



**FUNDING RESEARCH
INITIATIVES
FOR BETTER KIDNEY
HEALTH TOMORROW**

CONTENTS

Letter From The CEO	5
Kidney Health Australia Reaching New Heights in Kidney Research	6
Professor Wendy Hoy	8
Professor Robert Atkins	10
Associate Professor Stephen McDonald	12
Associate Professor Merlin Thomas	14
Associate Professor Sharon Ricardo	16
In The Research Pipeline	18
Grants and Scholarships	19
How to Support Kidney Health Research	22
Contact Us	23

LETTER FROM THE CEO

This directory showcases some of the cutting edge research funded by Kidney Health Australia (formerly The Australian Kidney Foundation) across its 42 year history.

Having been the second largest funder of kidney research outside the Commonwealth Government's National Health & Medical Research Council, Kidney Health Australia continues to underpin the evidence base that drives health policy and strategy development for the advancement of the public health agenda from the kidney perspective.

Designed to be published annually, the 2010 Research Directory features some of Australia's and the world's leading kidney researchers involved in clinical, biomedical and social research.

Funding of Kidney Health Australia's research agenda continues to be dependent on the generosity of:

- the Australian community through donations and bequests
- our pharmaceutical industry partners through unrestricted educational grants
- our corporate partners through targeted partnership arrangements.

Kidney Health Australia's vision is: *'to save lives and reduce the need for dialysis'*.

Our mission is: *'to advance the public health agenda through awareness, detection, prevention and management of kidney disease in Australia and our geographic region'*.

Your ongoing support of Australia's kidney research agenda is crucial to:

1. Long term improvement of health outcomes for those with or at risk of kidney disease
2. The development of State and Federal Government kidney related health policy
3. Building Australia's evidence base to drive and underpin accessible and equitable service planning and development.

We urge you to help us 'save lives and reduce the need for dialysis' in Australia. Help us drive Australia's research agenda forward to 2020 and 'make a difference' for the benefit of Australians with kidney disease, their families and carers.

Kidney Health Australia

REACHING NEW HEIGHTS IN KIDNEY RESEARCH



Every day 50 people die with kidney related disease. Kidney disease is the 10th leading cause of death in Australia, yet it receives only 1% of the Commonwealth Government funding for health research and development. The desperate need to counteract the spiraling physical, social and economic cost of kidney disease to the Australian community is at the core of Kidney Health Australia's Medical Research Funding Program, which has provided close to \$30 million for kidney research over the past 42 years.

In this booklet you will find case studies from just five of the hundreds of research projects Kidney Health Australia has funded over its lifespan. These highlighted initiatives cover the spectrum of kidney disease, including prevention and early detection, particularly in patient groups most vulnerable to illness and inequity, best practice management of renal replacement therapies for those who require dialysis or transplant to stay alive, and cutting edge stem cell approaches to repairing damaged kidneys.

Anne Wilson

Chief Executive Officer
Kidney Health Australia

Throughout the history of the Medical Research Funding Program there has been a significant focus on projects that "make a difference". As summarised in this booklet, Kidney Health Australia's financial support has spearheaded frontier research using stem cell technology such that Australia is at the forefront internationally in this field. Also, due in large part to Kidney Health Australia's Research Program, both the Australian Diabetes, Obesity and Lifestyle (AusDiab) study and the Australia and New Zealand Dialysis and Transplant Registry (ANZDATA) have achieved world-wide acclaim for benchmarking the burden of kidney disease. Meanwhile, the current work on diabetes and kidney disease is unraveling the mystery of how these two devastating health conditions are interrelated, and has enormous consequences for the future health of all Australians.

In recognition of the urgent need to advance the chronic kidney disease agenda – especially in the public health arena - and to influence government about the need to invest more directly in the issues around kidney disease, Kidney Health Australia decided in 2010 to re-align available research

funds. Future research funded by Kidney Health Australia will be specifically targeted to align with our mission "to advance the public health agenda through awareness, detection, prevention and management of kidney disease", and vision "to save lives and reduce the need for dialysis". The new Research Program will focus on innovative projects that can be readily translated into reducing the burden of kidney disease in Australia.

Kidney research is chronically underfunded by Australian Governments and Kidney Health Australia relies upon support from the public and industry to continue this fundamental work. Your help in this task is vitally important to achieving the vision of saving lives and reducing the need for dialysis for all Australians.

We urge you to support the Kidney Health Australia Research Program and join with us in the fight against kidney disease. Details of how to donate are included at the back of this directory.

