scientific news in the new millennium. While other scientists have been working on sequencing the human genome, we have been working on designing disease prevention and health promotion programs. We strongly believe that NARI's research will provide important benchmarks of scientifically based health promotion strategies for the new millennium and beyond.



Associate Professor Zeinab Khalil
Interim Director

Our people and partnerships

NARI'S IMPORTANT WORK DEPENDS ON THE VALUED CONTRIBUTIONS OF ALL ITS STAFF, STUDENTS, VOLUNTEERS, ASSOCIATES, STAKEHOLDERS, AND COMMUNITY PARTNERS. THE INSTITUTE IS DEFINED BY THE INTELLECTUAL CAPITAL OF ITS PEOPLE, BE THEY SCIENTISTS, CLINICIANS, STUDENTS OR SUPPORT STAFF. THE WORK OF THE NARI TEAM IS FURTHER ENHANCED THROUGH THE MANY COLLABORATIONS THAT HAVE DEVELOPED THROUGH THE INSTITUTE'S LONG HISTORY. NARI TAKES THIS OPPORTUNITY TO FORMALLY ACKNOWLEDGE THE IMPORTANT CONTRIBUTIONS MADE BY EVERYONE ASSOCIATED WITH THE INSTITUTE IN ITS ENDEAVOURS TO ENHANCE QUALITY OF LIFE AND CREATE AN EXPECTATION OF AGEING WELL FOR ALL OLDER AUSTRALIANS.

Director

Prof Robert Helme *MB BS (Hons) PhD FRACP*

Interim Director

Assoc Prof Zeinab Khalil *MB BS (Hons) MSc PhD*

Associate Professor

Assoc Prof Stephen Gibson *BBS (Hons) PhD MAPS*

Senior Lecturers

Dr Peteris Darzins *BM BS PhD FRACP FRCPC Cert Spec Comp Ger Med*

Dr Dina LoGiudice *MB BS PhD FRACP*

Senior Research Fellows

Dr Keith Hill *BAppScPT Grad Dip Physio PhD*

Ms Robyn Smith *BAppScOT Grad Dip Geront MPH*

Research Fellows

Dr Christopher Driver *BSc (Hons) Dip Ed PhD*

Dr Judith Dunai *BA (Hons) PhD*

Clinical Research Fellows

Dr Eric Seal *MB BS FRACP*

Dr Rosemary Shea *MB BS*

Dr Kim Taubman *MB BS FRACP*

Dr Mark Yates *MB BS FRACP*

Research Nurses

Mr Mark Bradbeer *BSc (Hons) MSc RN*

Ms Roslyn Cook *RN BAppH*

Ms Aileen Kalogeropoulos *RN BAppScNs*

Research Officers / Research Assistants

Ms Maryam Bassirat *BSc (Hons)*

Ms Kirsten Black *BA (Hons)*

Ms Joanna Condron *BSc (Hons)*

Dr Michael Farrell *BAppScPhy Grad Dip Geront MGeront PhD*

Mr George Georgiou *BSc (Hons)*

Ms Belinda Gilsenan *RN BA Post Grad Dip Arts*

Ms Bereha Khodr *BSc (Hons)*

Ms Anna Laffy *RN BApp Sc Nursing*

Ms Frances Lentini *BAppSc (Multi) Grad Dip App Stats Grad Dip Epi & BioStats*

Ms Melissa Lindeman *BA SocSc MPollLaw Grad Dip VET*

Ms Vanessa Mayhew *BA BLitt (Hons - Psych)*

Ms Kate Murray *BAppScPT MPhysio*

Ms Joan Nankervis *BSW Grad Dip VET*

Ms Maree Nihill *BAppScOT*

Ms Annie Pettit *BA Dip Anat Physiol & Body Massage MA*

Ms Tracey Seeleither *BAppScOT Grad Dip Geront*

Ms Freda Vratsidis *BBS Post Grad Inf Serv*

Educational Services

Ms Catherine Barrett *BA Nsg*

Ms Jenny Gough *BA Dip Ed Grad Dip Ed Admin MEd*

Ms Jacqui McGrory *BSc*

Ms Robyn Sloan *BA (SocSc)*

Ms Fernanda Zachariou

Corporate Services

Dr Paul Andrews *BSc (Hons) PhD Grad Dip Comp Sci MACS*

Ms Lynette Bon *BHA Assoc Fellow ACHSE*

Ms Rachael Calderan

Ms Georgina Ferns *BA*

Ms Sharon Hillman *BBT MFIA*

Ms Fay Maxey

Ms Lindee Quirk

Mr Mark Raphael *BSc Grad Dip VET*

Ms Sharon Strutt *CPA*

Ms Maria Virgona

Ms Beverly Wyburn

Research Students

Ms Glenda Banks *MA Comms*

Mr Stewart Bant *BSc (Hons)*

Dr Jonathan Bruce Barber *BEd MEd PhD*

Dr Anne-Marie Cassano *MBBS*

Mr Wenly Chang *BSc*

Ms Joanna Condron *BSc (Hons)*

Mr Trevor M Corran *BA (Hons) MA (Clin Psych) MAPS*

Mr Greg Dalton *BAppScPT Grad Dip Physio (Manip) MPhysio (Manip)*

Ms Sue Doyle *BSc (Hons)*

Ms Natalie El Haber *BSc*

Ms Jacinta Gracey *BSc (Hons)*

Ms Christel van Hintum *MSc*

Ms Cecily Hunter *BA (Hons) MSc*

Ms Bereha Khodr *BSc (Hons)*

Mr Francis Kung *Prof Dip OT Grad Dip Hlth Adm MHlthSc OTR*

Ms Andrea Kyriacou *BSc (Hons) MAPS*

Ms Catherine MacBean *BA*

Ms Shylie Mackintosh, *BAppScPT, MSc*

Dr Andyda Meliala *Dra Med*

Dr Merhi Merhi *BSc (Hons) PhD*

Mr Richard Moulding *BSc*

Ms Vi Pham *BSc*

Ms Helen Poliviou *BSc (Hons)*

Ms Rajna Rimac *BSc BPod (Hons)MSc*

Mr Anton Roux *BSc*

Ms Narmatha Satkunanathan *BSc (Medical Science)*

Ms Joanne Speirs *BSc*

Ms Phi-Van Tran *BAppScOT Grad Dip Geront MGeront*

Ms Lindy Washington *BSc (Hons)*

Dr Maria Widagdo *BMed*

Mr Hua Hie Yong *BSc (Hons) MPsych*

Dr Zhen (Jane) Zheng *BMed*

Associates of the Institute

Assoc Prof David Ames *MB BS MD*
MRCPsych FRANZCP

Ms Jenny Callaghan *BPhrm PHC Grad Dip*
Comm Pharm Grad Dip Geront MGeront MPS

Prof Leon Flicker *MBBS Dip Epi PhD*
FRACP

Dr Benny Katz *MB BS FRACP*

Dr Jane Pierson *BSc (Hons) PhD MAPS*

Dr Craig Ritchie *MB ChB MRC Psych*

Dr Jenny Schwarz *MB BS Grad Dip Ed*
FRACP

Dr Philip Street *MB BS FRACP*

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

Dr James Tulloch *MB BS MMed FRACP*

Visiting Scientists and Students

Mr Thong Cao *BSc*

Dr Whanseok Choi *MD PhD*

Dr Piyapat Tantibhaedhyangkal *MD*

Mr Daniel Wiktelius *BPharmacy MSC*

Dr Shouru Xue *BMed*

Dr Man-lung Yip *MBChB*

Consultants to the Institute

Andrews & Andrews Consulting

Centre for Applied Gerontology

Davies Collison Cave

Freehill Hollingdale and Page

Michael Gorman and Associates

Integrity Financial Services

KCS Computer Services

Managing Business Pty Ltd

PricewaterhouseCoopers

Service Industry Advisory Group

Valentine Public Relations Pty Ltd

COLLABORATORS

Melbourne Extended Care and
Rehabilitation Service

Ms Julie Bernhardt

Ms Jenny Callaghan

Ms Elizabeth Cashill

Ms Kathryn Gould

Ms Claire Hetzel

Dr Benny Katz



Dr Kim Taubman of NARI with Dr Jenny Schwarz of MECRS

Mr Stephen Malkin

Mr Bruce Salvin

Dr Jenny Schwarz

Dr James Tulloch

Mr Andrew Venosta

The University of Melbourne

Dr David Beckett, Faculty of Education,
Department of Vocational Education and
Training