Professor

WENDY HOY



Professor Hoy is one of the leading figures in medical research in Australia who is working to close the gap between Indigenous and non-Indigenous health. Professor Hoy became interested in Indigenous chronic disease issues whilst working in New Mexico in the 1980s, after seeing the health issues that face many native American Indians.

She returned to Australia 17 years ago to begin research studies within the Australian Indigenous population. Her work has assisted in reducing death rates by changing the way chronic diseases are detected and managed in remote environments.

With 180 published articles and in excess of 500 conference presentations and abstracts to her name, Professor Hoy's work has focused on the early markers of risk through programs of early detection and prevention.

“There is widespread endorsement of the integrated nature of chronic diseases. Appropriate guidelines for regular testing and management of chronic diseases are now included in standard health care plans for Aboriginal people in many remote areas”.

Kidney Health Australia has played a key role in Professor Hoy's work, by helping to fund:

- The ‘Tiwi Kidney Treatment Program’ which paved the way for widespread screening and treatment for kidney and related chronic disease in remote Aboriginal Australia.
- The ‘Aboriginal Chronic Disease Outreach Program’ which built on the success of the Tiwi model and expanded chronic disease care more widely to Aboriginal communities. This study established the case for an innovative prevention program now in its second year in the Tiwi islands.
- An Australia-wide review of Indigenous kidney biopsies.

Beyond the critical financial backing, Professor Hoy thanks Kidney Health Australia for its moral support and continued advocacy for better health and health services for Indigenous people. While Professor Hoy admits it is likely to take several generations to close the gap between the health of Indigenous and non-Indigenous Australians, she is optimistic about the progress that has been made.

“There is widespread endorsement of the integrated nature of chronic diseases. Appropriate guidelines for regular testing and management of chronic diseases are now included in standard health care plans for Aboriginal people in many remote areas”.

Professor Hoy is currently the Director of the Centre for Chronic Disease at the University of Queensland. Her work has been recognised by the National Health and Medical Research Council (NHMRC) Australian Fellowship Award, the USA's National Kidney Foundation International Distinguished Medal, as well as the Brenner Award from the American Society of Nephrology.

Professor

ROBERT ATKINS



In 1999 the Australian Diabetes, Obesity and Lifestyle (AusDiab) study was launched to address a gap in our knowledge regarding the prevalence of conditions such as diabetes, kidney disease, high blood pressure and obesity in the general population.

The kidney component of the AusDiab study was funded by Kidney Health Australia in partnership with the Commonwealth Government, and was one of the few studies in the world to determine how common kidney damage is in a national population. This data has contributed more to our understanding of the burden of kidney disease than any other study. Five years later Kidney Health Australia again provided support for a follow-up study of the AusDiab kidney data.

"The follow-up study greatly extended the value of the original AusDiab data by defining the incidence, natural history and clinical associations of kidney damage in the general adult population", says Professor Robert Atkins, one of the lead investigators of the AusDiab study.

...the most rewarding aspect of conducting kidney research is "the satisfaction of getting an answer to a problem, and watching how it plays out into the community and into the area of preventive health".

Professor Atkins is one of Australia's most renowned nephrologists. His initial clinical training in Australia and the United Kingdom was the start of a lifelong commitment to kidney research and an effort to improve the treatment of people with kidney disease.

He was Director of the Department of Nephrology at Monash Medical Centre from its inception in 1972 until 2005, and is the author of over 1,000 papers and abstracts. Professor Atkins says the most rewarding aspect of conducting kidney research is *"the satisfaction of getting an answer to a problem, and watching how it plays out into the community and into the area of preventive health"*.

Professor Atkins' commitment to the field of nephrology and preventive medicine has been widely recognised. He was awarded the inaugural Priscilla Kincaid-Smith Award from Kidney Health Australia, the Oshima Medal from the Asia Pacific Society of Nephrology, and the Brenner Award from the American Society of Nephrology. Significantly, he is also the recipient of the Centenary Medal for Australia and Member of the Order of Australia Award (AM).

Professor Atkins is humble about his achievements, saying *"it's an honour not only for me, but for the countless other kidney researchers who I have been fortunate enough to work with over the years"*.

Now retired from clinical duties, Professor Atkins is the Head of the Kidney Disease Prevention Unit, which he established at Monash University in 2006. Plans for another follow-up study of AusDiab are in the pipeline, which Professor Atkins says *"will add significant value to the world wide importance of this research"*.

Associate Professor

STEPHEN MCDONALD



Associate Professor Stephen McDonald is a senior consultant nephrologist based in Adelaide. For the past five years he has also managed The ANZDATA Registry. ANZDATA is a collaboration of all renal units in Australia and New Zealand, and records the incidence, prevalence and outcome of dialysis and kidney transplant treatment.

Following clinical training in various hospitals in South Australia, Stephen gained valuable experience from undertaking a PhD with the Menzies School of Health Research in Darwin.

His thesis examined relationships between early kidney and cardiovascular disease and markers of inflammation and nutrition among remote Aboriginal communities. He returned to Adelaide in mid-2001 to a post-doctoral position in the ANZDATA Registry, and has been the Executive Officer since 2005.

The internationally acclaimed ANZDATA Registry has been funded substantially by Kidney Health Australia since its formation. It is one of the major accomplishments of the Australian and New Zealand nephrology community and, over many years, has contributed

“The ANZDATA dataset is used by kidney specialists for clinical questions and quality assurance, various governments to inform policy development and undertake projections of renal disease into the future and by researchers in a wide variety of fields”.

importantly to knowledge, planning, and best practice in clinical care.

“The ANZDATA dataset is used by kidney specialists for clinical questions and quality assurance, various governments to inform policy development and undertake projections of renal disease into the future and by researchers in a wide variety of fields”, explains Associate Professor McDonald.

The current ANZDATA Registry began in 1977, and now virtually all relevant hospitals and related satellite units in Australia and New Zealand participate. The Registry provides valuable evidence for the field of dialysis and transplantation where randomised clinical trials (considered the highest level of evidence) are often not practical. Examples of the many types of information provided include the relative advantage of peritoneal dialysis versus haemodialysis, and the rates and outcomes of end-stage kidney disease among Indigenous peoples.

Associate Professor McDonald has witnessed many changes to the ANZDATA Registry, *“most importantly the development of a research agenda where there has*

been a deliberate effort to utilise the ANZDATA dataset to address clinically relevant questions. This has led to a substantial growth in the number of people using the Registry to answer issues which arise”.

The future of ANZDATA looks bright. Stephen envisages that ANZDATA will eventually include real-time data entry, and ultimately on-line data transfers from renal unit computer systems.

Associate Professor

MERLIN THOMAS



Many Australians live with diabetes, the leading cause of kidney failure. Diabetes has been identified as triggering 30% of kidney disease, but the role of high sugars in causing kidney disease is poorly understood. In 2006, Kidney Health Australia awarded funding over a five-year period to Associate Professor Merlin Thomas for clinical trials to explore a novel link between sugar and the complications it causes, including the kidneys.

Originally, from Wagga Wagga in country NSW, Associate Professor Thomas' training and work has taken him around the world. On his travels he witnessed the global epidemic of chronic diseases.

"I was struck by the severity of diseases, such as cardiovascular disease, bone disease and microvascular disease associated with chronic kidney disease, and I could see that as a nephrologist I could make a real difference to people", says Associate Professor Thomas.

Associate Professor Thomas' research concentrates on Advanced Glycation End-products (AGEs), formed when sugars bind to protein, making it sticky sweet and brown – similar to caramel. AGEs gradually build up in tissues, and lead to

"I was struck by the severity of diseases, such as cardiovascular disease, bone disease and microvascular disease associated with chronic kidney disease, and I could see that as a nephrologist I could make a real difference to people".

hardening of arteries. High blood sugar causes the AGEs to build up more quickly, and if the AGEs cannot be cleared by the kidney they accumulate in the body, starting an advanced ageing process. *"It's like when you leave a toy car outside for a long period of time – it appears 'older' through exposure to the elements",* explains Associate Professor Thomas.

Associate Professor Thomas is developing a test that doctors will be able to use for people with diabetes to see the extent of it in their system. Doctors will then be able to easily and quickly determine the level or risk of kidney damage in their patients. They could also use this test on patients who are at risk of developing diabetes to ensure that their organs do not start to deteriorate as a result of the disease.

Associate Professor Thomas says for him the most rewarding aspect of conducting research into kidney diseases is the *"tremendous beauty in the revelation of scientific truth, and the enjoyment from showing people how to make their lives better, and how to live longer".*

Associate Professor

SHARON RICARDO



In 2003 Kidney Health Australia awarded five years of funding to a cutting-edge research program investigating an alternative to dialysis and transplantation for damaged kidneys. The Renal Regeneration Program driven by Associate Professor Sharon Ricardo and teams at Monash University and The University of Queensland explored the possibility of injecting stem cells into damaged areas of the kidney to allow a repair process.

“It was clearly an exciting and ambitious project, but the timing was right in this era of stem cell research to use kidney stem cell techniques to create new therapies for patients with advanced kidney disease. The great hope is that stem cell therapies may be used to repair damaged kidney tissues, or even allow the generation of a new kidney, thereby reducing the need for kidney dialysis or transplant”, Associate Professor Ricardo says.