Dr Kim Bennell, School of Physiotherapy

Ms Sara Carroll, Department of
Medicine, Dentistry and Allied Health
Sciences

Dr Greg Dusting, Howard Florey
Institute

Prof Richard Larkins, Dean, Faculty of
Medicine, Dentistry and Allied Health
Sciences

Assoc Prof Bruce Livett, Department of
Biochemistry and Molecular Biology

Prof Colin Masters,
Department of Pathology

Prof Joan McMeeken,
School of Physiotherapy

Dr Jane Sims, Department of General
Practice and Public Health

Dr Qiao Xin Li,
Department of Pathology
Royal Melbourne Hospital

Assoc Prof David Ames

Dr Jack Metz

Prof John Wark

Monash University

Prof John Bradshaw,
Department of Psychology

Dr Jason B Mattingley,
Department of Psychology

Prof Phillip Nagley, Department
Biochemistry & Molecular Biology

Dr Joanne O'Neill,
Department of Pharmacology

Mr Geoff Sussman, Department of
Pharmacy Practice, Victorian College of
Pharmacy

Dr Chunfang Zhang, Department
Biochemistry & Molecular Biology

Other Collaboration

Dr Rezaul Begg, Lecturer, CRESS,
Victoria University

Ms Annette Brown,
Curtin University, WA

Mr David Brown, Adamson Brown

Ms Andrea Bryce, Dietitians Association
of Australia - Victoria

Mr Richard Clark, Centre for Applied
Gerontology

Dr Roger Clarnette, Osborne Park
Hospital, Western Australia

Mr Denys Correll, Council on the Ageing

Ms Maree Dyson, Maree Dyson Pty Ltd

Prof Leon Flicker, The University of
Western Australia

Dr Chris Fong, Caulfield General
Medical Centre

Ms Janet Fricke, LaTrobe University

Dr Patricia Goldie, LaTrobe University

Prof Len Gray, Centre for Applied
Gerontology

Sr Kathleen Higgs, St Vincents Hospital,
Melbourne

Mr Michael Hull, VicRoads

Prof Hal Kendig, The University of
Sydney

Dr Michael Leong, Princess Alexander
Hospital, QLD

Dr Colin Little, Specialist Allergist,
Melbourne

Prof Birgitta Lundgren-Lindquist,
LaTrobe University

Ms Maree Mastwyk, Mental Health Research Institute
Mr Robert Moss, Ballarat Health Service
Dr Michael Murray, St Georges Hospital
Ms Kristy Nicholson, VICFIT
Dr Ben Ong, LaTrobe University
Assoc Prof Susan Quine, University of Sydney
Dr Peter Rendell, Australian Catholic University
Dr Craig Ritchie, Peninsula Healthcare Network
Dr Sam Scherer, Royal Freemasons' Homes
Dr Tony Sparrow, Deakin University
Ms Alison Stewart, Dietitians Association of Australia - Victoria
Dr Philip Street, St Georges Hospital
Ms Jodi Taylor, Osborne Park Hospital, Perth
Prof John Trinder, The University of Melbourne
Dr Nicholas Voudouris, LaTrobe University
Dr Bev Wood, Dietitians Association of Australia - Victoria

International Collaboration

Prof Alan Allport, Oxford University, UK
Prof Robert Arking, Wayne State University, Michigan, USA
Mr Michel Bedard, McMaster University, Canada
Assoc Prof Susan Brain, King's College, London
Dr Richard Stanley Burns, Cleveland Clinic Foundation, USA
Prof Robert Cone, University of Connecticut Health Centre, USA
Dr Winard Dittrich, University of Hertfordshire, UK
Dr Michael Farrell, National Institutes of Health, USA
Dr Rick Gracely, National Institutes of Health, USA
Dr Ngaire Kerse, University of Auckland, New Zealand
Ms Shari Lowe, Hamilton Health

Sciences Corporation, Canada
Ms Esther McEvoy, Hamilton Health Sciences Corporation, Canada
Assoc Prof Willie Molloy, McMaster University, Canada
Prof Fred Nyberg, University of Uppsala, Sweden
Dr Alexandra Papaioannou, McMaster University, Canada
Ms Andrea Vertesi, Hamilton Health Sciences Corporation, Canada

Melbourne Extended Care and Rehabilitation Service Special Clinical School

Dr Paul Andrews
Dr Michael Brignell
Dr Anthony Chamberlain
Dr Michael Chou
Dr Peteris Darzins (Senior Lecturer)
Mr Greg Duncan
Dr Sandra Farquharson
Dr Michael Giles
Ms Katherine Gould
Dr Tom Hale
Ms Anne Harris
Dr Barbara Hayes
Prof Robert Helme (Chairman)
Ms Penny Houghton
Dr John Hurley
Dr Shiki Joseph
Dr Benny Katz
Dr Anne Marie Keogh
Dr Eva Kipen
Dr Dina LoGiudice
Dr Francine Moss
Dr Michael Murray
Dr Michael Ponsford
Dr Ron Scholes
Dr Jenny Schwarz
Dr Eric Seal
Dr James Tulloch
Dr Sally Warmington
Dr Michael Wishaw
Dr Richard Whiting
Dr Mark Yates

Organisations

Alzheimer's Association
Association for the Blind
Footscray Society for the Aged
Greenhaven Supported Residential Service
Gwennap Hostel
VicRoads
Clinical School Guest Lecturers
Mr Ray Bilston
Mr Keith Browning
Mrs Olive Browning
Mrs Kate Fenton
Dr Doug Fullerton
Mrs Ethel Fullerton
Mrs Florence Houghton
Ms Joan Larsen
Mrs Ette Pullman

MECRS / NARI Education Enterprise Reference Group

Ms Catherine Barrett
Ms Jenny Callaghan
Ms Elizabeth Cashill
Dr Peteris Darzins
Ms Sue Giles
Ms Jenny Gough
Ms Penny Houghton
Ms Julie Johnston
Ms Jacqui McGrory
Ms Fiona McKinnon (Chairperson)
Ms Majella Pugh
Mr Bruce Salvin
Dr Jenny Schwarz
Ms Robyn Sloan
Ms Robyn Smith
Ms Maie Tonuma

Sharing the knowledge

WORKING TOGETHER WITH LIKE-MINDED ORGANISATIONS IS THE KEY TO NARI'S SUCCESS; FROM OUR BIOLOGICAL RESEARCH, CLINICAL RESEARCH AND MEDICATION STUDIES TO THE DEVELOPMENT AND DELIVERY OF HEALTH SERVICES AND POLICIES. OUR NETWORKS AND PARTNERSHIPS HELP TO STRENGTHEN NARI'S PRIVILEGED AND UNIQUE POSITION AS THE ONLY RESEARCH INSTITUTE IN AUSTRALIA THAT FOCUSES EXCLUSIVELY ON THE CAUSES AND CONSEQUENCES OF AGEING.



Dr Mike Farrell (right) with research volunteer Ms Genille Phillips

There is simply not enough room to acknowledge all research partners here, but we urge you to read the research reports and note our collaborators listed in the Our People and Partnerships pages of this report.

Discussions in the Australian research arena

The medical research community on ageing has been relatively insular in Australia, so NARI built on the momentum of the International Year of Older Persons 1999 to launch the inaugural Science of Ageing Conference. This national conference, instigated by Associate Professor Zeinab Khalil, provided a forum for researchers to share their achievements, network with national and international colleagues and discuss collaborative opportunities for the further development of research into ageing within Australia. Minister Bronwyn Pike launched the conference, and Professor Tom Kirkwood from the

United Kingdom featured as a keynote speaker. The well-attended Science of Ageing Conference was another by-product of NARI's commitment to a multidisciplinary approach to age-related research.

Institute staff have worked to improve knowledge and understanding of age-related issues within their own disciplines. Dr Keith Hill was instrumental in establishing the Victorian Falls network, which aims to integrate falls prevention practice, research and policy development. Robyn Smith is the Chair of the National Advisory Group on Aged Care for the Occupational Therapy Association. These and the other staff members who lead discussions and forums within the community and professional networks are important assets of the organisation.

Spreading the word internationally

The pain laboratory continues to build a strong international reputation. We now have enduring collaborative links with pain research groups in the USA, UK and Scandinavia.