After obtaining her science degree and PhD at the University of Melbourne, Associate Professor Ricardo travelled to the United States to undertake postgraduate training.

“The great hope is that stem cell therapies may be used to repair damaged kidney tissues, or even allow the generation of a new kidney, thereby reducing the need for kidney dialysis or transplant”.

“I wanted to pursue further studies on the development and treatment of kidney disease. Partly, as I could appreciate there was a desperate need for new treatments; but also as I wanted to perform medically relevant research that could one day make a difference to the suffering endured by many patients with kidney disease”.

Upon her return to Australia she became involved with the Renal Regeneration Program, and focused on using kidney stem cell techniques to generate therapies for patients with advanced kidney disease.

“I could appreciate the innovative approach of the Program—asking not how kidneys undergo disease, but how we can induce kidney repair and regrowth”, says Associate Professor Ricardo.

Currently a Group Leader of the Renal Regeneration Laboratory at Monash University, Associate Professor Ricardo is continuing her important work, including the development of a ground breaking new treatment for babies with foetal kidney impairment of which there is currently no cure. She currently hosts work experience students in her laboratory, and to these young

people Associate Professor Ricardo advises that kidney research is an exciting, and most of all rewarding career.

“Scientific research as a career is never mundane and will always satisfy those with a curious nature”.

IN THE RESEARCH PIPELINE

Future research funded by Kidney Health Australia will be targeted to align with Kidney Health Australia's mission:

"To advance the public health agenda through awareness, detection, prevention and management of kidney disease" and our vision "to save lives and reduce the need for dialysis".

The research program will be looking for innovative ideas and projects that will specifically be aimed at producing information to allow the burden of chronic kidney disease in Australia to be reduced.

The focus of all Kidney Health Australia funded research projects will be *"to reduce the burden of chronic kidney disease through expanding the range of evidence-based knowledge".*

Areas considered of special focus for research support will be:

- Improving and assisting community awareness and prevention strategies
- Increasing detection rates of early chronic kidney disease
- Documenting chronic kidney disease demographics, trends and costs
- Implementing best care approaches to detected chronic kidney disease cases
- Facilitating a smooth transition into dialysis and transplantation
- Improving outcomes and quality of life on dialysis
- Reducing the financial and social impact of chronic kidney disease on patients and families

In addition, there will be a focus on the harder-to-reach population groups in the community including:

- Aboriginal and Torres Strait Islander peoples;
- People from culturally and linguistically diverse populations;
- People experiencing socioeconomic disadvantage.

GRANTS AND SCHOLARSHIPS

As at 1 January 2010

Career Development Award (2006-2010)

Kidney Health Australia was pleased to have the opportunity to work in partnership with NHMRC and the Australia and New Zealand Society of Nephrology to enhance research capacity via an innovative partnership to fund a Career Development Award in the area of nephrology.

Dr Greg Tesch
Monash Medical Centre, VIC

Mechanisms of macrophage-mediated injury as potential therapeutic targets for preventing diabetic nephropathy and insulin resistance

Seeding Grants

Seeding Grants are designed to allow investigators to begin a new project and develop it to a point where they are ready to attract a more substantial grant, which has led to the establishment of several large projects.

Dr Kym Rae
University of Newcastle, NSW

Stress during pregnancy and the developmental origins of renal disease in Aboriginal Australians

Dr Wai Lim
University of Western Australia, WA

Epidemiology of decreasing renal function and its association with morbidity and mortality in elderly Australian women

Dr Germaine Wong
The Children's Hospital
at Westmead, NSW

Monitoring for chronic kidney disease

“Scientific research as a career is never mundane and will always satisfy those with a curious nature”.

Associate Professor Sharon Ricardo

Biomedical Scholarships

These scholarships permit talented researchers to pursue full-time research for up to three years, qualifying them to obtain a doctoral degree or equivalent at the end of this period.