Senior team members are regularly invited to contribute to research and policy guidelines for pain management in older persons. For example, our advice has been sought by the NHMRC for their publication on pain management, the American Geriatric Society for their pain research agenda, and the

editors of 'Analgesic Therapeutic Guidelines', which is a book widely distributed to general practitioners.

Recently, the group presented more than 10 abstracts at the world scientific meeting of the International Association for the Study of Pain in Vienna and was asked to contribute a full chapter to the proceedings. Less than one per cent of participants are invited to provide a full research article for this prestigious publication and the current request represents our fourth consecutive invitation from meetings held over the last 10 years. Professor Rob Helme was asked to chair a special session on pain in older persons and Associate Professor Steve Gibson contributed to three invited workshop presentations at this meeting, as well as a plenary lecture to the Australian Pain Society scientific meeting held in Melbourne earlier this year.

Immediately after the world pain meeting in Vienna, Associate Professor Gibson went to the Sensory-Motor Laboratory in Aalborg, Denmark to undertake five months sabbatical study with world-renowned pain researcher Professor Lars Arendt-Nielsen.

Dr Michael Farrell was awarded a prestigious NHMRC four year fellowship to work with the National Institutes of Health USA for two years and then back to NARI for the remaining two years. New techniques, research models

and methods learned by researchers will add to our studies of age differences in pain perception and improve management strategies for the many older persons who suffer from persistent pain.

Our expertise in the area of geriatric medicine and aged care health policy continues to prompt international visitors to seek study opportunities at NARI. The ongoing research interactions between Associate Professor Zeinab Khalil and Professor Fred Nyberg of Uppsala University in Sweden has seen a continuous stream of students coming to NARI to undertake research within our Biological Research laboratory, adding value to our research into the modulation of chronic pain. NARI has a strong reputation in Asia as a leader in the field of geriatrics, and once again we have hosted a number of scientists during the last twelve months to work with our research and clinical team.

Academic leadership

As an affiliate of The University of Melbourne, NARI helps to develop curriculum and educational opportunities for health professionals. Professor Rob Helme and, more recently, Dr Peteris Darzins, have represented Ageing and Geriatric Medicine in the development of the new medical curriculum at The University of Melbourne. This includes preparing a 'Case of the Week' by Dr Darzins and Dr Jenny Schwarz for the medical curriculum.

NARI will also be involved with The University of Melbourne's newly developed Department of Population Health, bringing together core and affiliate groups in Melbourne to develop the school. This exciting project will provide a valuable point of reference and collaborative opportunities for NARI's public health research team.

Professor Rob Helme and Dr Benny Katz have been working with



Science of Ageing 1999: Professor Robert Helme, Mr Alan Castleman, Minister Bronwyn Pike, Professor Tom Kirkwood and Associate Professor Zeinab Khalil

Michael Cousins at The University of New South Wales to develop the new Faculty of Pain Management. Rob and Benny were made Foundation Members for their work over many years in this important area. They are also involved with teaching and promoting the Melbourne-based course for anaesthetists.

Advising and influencing policy development

NARI is actively involved on major committees, and staff members are regularly invited to help develop policies and guidelines for the care of older people in medical and health services settings. For example, Professor Rob Helme and Dr Benny Katz were asked to assist in developing NHMRC Guidelines for Pain Management. Associate Professors Zeinab Khalil and Steve Gibson were invited to contribute to the new edition of the 'Analgesic Therapeutic Guidelines' which are used by all medical practitioners. And Dr Dina LoGuidice and Dr Peteris Darzins were involved with the review of the National Action Plan for Dementia Care.

Even the World Health Organisation relies on input from our senior researchers: Dr Peteris Darzins and Ms Robyn Smith contributed to the WHO's review of International Classifications of Impairment, Disability and Handicap.

A little closer to home, State and Commonwealth Governments continue to work closely with our

researchers on issues including geriatric medicine, falls prevention and age-related service delivery.

Corporate links

The Committee for the Economic Development of Australia (CEDA) once again asked Professor Helme to speak at a forum for the business community, which highlights NARI's evolving relationship with the corporate sector. Professor Helme presented along with Minister Bronwyn Pike and speakers from other key aged-care groups. NARI first worked with CEDA to inform the business community on issues of our ageing population, and CEDA is continuing this work.

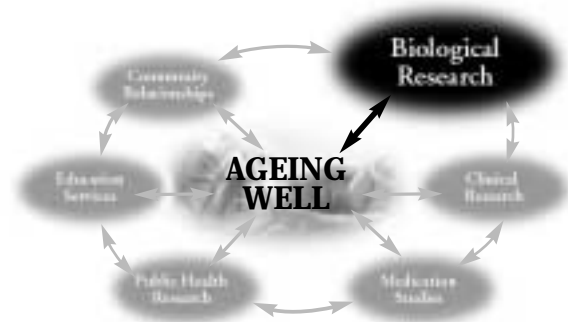
Local partnerships

Our affiliation with Melbourne Health and the Melbourne Extended Care and Rehabilitation Service (MECRS) is a key partnership. Working on the MECRS Parkville site and alongside their staff gives NARI an essential advantage: access to people in clinical settings. NARI provides MECRS with the latest developments in improved care for older people, and an opportunity for clinical issues to be tested and closely examined by independent researchers. Joint ventures including the Education Enterprise and the outpatient clinics allow the clinical and research arms of this campus to work together to improve care for older people locally, nationally and internationally.

Biological research

MANY OF US WOULD LIKE TO LIVE LONGER, ESPECIALLY IF WE CAN DO SO IN GOOD HEALTH. OUR SHORT TERM GOAL IS TO HELP OLDER ADULTS ENJOY ROBUST OLD AGE AND MAINTAIN HEALTHIER LIFESTYLES, BY BETTER UNDERSTANDING THE PHYSIOLOGY OF AGEING WHICH THEN LEADS TO THE DEVELOPMENT OF IMPROVED TREATMENTS.

OUR LONG TERM GOAL IS TO RETARD THE AGEING PROCESS, INCREASE LIFE EXPECTANCY AND PROLONG VITALITY.



Associate Professor
Zeinab Khalil

DIRECTOR:

Associate Professor Zeinab Khalil

RESEARCH TEAM:

Dr Chris Driver, Dr Merhi Merhi,
Mr George Georgiou, Ms Maryam Bassirat, Ms Bereha Khodr, Ms Helen Poliviou, Ms Joanne Spiers,
Mr Daniel Wiktelius, Ms Namartha Satkunanathan

RESEARCH ASSOCIATES AND COLLABORATORS:

Professor Susan Brain, Associate Professor Bruce Livett, Professor Philip Nagley, Dr Chunfang Zhang, Professor Fred Nyberg, Dr Colin Little, Professor Robert Cone, Professor Colin Masters, Dr Qiao Xin Li

Recent projects

Healthy ageing: with or without antioxidants?

Oxygen free radicals are chemical intermediates that contain an unpaired electron. They are by-products of oxygen metabolism and are normally kept in check by the antioxidant defence system. Oxygen free radicals help fight infection, inhibit the growth of tumour cells and aid tissue repair. However, they also contribute to ageing and age-related diseases, which is why achieving a balance between oxygen free radicals and antioxidants is so important.

As we age, the balance tips towards greater production of oxygen free radicals and reduction in antioxidants, producing what is known as 'oxidative stress'. This contributes to the physiological ageing of body systems (producing symptoms such as the decline of nervous system function), and to pathological ageing, with a role in Alzheimer's disease and delayed tissue repair. The evidence suggests that antioxidants can help prevent

ageing, but are antioxidants always good for you? Probably not, because antioxidants block the desirable effects of oxidants too.

Our laboratory studies show that antioxidants can have either beneficial or harmful effects when administered after tissue injury. In other words, antioxidants can accelerate or delay recovery. This has enormous public health implications which we are investigating further, since many older adults consume antioxidants. Currently, we recommend that the basic mechanisms of pathological disease be taken into account when considering antioxidants as therapeutic agents as the efficacy of antioxidants is highly dependent on the context of the disease.

Fruit flies, vitamin B3 and retarding the ageing process

Drosophila melanogaster is a fruit fly showing age-related changes that mirror some human changes. Two new and more potent nutraceuticals are being investigated for control of ageing processes using *Drosophila*. Vitamin B3, or nicotinamide, is a



Associate Professor Zeinab Khalil supervising postgraduate researchers

potent antioxidant that increases the life span of *Drosophila* by around 20 per cent under conditions where vitamin E will not. It also "repairs" the energy-producing organelles inside every cell (mitochondria), and prevents the failure of bioenergy with age. A second lifespan-extending nutraceutical that acts in a different manner is also being characterised.

The discovery and further characterisation of the anti-ageing action of these nutrients was partly dependant on strains of *Drosophila* that differ solely or principally in their mitochondria. The further study of these strains is expected to produce more insights into how dietary components can be used to protect against ageing especially in the brain.

Treatment of diseases common in older adults

Other projects aimed at developing therapeutic methods to help treat diseases common in older adults include:

- Unhealed wounds – we have devised an electrical stimulator that encourages the body's nerves to release growth factors and accelerate wound repair.
- Diabetic vascular complications – we have evidence that the combination of antioxidant

treatment and other inhibitors used to prevent damage to cell proteins also improves blood flow to peripheral tissues. This treatment is yet to be tested in humans.

- Chronic pain – we have tested two new classes of drugs for their effectiveness in reducing pain. The exciting news is that these drugs are more potent than morphine and do not have side effects. One class is known as endomorphins (produced inside our body) and the other is known as conotoxins (extracted from cone shells). Some of these drugs are being tested clinically.
- Memory problems – we developed a skin test that can diagnose Alzheimer's disease at an early stage and monitors the effectiveness of treatment. Early diagnosis will give the best possible outcome.

Testing ideas in associated clinics

NARI and the Melbourne Extended Care and Rehabilitation Service provide researchers with a unique environment where complementary biological and clinical research run hand-in-hand, bridging the gap between basic science and clinical medicine. The clinical relevance of ideas developed in the biology

laboratory can be tested in associated clinics, while questions raised at the clinic can be answered by designing specific experiments at the cell biology level.

The following are two examples reflecting the above unique situations:

Potential skin test for early diagnosis of Alzheimer's disease

β amyloid protein is a type of protein implicated in the pathology of Alzheimer's disease. There is evidence that β amyloid protein has toxic vascular effects. Our investigations initially used biology models of peripheral skin microvasculature. Particular emphasis was placed on examining the effect of β amyloid protein on the peripheral as opposed to the microvasculature of the central nervous system. We now have an extensive understanding of the mechanisms underlying this vascular reactivity. Our results have been supported by data from other laboratories investigating the cerebrovascular actions of β amyloid protein. There is an increasing consensus that the vascular actions of β amyloid protein and the mechanisms underlying its vascular activity are similar if not identical in cerebral and skin microvasculature.

The idea that the vascular effects of β amyloid protein could be one of

the pathogenic mechanisms involved in neurotoxicity has gained support from the scientific community. In contrast, the idea that these vascular effects could be detected in peripheral microcirculation challenges the prevailing orthodoxy. We conducted a pilot study to examine possible differences in peripheral endothelial vascular responses in control and Alzheimer's disease subjects (mild-moderate). The results support our prediction that peripheral vascular alterations in Alzheimer's disease patients can be detected early in the course of the disease. We have obtained a provisional patent application for the use of a skin test for early diagnosis of Alzheimer's disease (Patent No: PQ2881/99).

From human research to biology research: understanding the mechanisms

Sensory nerves help control blood flow and repair tissue. Age-related deterioration in the function of these nerves could contribute to vascular diseases, delayed tissue repair and slow recovery after nerve injury with age. Clinical studies demonstrated prolonged sensitivity to pain in older adults after injury, for reasons unknown. This led to the development of basic biology models that compare to human vascular disease and human chronic neuropathic pain syndromes. The results confirmed those from human models. Both showed a similar decline in sensory nerve function with age, but the specific sites of change were determined using biology models.

We were able to attribute the delay in tissue repair to the decline in sensory nerve function and subsequently develop new

treatments to accelerate the rate of recovery. A clinical trial is currently being conducted at the Wound Management Clinic at Melbourne Extended Care and Rehabilitation Service utilising a new electrical stimulation technique to accelerate wound healing.

We provided evidence for a change in sensory nerve function associated with chronic neuropathic pain in humans. Using basic biology models, we could relate the increased sensitivity to pain after injury in older adults to increased production of free radicals. Antioxidant treatment resulted in a reduction in pain sensitivity and an improvement of blood flow to the injured area. The results could modify the current treatment for patients with vascular disease or chronic pain.



Dr Chris Driver supervising Drosophila research



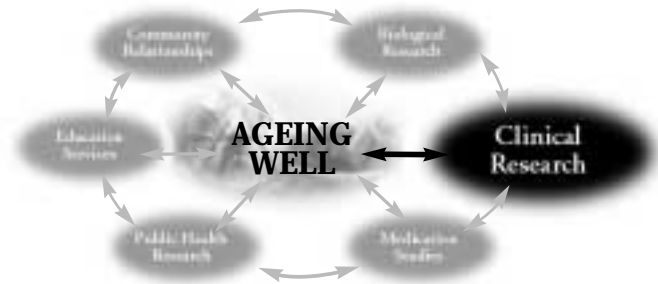
Researcher Dr Merhi Merhi



Associate Professor Zeinab Khalil with researcher Ms Bereha Khodr

Clinical research

CLINICAL RESEARCH CONTINUES TO BE A DEFINING ASPECT OF NARI'S MULTIDISCIPLINARY APPROACH TO ITS RESEARCH INTO THE MAJOR EFFECTS OF AGEING. NARI'S CLINICAL RESEARCH TEAM'S AIM IS TO TACKLE THE COMMON AREAS OF MEDICAL GERONTOLOGY INCLUDING CHRONIC PAIN, MEMORY IMPAIRMENT AND FALLS, BALANCE AND MOBILITY.



Associate
Professor
Stephen J. Gibson

PAIN RESEARCH

DIRECTOR:

Associate Professor Stephen J. Gibson

RESEARCH TEAM:

Mr Bruce Barber, Mr Mark Bradbeer, Dr Mary Chakour, Mr Trevor Corran, Dr Michael Farrell, Professor Robert Helme, Ms Lindy Washington, Mr Michael Gorman, Ms Jacinta Gracey, Dr Benny Katz, Mr Francis Kung, Dr Andyda Meliala, Dr Piyapat Tantibhaedhyangkal, Mr Hua Hie Yong, Dr Zhen Zheng, Mr Richard Moulding, Mr Wenly Chang, Mr Greg Dalton

RESEARCH COLLABORATORS:

Professor Leon Flicker, Associate Professor David Ames, Professor Lars Arendt-Nielsen, Dr Thomas Graven-Nielsen, Dr Nicholas Voumouris

The body's 'analgesic' system

There are pain inhibitory pathways from the brain, yet this 'analgesic' system has been largely unexamined. Our work may

further explain age-related differences in reporting of pain, particularly chronic pain.

Repeated cold water immersion of the hand offers a sufficiently intense and long-lasting noxious sensation to trigger this inhibitory system. Of particular interest is that pain relief is significantly less in older people. The physiology of this inhibitory system is yet to be explored, but perhaps is linked to the body's own painkillers, such as opioids and cannabinoids.

Slower recovery from pain

Using an 'injury' model of applying the irritant capsicum to the skin, we have demonstrated that older adults have a longer duration of pain and tenderness (around eight hours) than younger adults (around three hours). This suggests that our pain sensory system is slower to recover from inflammatory conditions.

This tends to support the work of the Biology Research Lab which has shown that slower recovery from injury with advanced age is due to impaired peripheral nerve responses.

TENS (Transcutaneous Electrical Nerve Stimulation) machines, similar to those used to treat people in the pain clinic, are being clinically trialed to stimulate wound healing too.

Stoicism in the face of pain

The data from our 'pain attitudes' questionnaire suggests that older people are generally more stoic about pain, possibly due to greater awareness of chronic pain.

Cognitive strategies such as stoicism may be reduced in people suffering cognitive impairment. The NHMRC-funded pain survey in older people suggests that people experience considerable anxiety when suffering both cognitive impairment and pain, and this anxiety may further intensify their pain experience. While the pain reported by the cognitively impaired may be more intense, the frequency of report is reduced, possibly due to memory or communication problems. Verbal agitation appears to be a marker of pain in those with memory or communication difficulties.