Dr Abu Abraham

Monash University, VIC

Macrophage activation in kidney disease and renal transplant rejection

Dr Thian Kui Tan

University of Sydney, NSW

Macrophages Induce Tubular-Epithelial Mesenchymal Transition In Renal Fibrosis

Dr Siddharth Rajakumar

University of Melbourne, VIC

CD39 Protects in renal ischaemia reperfusion injury

Mr Michael Krezel

Austin Hospital, VIC

Function of a novel growth factor inhibitor - ATIP1 - in diabetes

Dr Chetana Naresh

University of Sydney, NSW

Diagnostic accuracy and predictive ability of rapid urine test for detection of proteinuria and albuminuria

Dr Lena Succar

University of Sydney, NSW

Role of mammalian target of rapamycin (mTOR) in medicating autoimmune crescentic glomerulonephritis

Dr Peng Wang

University of Sydney, NSW

Targeting innate immunity to prevent chronic dysfunction of the transplanted kidney

Dr Scott Wilson

University of Melbourne, VIC

Comprehensive phenotypic analysis of blood pressure changes on dialysis and the mechanisms that lead to these in patients with chronic renal failure with stratification by ENaC sub-unit genotype

Ms Erika Camara

Monash University, VIC

The effects of renal denervation on sympathetic, metabolic and psychometric parameters in patients with resistant hypertension

Dr Niroj Obeyesekere

Monash Medical Centre, VIC

TAK1 signalling in macrophage-mediated kidney disease

...the most rewarding aspect of conducting research into kidney diseases is the “tremendous beauty in the revelation of scientific truth, and the enjoyment from showing people how to make their lives better, and how to live longer”.

Associate Professor Merlin Thomas

Nursing Scholarships

Kidney Health Australia provides grants for Registered Nurses wishing to study for a Masters Degree in Nursing or Public Health. The aim of the program is to encourage nurses to pursue a career in renal nursing in any of its components:

- clinical practice, education or research
- across the continuum of chronic kidney disease from prevention to early detection to renal replacement.

Mr Brenton Shanahan

Master of Advanced Practice - Health Professional Education
Griffith University, QLD

Mr Peter Sinclair

Master of Nursing (Research)
University of Newcastle, NSW

Ms Anna Lee

Master of Nursing (Nurse Practitioner)
University of Technology Sydney, NSW

Ms Annette Bezzant

Master of Nursing (Nurse Practitioner)
Deakin University, VIC

Summer Vacation Scholarships

These scholarships are designed to provide assistance to undergraduates undertaking summer vacation research in the area of kidney and urinary tract.

Ms Ainslie Camerons

Queensland University of Technology, QLD
Functional genomic analysis of group G streptococcus, a bacterium that causes kidney disease

Mr Christopher Wong

University of Adelaide, SA

Renovascular hypertension and cardiac remodelling: local expression and activity of angiotensin-II and angiotensin-converting enzymes in the ovine atria

HOW TO SUPPORT KIDNEY HEALTH AUSTRALIA RESEARCH

Kidney Health Australia relies on individual and corporate contributions and grants to fund its research program. Donations can support the full range of our research initiatives. Contributions can also be earmarked for specific areas of investigation, and donations can be made as memorial gifts or through a planned giving program.

To learn more about the variety of opportunities available to support Kidney Health Australia's research grants, please contact Associate Professor Timothy Mathew, Medical Director, Kidney Health Australia on 1800 543639 or at tim.mathew@kidney.org.au

CONTACT US

Head Office (Victoria)

Street address:
100 York Street,
South Melbourne 3205

Postal address:
GPO Box 9993, Melbourne VIC 3001

T: (03) 9674 4300
F: (03) 9686 7289
E: vic@kidney.org.au

Australian Capital Territory

Postal address:
GPO Box 9993,
Canberra ACT 2601

T: (02) 6282 8605
F: (02) 6254 7640
E: act@kidney.org.au

New South Wales

Street address:
Level 9, 9-13 Young Street,
Sydney NSW 2000

Postal address:
GPO Box 9993, Sydney NSW 2001

T: (02) 9299 4599
F: (02) 9299 7582
E: nsw@kidney.org.au

Northern Territory

Postal address:
GPO Box 9993,
Darwin NT 0801

T: (08) 8334 7555
F: (08) 8334 7545
E: nt@kidney.org.au

South Australia

Street address:
25 North Terrace, Hackney, SA 5069

Postal address:
GPO Box 9993, Adelaide SA 5001

T: 08 8334 7555
F: 08 8334 7545
E: sa@kidney.org.au

Tasmania

Street address:
88 Bathurst Street, Hobart TAS 7000

Postal address:
GPO Box 9993, Hobart TAS 7001

T: (03) 6231 9663
F: (03) 6234 5828
E: tas@kidney.org.au

Queensland

Postal address:
GPO Box 9993,
Brisbane QLD 4001

T: (07) 3167 1069
E: qld@kidney.org.au

Western Australia

Street address:
Level 3, 322 Hay Street,
Subiaco WA 6008

Postal address:
GPO Box 9993, Perth WA 6848

T: (08) 9381 9311
F: (08) 9381 7911
E: wa@kidney.org.au

For all Kidney Health enquiries please call

1800 4 KIDNEY
5 4 3 6 3 9