Dr Judy Dunai

COGNITIVE RESEARCH

DIRECTOR:

Dr Judy Dunai

RESEARCH TEAM:

Mr Bruce Barber, Mr Stewart Bant, Mr Michael Gorman, Professor Robert Helme, Ms Christel van Hintum, Ms Andrea Kyriacou, Dr Eric Seal, Dr Maria Widagdo, Ms Catherine MacBean

RESEARCH COLLABORATORS:

Professor John Trinder, Dr Jane Pierson, Professor Alan Allport

Diagnosis tool for Alzheimer's disease

The advent of the first medical treatments for dementia has highlighted the urgent need for early diagnosis of the cause. Currently, early diagnosis requires specialist clinics and observation of the individual over a period of at least six months.

Coherence analysis of quantitative electroencephalography (qEEG) during set cognitive tasks offers a potentially cheap and rapid diagnostic tool for Alzheimer's disease. Coherence measures the coordinated recruitment of cortical neurons. Normal older people demonstrate large and widespread levels of coherence across the

cerebral cortex compared to effectively no coherence in the cognitively impaired. Further discrimination for even mildly impaired individuals has been demonstrated.

Dementia diagnosis

qEEG is being used to investigate delirium, a temporary form of cognitive impairment. Also, qEEG is useful in discriminating between probable Alzheimer's disease and vascular dementia, using specific smell detections as the cognitive challenge. Smell pathways are probably damaged along with nearby memory regions early in Alzheimer's disease.

Any test for early dementia diagnosis must be sensitive to normal age-related changes. Coherence analysis of qEEG during cognitive tasks has shown promise in discriminating between cognitively intact young and older adults. Task-switching, which is a demanding exercise of changing or dividing one's attention, allows the study and measure of associated changes in reaction time, or evoked response potentials.

Based on pioneering work in the Biology Research Lab, clinical trials are now being conducted using a simple non-invasive skin test for diagnosis of Alzheimer's disease. Preliminary results are promising, and may offer early diagnosis of early dementia or even pre-clinical dementia.



Mr Daryl Richardson volunteering for pain research with Dr Zhen Zheng



Professor Helme with postgraduate clinical research students



Cognitive research volunteer Mr Ronald Scott with researcher Ms Christel van Hintum



Dr Keith Hill

FALLS, BALANCE AND MOBILITY RESEARCH

DIRECTOR:

Dr Keith Hill

RESEARCH TEAM:

Dr Anne Marie Cassano, Ms Joanna Condron, Ms Natalie El Haber, Dr Sook Meng Lee, Dr Whanseok Choi, Ms Phi Van Tran, Ms Aileen Kalogeropoulos, Ms Shylie Mackintosh, Mr Michael Gorman

RESEARCH COLLABORATORS:

Dr Patricia Goldie, Professor John Wark, Dr Jenny Schwarz, Dr Eric Seal, Professor Birgitta Lundgren-Lindquist.

Balance testing

Several studies have refined balance testing procedures using the Chattecx Balance System to identify early risk of falling. Performance while balancing on the moving Chattecx Balance System and doing a distractor task (counting backwards by threes) discriminates well between healthy older people, and older people with mild increase in risk of falling. The same procedures are part of a test battery comparing performance between identical and non-identical twins. Preliminary results indicate that the

same measure on the Chattecx Balance System provides strongest support for a considerable genetic contribution to balance.

Fear of falling

An investigation is underway into the magnitude of fear of falling among those older people referred to our Falls and Balance Clinic. Using the expanded 'fear of falling scale' validated by the NARI research team, fear of falling will be compared between commencement of the Clinic intervention, and six months later. Factors associated with change in fear of falling, such as change in balance or mobility status, will be identified.

Activity programs

An activity program conducted by an occupational therapist in four metropolitan hostels has shown significant improvements in time spent standing and walking (measured by the Uptimer, developed at NARI), while the performance of a control group deteriorated over the same period. Six month follow-up data has shown that performance in both groups declined since the activity program stopped. However, the activity group performance was almost at the pre-intervention level at six months, whereas the control group's performance had declined by over 25% from project commencement. This project, funded by the Percy Baxter Charitable Trust, highlights the



The Chattecx Balance System in action



Fear of falling

benefits of activity programs for older people in residential care, but raises issues about program intensity and the need for programs to continue long term.

A pilot program evaluating the beneficial effects of tai chi has recently commenced in conjunction with the Public Health Division.

Falls and stroke

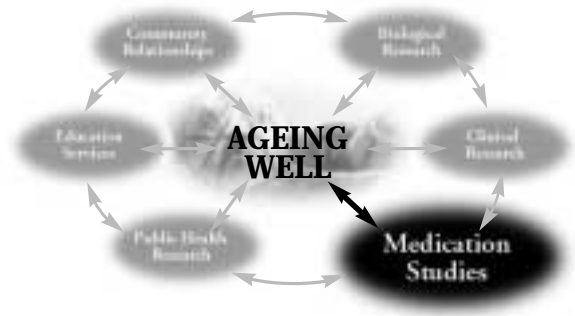
For some people, such as those who have had a stroke, the risk of falling is more than doubled. This area has been the focus of very little research. An investigation is underway to identify factors associated with falls in people with stroke after they return home. This information will be used to develop a targeted program to reduce falls in this group.

Medication studies

THERE HAVE BEEN SIGNIFICANT CHANGES IN THE ORGANISATION OF MEDICATION STUDIES WITH THE CREATION OF A CLINICAL TRIALS UNIT DIRECTED BY DR KIM TAUBMAN. KIM HAS WORKED AT NARI FOR FOUR YEARS AND HAS CONSIDERABLE EXPERIENCE IN THE MANAGEMENT AND RUNNING OF CLINICAL TRIALS OF MEDICATIONS.



Dr Kim Taubman



DIRECTOR:

Dr Kim Taubman

INVESTIGATORS:

*Associate Professor David Ames,
Professor Robert Helme,
Professor Colin Masters,
Dr Eric Seal, Dr Rosie Shea,
Dr Andrew Fraser,
Dr Dina Lo Guidice,
Dr Judith Dunai,
Dr Mark Yates*

CLINICAL TRIAL COORDINATORS:

Mr Mark Bradbeer, Ms Roslyn Cook, Ms Aileen Kalogeropolous

New medications for Alzheimer's disease

We are currently participating in six studies for sufferers of Alzheimer's disease. Three of these are investigating medications for the treatment of mild to moderate Alzheimer's dementia such as Neotrofin and Exelon. Donepezil is also being studied for the treatment of vascular dementia. The results so far appear promising and soon Exelon, which we have helped trial for four years, will be launched for market release. Neotherapeutics, Pfizer and Novartis are the sponsors.

Further studies, sponsored by Bristol Myer Squibb and Janssen Cilag, are investigating the effects of two new anti-psychotic agents in controlling the distressing symptoms of psychosis in Alzheimer's disease.

Our work continues to increase our knowledge of dementia and allows us to develop ongoing personal and working relationships with many families, community groups and retirement villages. We also look forward to increased interaction with the Mental Health Research Institute over the next year.

Flu treatments

Treatment for Influenza is again under study, with a trial of Relenza specifically for the over 65 age group. We are delighted to be able to offer this treatment in anticipation of a more extensive upcoming flu season. Glaxo Wellcome is sponsoring this trial.

Medication for painful feet

We increased our expertise and diversity by becoming involved in other challenging problems such as painful feet caused by diabetic poly neuropathy (nerve damage caused by diabetes which is painful and

extremely difficult to treat) via the Topiramate Study. Topiramate is an anti-epileptic medication being trialed to treat this neurogenic pain at NARI, one other Australian site, and internationally. This study is sponsored by Janssen Cilag.

We would like to take this opportunity to thank our large number of patients, and their carers, for their invaluable participation in our clinical trials program.



Dr Mark Yates



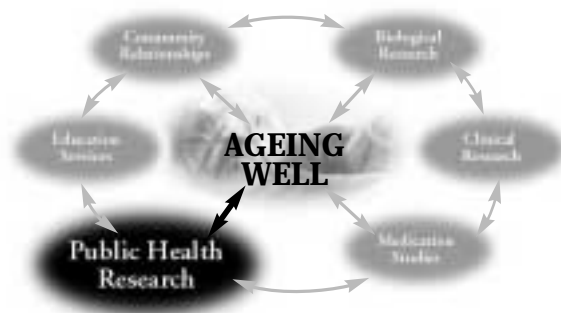
Clinical trials researchers Ms Aileen Kalogeropoulos, Dr Eric Seal, Ms Roslyn Cook and Dr Kim Taubman

Public health research

THE PUBLIC HEALTH DIVISION PRODUCES QUALITY RESEARCH THAT IMPACTS DIRECTLY ON THE HEALTH AND COMMUNITY SERVICES AVAILABLE TO OLDER AUSTRALIANS. SOME OF THE KEY PROJECTS OF THE DIVISION ARE HIGHLIGHTED HERE TO INDICATE OUR BROAD RANGE OF RESEARCH.



Ms Robyn Smith



DIRECTOR:

Ms Robyn Smith

PRINCIPAL INVESTIGATORS:

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RESEARCH TEAM:

Ms Kirsten Black, Ms Belinda Gilsonan, Ms Frances Lentini, Ms Vanessa Mayhew, Ms Kate Murray, Ms Maree Nihill, Ms Annie Pettit, Ms Lindee Quirk, Ms Tracey Seeleither, Ms Freda Vrantisidis

RESEARCH COLLABORATORS:

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Health, well-being and best practice

The 'Well for Life' project

Over the past year, the quality of care in residential aged care facilities has featured strongly in the media and in the community. NARI researchers collaborated with representatives from the Dietitians Association of Australia to devise an innovative approach to improving the health and well-being of older people living in residential aged care facilities. Using action research methodology, our 'Well for Life' project focused on the areas of physical activity and nutrition.

Even the frailest people can make health gains if they have access to adequate nutrition and appropriate levels of physical activity. The project, with funding auspiced by the Public Health Division and Aged Care Branch of the Department of Human Services, developed guidelines for practice based on current research and expertise. Our team worked closely with 17 facilities and had input from a further 50 over the course of project. The aim was to find ways to help staff apply the research evidence in everyday practice and to

develop processes that sustain every improvement. The outcome includes a package of research evidence in easy to use formats, and resources that support the process of practice change and improvement.

The research team, in collaboration with Government, is now seeking opportunities to further develop the resources from this project and continue to improve the quality of care for older people living in residential care.

Falls prevention

Falls and fall-related injuries are a major public health issue in Australia. NARI research has shown that even healthy, active older people are at risk. Dr. Keith Hill leads the NARI research effort in falls research and program development and further details of the falls prevention research can be found in the Clinical Research section of this report.

NARI, in conjunction with the Aged Care Business Unit, North Western Health, successfully tendered to run falls prevention programs in Supported Residential Services (SRS) in the Western Metropolitan Region. A major

component of the SRS project will be a physical activity program for residents. Together with the staff from the Melbourne Extended Care and Rehabilitation Service, we have also attracted funding for a project to implement falls prevention programs within the hospital setting. An action research approach will identify factors that contribute to falls risk, relying on advice from ward staff. We will then develop and implement management programs. Both of these projects are currently underway and are being funded by the Department of Human Services.

The strength of these programs lies in the collaboration of the research team with the clinicians and service providers. This partnership approach ensures active and practical translation of research evidence appropriate to the clinical or residential setting. This directly benefits older people by reducing their risk of falls and injuries.

Informing program and service development

Resources for service providers in falls prevention

This year, the Falls Intervention Database and Falls Trends projects for the Department of Human Services were successfully completed. The database includes details of over 130 community-based falls prevention programs across Australia. Guidelines were developed based on research evidence and expert opinion on the most effective ways to prevent falls. The quality of each component of the programs was evaluated using the guidelines. The database is now being set up to be accessible via the



The 'Well for Life' project team

internet. Anyone will be able to search for a falls prevention program in their area, or to identify best practice programs. This project raises awareness, provides an invaluable resource and contributes to the efficiency and quality of falls prevention in Australia.

Our project team successfully tendered for two Commonwealth Department of Health and Aged Care projects under the umbrella of the National Falls Prevention for Older People Initiative. The first project was a review of the research evidence for falls prevention activities in community, hospital and residential aged care facilities. The second project was a national stocktake of the major organisations involved in falls prevention. Both of these projects are completed, and the products will be available in the coming months. The results of these two projects have been showcased at a national forum conducted by the Commonwealth Department of Health and Aged Care, and presented to Victorian and South Australian falls prevention forums.

Together with the falls database, these projects ensure that government falls prevention programs have access to the latest research, critical information about best practice and resources so that the programs offered to older people are effective and of high quality.

Rehabilitation

A priority for the Department of Human Services is the redevelopment of Victorian rehabilitation and sub-acute services. Two NARI projects have contributed to this process. A review of rehabilitation in Victoria was conducted to provide an overview of the services currently available. This included identification of gaps, overlaps and service use data. A second project involved working with service providers in the Barwon South West Region of Victoria to explore the feasibility of establishing a rehabilitation consultancy and liaison service amongst providers in the region. The reports for both of these projects are being used to guide development and service planning, ultimately improving the availability and quality of rehabilitation services.

Home and Community Care

Drawing on our expertise and knowledge of the Home and Community Care (HACC) program, we are undertaking two research projects within the Western Metropolitan Region of Victoria. The HACC Demand project focuses on the assessment, prioritising and data management processes of the seven local government agencies within the region. The aim is to analyse the current approaches to managing



The Public Health team



Dr Keith Hill

service demand, identify commonalities and differences and to make recommendations on improving opportunities for data sharing, service development and service provision. A second complementary project will work with Government and the range of HACC service providers within the region to develop a five-year strategic plan. These projects highlight the importance of drawing on population data and service use information to evaluate and plan the service system.

Quality and outcomes

Rehabilitation and sub-acute care

Measuring the outcome of health care, particularly for rehabilitation and sub-acute services, is a challenge for service providers, researchers and government. Ensuring that the outcomes measured are relevant to the person receiving services, to the clinician providing services and to those funding the services is also challenging. However, making sure we have appropriate measures is critical to the effective and efficient delivery of health care.

Together with Dr. Peteris Darzins, we are developing an outcome measures framework for rehabilitation and sub-acute care for the Department of Human Services. This involves reviewing existing measures and exploring their appropriateness and applicability for use in the different services offered. The aim is to find measures that are useful, both to clinicians and their clients, and to the people who manage health care. Over the coming year we will be working with clinicians to test and refine the framework. There is growing interest in this area both nationally and internationally as the importance of measuring the outcome of rehabilitation and health care for each person is recognised.

Community Care

The quality of health care and community services is a vital area of

research. The Community Care Packages program, auspiced by Melbourne Extended Care and Rehabilitation Service, engaged the NARI Public Health team to explore the experiences of clients and carers who use the services.

A Community Care Package is a planned, coordinated and managed package of community care services designed to assist a person with complex care needs. These packages support older people with disabilities living in the community who would otherwise be eligible for at least "low level" residential care.

Our study not only collated valuable feedback from the users of the services, but successfully applied a different research methodology. It is common for 'consumer satisfaction' studies to be completed via written surveys or brief telephone interviews, but we used a more in-depth approach.

Our intensive process included individual interviews with a cross-section of clients and their carers, chosen to represent the range of users. This allowed us to explore the experiences of clients and carers and gain detailed feedback on their perceptions, expectations and suggestions. The clients who participated in the study were very positive about the experience and suggested that the interview approach was preferred over written or telephone surveys. Overall, clients and carers were very positive about the service. The study results

are being used by the service to improve the quality and make sure the service meets client needs and expectations.

Training and implementation

The work of the Public Health Division improves the health and well-being of older people by focusing on older people, their carers and the service providers who work to support them. Some of our recent projects have explored the role of staff in health, residential and community care and devised ways to support them in changing or improving their practice. Improved practice results in better quality of care.

Training the aged care workforce

We conducted specific training programs for staff involved in assessing client need for the Personal Alert Victoria service. We also contributed to the NARI/MECRS Education Enterprise program and presented at forums, national and local conferences and networks as invited speakers.

In collaboration with the NARI Education Division, we have been commissioned to develop and implement a training program for HACC workers on assessment and care planning. This innovative training program will be particularly important as the Primary Care

Partnerships in Victoria evolves. Ensuring that the Home and Community Care workforce has a good understanding of the principles and practice of assessment and care planning will enable the provision of more appropriate and relevant packages of care to those people with disabilities living in the community.

We also plan to build on the Well for Life project and our various projects in Falls Prevention to ensure that health promotion messages can be implemented across all aged care settings, including community, hospital and residential care. Our research has shown that one of the critical factors in achieving sustainable best practice in these areas is to not only provide information about research outcomes, but work alongside the staff within each setting.

Our unique combination of multidisciplinary research, clinical and education expertise places us in the ideal position to train and support staff in the aged care workforce.

Our Future

The future success of the Public Health Division depends on our experienced team of staff and our collaboration with others who have complementary expertise and goals. Throughout this year we have sought, established and strengthened a range of partnerships and collaborations, both within and

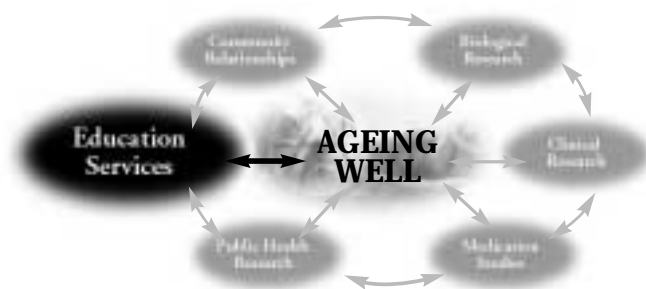
outside NARI. We plan to expand our activities with a range of researchers, clinicians and 'end users' to ensure research of a high academic standard that is both relevant and developed with application in mind.



Ms Melissa Lindeman (seated) and Ms Joan Nankervis reviewing journals

Education services

NARI'S EDUCATION DIVISION'S MULTISKILLED TEAM HAS AGAIN DELIVERED A DIVERSE AND INFORMATIVE PROGRAM OF EDUCATION AND TRAINING ACROSS A RANGE OF KEY AREAS IN AGED CARE. HIGHLIGHTS INCLUDE A CHALLENGING EDUCATIONAL PROGRAM OF UNDERGRADUATE GERIATRIC MEDICINE, THE DEVELOPMENT OF NEW TRAINING VIDEOS AND AN ACTIVE ROLE IN THE TRAINING OF GENERAL PRACTITIONERS IN THE ASSESSMENT OF OLDER DRIVERS.



Dr Peteris Darzins

DIRECTOR:

Dr Peteris Darzins

EDUCATIONAL SERVICES TEAM:

Ms Jenny Gough, Ms Robyn Sloan, Ms Fernanda Zachariou

ASSOCIATES AND COLLABORATORS:

Ms Catherine Barrett, Ms Jacqui McGrory

Training students in geriatric medicine

Fourth year medical students are allocated to NARI for intensive geriatric medicine teaching for two week periods. A rich and varied program is made possible by the close links with the Melbourne Extended Care and Rehabilitation Service. Other organisations such as the Alzheimer's Association and Vision Australia also contribute to the teaching.

The students visit the Gwennap Hostel, Greenhaven Special Residential Service and the Footscray Society for the Aged

nursing home. Lectures and clinical bedside tutorials are provided by a range of specialists, including geriatricians, psychiatrists, rehabilitation specialists, pharmacists, palliative care physicians, physiotherapists, other allied health practitioners, Aged Care Assessment Team staff and representatives from the Office of the Public Advocate.

Most importantly, the teachers provide sympathetic role models and inspire students to develop a positive attitude to the care of older people. At the end of the two week term, in a session called "The Other Side of the Coin", the students interview a NARI volunteer, in the style of talk-back show. This popular session provides the opportunity to balance the illness, frailty and misery the students have witnessed in the preceding two weeks with the reality that many older people are fit, well and are enjoying life. The Education Division is most grateful for the generous contribution of all those people and organisations involved in this successful teaching program.

Safe Drive Medical program

The "Safe Drive Medical" Program is an exciting new initiative of the Education Division. VicRoads retained NARI to provide education to Victorian General Practitioners about older road user issues. Seminars were held in Melbourne and in rural Victoria through the Divisions of General Practice. Daimler-Chrysler provided valuable sponsorship for most of the rural seminars. The evaluation of the "Safe Drive Medical" program suggests there is a great need to educate health care workers about legal and practical issues for older road users.

Conferences, seminars and workshops

NARI, in partnership with the Melbourne Extended Care and Rehabilitation Service, offers a range of education activities through the Education Enterprise. This year included well established activities such as conferences, ethics seminars and workshops on specific clinical issues. New activities included specifically tailored clinical education for particular units and

the systematic dissemination of the research results generated at NARI.

Some are low key events for small groups; others, such as the conference on Advance Directives and Capacity Assessment, opened by the Attorney General, the Hon Mr Rob Hulls, enjoy a higher profile.

Video kits and the internet

Production of a self-contained video education kit about the ethics of tube feeding is yet another Education Enterprise initiative. This video can be used as part of a seminar, or by individuals for self-directed learning. The demand for these kits is steady with orders coming from all over Australia, and more videos are planned. Next, we plan to prepare educational footage in digital format, designed for the hospital intranet and, ultimately, the internet.

Other achievements

The Education Division supervises doctoral and masters level post-graduate students, and presents research at conferences and to various public groups. We have also contributed to the development of the new medical curriculum at the University of Melbourne. Other achievements include a distance education course about wound management, and the development of information technology assisted education.

The Education Division is involved in collaborative research with other parts of NARI, such as helping to develop a comprehensive clinical evaluation process, and test electrical stimulation designed to accelerate wound healing.



Dr Peteris Darzins conducting a medical student tutorial



*Advance Directives and Capacity Assessment Conference
Mr Andrew Venosta, Dr Peteris Darzins, Mr Bruce Salvin, Att-Gen Rob Hulls,
Professor Robert Helme, Dr Roger Clarnette*



Ms Jenny Gough, Ms Robyn Sloan and Ms Jacqui McGrory of MECRS



Education Enterprise seminar

Clinical services

OUR INVOLVEMENT CONTINUES WITH THE FOUR TREATMENT CLINICS AT THE MELBOURNE EXTENDED CARE AND REHABILITATION SERVICE. THESE MULTIDISCIPLINARY CLINICS PROVIDE SPECIALISED CARE FOR THE TREATMENT OF PATIENTS WITH MEMORY PROBLEMS, FALLS AND BALANCE PROBLEMS, CHRONIC OR ONGOING PAIN, AND CHRONIC WOUNDS. SERVICES OFFERED INCLUDE MEDICAL, NURSING, ALLIED HEALTH, PSYCHOLOGICAL AND OTHER SPECIALISED SERVICES FOR PATIENTS WHO NEED MORE INTENSIVE TREATMENT THAN THEIR GENERAL PRACTITIONER CAN PROVIDE.

Cognitive Dementia and Memory Service

CO-DIRECTORS:

*Assoc Prof David Ames,
Dr Dina LoGiudice*

CLINIC TEAM:

*Ms Liz Clifford, Ms Roslyn Cook,
Ms Bronwyn Moorhouse, Ms Kay
Richter, Ms Lucy Smith, Ms Sylvia
Sully, Ms Anne Unkenstein,
Ms Marie Vaughan*

CLINICAL SECRETARY:

Marlene Tupper

The Cognitive Dementia and Memory Service (CDAMS), provides a service from the Melbourne Extended Care and Rehabilitation Service campus. CDAMS has provided clinical services to more than 440 patients since its inception in June 1998. CDAMS offers a multidisciplinary approach to the problems of memory impairment and other difficulties, which may result in dementia. Staff includes a psycho-geriatrician, a geriatrician, nurse specialists, occupational and speech therapists, social workers and data managers.

Pain Management Clinic

CO-DIRECTORS:

*Prof Robert Helme,
Dr Benny Katz*

CLINIC TEAM:

*Mr Mark Bradbeer, Dr Michael
Farrell, Mr Stephen Malkin,
Mr Max Neufeld, Ms Veronica Roux,
Ms Emily Holsman*

CLINIC SECRETARY:

Ms Marlene Tupper

Our over-riding achievement is the successful management of over 100 people with severe, disabling or chronic pain.

We ran a workshop on pain in older people for the International Association for the Study of Pain at its triennial meeting in Vienna. During symposia and workshops at the annual meeting of the Australian Pain Society in Melbourne, we were invited to contribute on pain measurement and management as they relate to older people. We were also asked to contribute four chapters to books on pain epidemiology and management for older people.

Falls and Balance Clinic

CO-DIRECTORS:

*Dr Jenny Schwarz,
Dr Keith Hill*

CLINIC TEAM:

*Dr Tony Chamberlain, Dr Eric Seal,
Ms Aileen Kalogeropoulos, Ms Joanna
Pearce, Mr Chris Clark*

CLINIC SECRETARY:

Ms Marlene Tupper

Local, interstate and overseas visitors regularly observe our operation, assessment and management of older people with balance and mobility problems. Final year physiotherapy students from the University of Melbourne attend as part of their clinical placement.

We conduct a monthly journal club to review research literature and identify developments which we may incorporate. Staff members are currently writing a Falls Clinic Manual based on this latest research, to improve patient clinical services. The Clinic has also expanded its emphasis on osteoporosis management, with a



Dr Keith Hill of NARI and Dr Jenny Schwarz of MECRS

special interest in this area by Dr Eric Seal.

Clinic staff members are involved in two successful tenders for falls prevention projects, one within Supported Residential Services in the Western Metropolitan Region, and the other within MECRS.

Dr Jenny Schwarz was invited to launch the local falls prevention program in Warrnambool, and Dr Keith Hill presented an update on falls prevention as part of the regional forums conducted by the Australian Association of Gerontology.

Dr Schwarz and the College of General Practitioners developed guidelines on falls prevention for general practitioners as part of the new Enhanced Primary Care Packages. Both Dr Schwarz and Dr Hill are members of the Department of Human Services Reference Group on Falls Prevention for Older People. This group coordinated the recent 2nd Victorian Conference on Preventing Falls Among Older People, with over 300 people attending.

Wound Management Service

CO-DIRECTORS:

*Dr Peteris Darzins,
Dr Sally Warrington*

CLINIC TEAM:

*Ms Alison Bowie, Mr Greg Duncan,
Ms Rebecca Jessop, Ms Claire Martin,
Ms Christina Neilsen, Ms Isabel Ricketts, Ms Michelle Robins, Mr Geoff Sussman*

RESEARCH FELLOW:

Dr Zeinab Khalil

CLINIC SECRETARY:

Ms Marlene Tupper

The Wound Management Service is a recognised partner of the Melbourne Consortium for Clinical Research on Wounds. We offer clinical service as well as education. One of our key successes for the year was initiating tests on Transcutaneous Nerve Stimulation to see if wound healing could be accelerated with this device.



Mr Mark Bradbeer

Relationships with our community

NARI'S DEVELOPMENT OFFICE, INCLUDING THE AGEING WELL FOUNDATION, IS THE VITAL LINK BETWEEN NARI'S RESEARCHERS AND THE GENERAL COMMUNITY. WE PROMOTE THE WORK OF THE INSTITUTE, RAISE MUCH NEEDED FUNDS, AND CREATE LASTING RELATIONSHIPS WITH STAKEHOLDERS.



Ms Liz Hayes of '60 Minutes' interviewing Professor Robert Helme



Mr Alan Castleman and Minister Bronwyn Pike in icy pain for Open Day 1999



A prize winning NARI display!



NARI's continued media exposure throughout the year included the television programs 60 Minutes, Channel Ten News and A Current Affair, the magazine 'Marie Claire' and radio station 3LO. We raised the Institute's profile with various community events. NARI even won a prize at the Royal Melbourne Show for our display.

The achievements and people to thank are too numerous to list in entirety, but major successes for the year included the NARI Open Day and Ministerial Launch during Senior Citizen's Week. Special thanks to the Melbourne Zoo, Melbourne Rotary Club and all NARI staff for making the day so successful.

Our new partnership with IOOF aims to lift the profile of the Ageing Well Foundation amongst IOOF's 50,000 members, and promote both health and financial security. Special thanks to JMIFA and CMSF for raising awareness of the

need for ageing research amongst the superannuation industry, and for their staff's efforts to raise funds for NARI.

The corporate sector and philanthropic trusts continue to offer much needed support. Special thanks to The Helen Schutt Trust, The Percy Baxter Charitable Trust, Macquarie Bank, KPMG Foundation, Lord Mayor's Charitable Fund, William Angliss (Victoria) Charitable Fund, JB Were and Sons, The LEW Carty Charitable Trust and all other sponsors.

We thank all donors, volunteers, people who made contributions in memory of loved ones, and the many organisations that provided pro-bono services and advice to NARI and the Ageing Well Foundation. With your support, NARI continues to improve the quality of life for everyone in Australia.

Volunteers are vital

“VOLUNTEERING IS A GREAT OCCUPATION. AT NARI YOU GET A REAL SENSE OF CAMARADERIE, A PERSONAL TOUCH. ALTHOUGH WE'VE ONLY KNOWN THEM FOR A FEW YEARS YOU FEEL LIKE YOU'VE KNOWN THEM FOR A LIFE TIME – LIKE LIFE LONG FRIENDS.”

– OLIVE AND KEITH BROWNING



Volunteers Ms Alison Marsh and Ms Olga Silver enjoying NARI's annual 'Thank You' event

“It's good for the students to see how the other half live on the other side of the hill.”

- Ray Bilston

“I enjoy being part of their research and meeting new people. It's a great experience meeting people who are so dedicated in their work. I can walk in and talk to people as if I was going to a friend's home.”

- Joan Larsen

People become NARI volunteers for different reasons. For some, medical research is a passion. Others see their involvement as a chance of giving something back to the health care profession and saying thank you for the support. Some get involved as they are personally touched by a family member who suffers from dementia or frequent falls. For others, volunteering makes them feel part

of a movement that makes a difference and improves our world.

Research participants help us to better understand ageing-related issues in many ways, such as standing on a moving force platform to test their balance, placing their hands in icy cold water to test pain tolerance or having their brain waves measured to identify the differences between healthy ageing and memory loss due to diseases of ageing.

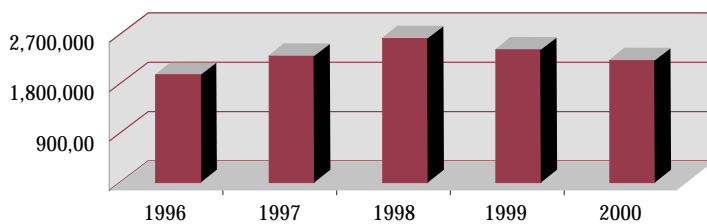
Many volunteers help with major NARI mail-outs every few months. The mail-out days have become a NARI tradition and both staff and volunteers look forward to catching up over cakes and coffee while filling those countless envelopes.

Each volunteer is vital to NARI. Our sincere thanks to every one of you.

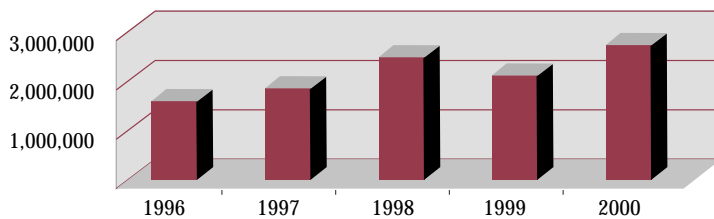
Key financial aspects

FULL FINANCIAL DETAILS FOR THE YEAR ENDING 30 JUNE 2000 HAVE BEEN PUBLISHED IN A SEPARATE FINANCIAL REPORT BOOKLET, WHICH IS AVAILABLE FROM THE INSTITUTE UPON REQUEST.

Operating Revenue



Operating Expenditure



Key Details

The total operating income of NARI for the year was \$2,222,435, a decrease of 8.6% on the previous year. Consultancy activities for the period rose significantly from previous years, but other sources of revenue were not so successful.

Total operating expenditure for the year increased by almost 30% over the previous reporting period, due to salary increases and other related

expenditures of \$471,067. This increase was partly offset by a 48% reduction in clinical costs. There was an overall decrease in cash reserves during the year as a number of activities were funded in the previous financial year. Although the accounting effect of these transactions could be transferred into the financial year just ended, the cash effect could not.

Major Financial Supporters

Victorian State Government: \$778,082 (Core funding);
Victorian State Government: \$127,211 (Competitive grants);
Commonwealth Government: \$183,028 (Competitive grants);
Melbourne Extended Care & Rehabilitation Service: \$212,449 (Service delivery)

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