

The Health-Science Alliance
SYDNEY • AUSTRALIA

Fifth Annual Scientific Symposium

24 November 2016

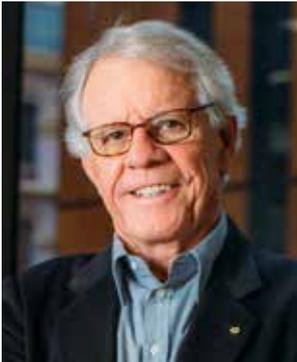
Royal Hospital for Women
Lecture Theatre
Randwick

The Health-Science Alliance Mission

The individual institutions comprising the Health-Science Alliance (HSA) and their staff are committed to working together in a spirit of collaboration in order to:

- continue as a multidisciplinary team to provide the best possible prevention and healthcare to our patients;
- focus our health and medical research efforts on excellence and on rapid translation of discovery into the clinical setting;
- identify and exploit synergies between our various activities, at the same time avoiding inefficiencies and maximising cooperation; and
- provide our clinical and non-clinical staff with the best educational facilities available in order both to support existing staff and to assist us in recruiting the best possible new staff

Welcome from the Chairman



On behalf of all the members of the Organising Committee, I would like to welcome you to the 5th Health-Science Alliance (HSA) scientific symposium.

In the last five years, we have made considerable advances in our commitment to working together in a spirit of collaboration. This is evidenced by the imminent official opening of our new cancer and clinical trials facilities, The Bright Alliance – a significant step towards our vision to be recognised nationally and internationally as providing the best possible healthcare, informed by cutting-edge research activity translated rapidly into the clinical setting and that both these will be provided by a world-class team of healthcare providers and medical researchers. Our annual Symposium's aim has been to bring together our researchers to showcase our research, discuss our plans for the future and evaluate progress made. This year, we will hear of the endeavours of our scientific researchers in a diverse range of areas including Prisoner Health, Kidney Disease and Cancer and learn about the South Eastern Sydney Local Health District's Research Strategy. Now is an excellent time to look back and celebrate our considerable progress.

I would like to take this opportunity to personally thank our guest speakers and everyone attending today for your continuing support of this initiative which prepares us for an exciting new era of healthcare. Please enjoy.

Yours sincerely

A handwritten signature in blue ink that reads "P. Joseph". The signature is written in a cursive style.

Peter Joseph AM

Program Overview

8:30am – 8:55am **REGISTRATION**

8:55am – 9:15am **WELCOME ADDRESSES**

Terry Campbell AM, Deputy Dean, UNSW Medicine
Peter Joseph AM, Chairman of the Health-Science Alliance

9:15am – 10:25am **SESSION 1**

Chair: Terry Campbell AM

Emad El-Omar - *'The role of the microbiome in health and disease'*

Ritin Fernandez - *'Engaging nurses in evidence-based practice'*

John Myburgh AO - *'There is no such thing as a negative clinical trial'*

10:25am – 11:00am **MORNING TEA**

11:00am – 12:20pm **SESSION 2**

Chair: Chris Puplick AM, Chairperson, Justice Health and Forensic Mental Health Network

Chris Puplick AM - *'Australian values – inside and out'*

Kimberlie Dean - *'Serious mental illness in prisoners'*

Andrew Lloyd AM - *'Hepatitis C elimination from Australian prisons'*

Courtney Field - *'Health on the inside: Key findings from the Network Patient Health Survey of prisoners in NSW'*

12:20pm – 1:15pm **LUNCH**

1:15pm – 2:15pm

SESSION 3

Chair: Terry Campbell AM

Zoltan Endre - *'Acute and chronic kidney disease: An introduction'*

Lena Succar - *'Subclinical chronic kidney disease modifies diagnosis of acute kidney injury'*

Zoltan Endre - *'Predicting progression of chronic kidney disease'*

Sradha Kotwal - *'Acute kidney Injury and eAlerts'*

Kenneth Yong - *'Overview of cardiovascular disease in chronic kidney disease''*

2:15pm – 2:30pm

Ian Jacobs - *'Ovarian cancer screening in the general population'*

2:30pm – 2:45pm

AFTERNOON TEA

2:45pm – 3:25pm

SESSION 4

Chair: Michael Still, Chair, South Eastern Sydney Local Health Division Board

James Mackie - *'SESLHD research strategy and how it will embed research into clinical services'*

Boon Chua - *'A vision for the best in cancer: Integration of research, patient care, education and advocacy through collaborative partnerships and alliances'*

3:25pm – 3:45pm

DISCUSSION

3:45pm – 4:00pm

CLOSING COMMENTS

Terry Campbell AM

Speakers and Abstracts

Boon CHUA



Professor Chua is Director of Cancer Services at UNSW and Prince of Wales Hospital from 22 November 2016, after fourteen years at the Peter MacCallum Cancer Centre as Staff Specialist in Radiation Oncology, Chair of Breast Service and Deputy Director of Division of Radiation Oncology and Cancer Imaging.

Professor Chua is active in academic oncology with a substantial and expanding program of breast cancer research, in collaboration with major cooperative clinical trials groups worldwide.

She is Chief Investigator of multiple national and international cancer clinical trials, underpinned by innovative biological research. She also holds current appointments in national and international organisations including the UICC TNM Expert Panel for Breast Cancer, Breast International Group, European Breast Cancer Conferences, Australian and New Zealand Breast Cancer Trials Group and Trans Tasman Radiation Oncology Group.

A vision for the best in cancer: Integration of research, patient care, education and advocacy through collaborative partnerships and alliances

Kimberlie DEAN



Associate Professor Kimberlie Dean holds the inaugural Chair of Forensic Mental Health at UNSW and is a Clinical Academic Forensic Psychiatrist with Justice Health & Forensic Mental Health Network where she is also the Research Lead for Forensic Mental Health. She is joint Academic Program Director for UNSW Master of Forensic Mental Health and Academic Program Director of the UNSW MPhil Forensic Mental Health. Kimberlie is an epidemiologist with expertise in analysis of large population-based datasets as well as clinical research. She is interested in understanding the link

between mental illness and offending and in trying to identify interventions to improve outcomes for mentally disordered offenders.

Serious mental illness in prisoners

Abstract: Prisoners are known to suffer very high rates of serious mental illnesses like schizophrenia compared to the general population. Imprisonment can provide an opportunity to identify and treat such illness but we know little about the extent and nature of mental illness in prison nor the best way to identify treatment needs.

In NSW we have completed a pilot study exploring in detail the stages of psychosis in reception prisoners and have developed a new approach to screening for illness which is currently being trialled.

Emad EL-OMAR



Professor Emad El-Omar graduated in 1988 with BSc (Hons) MB ChB from Glasgow University, Scotland. He trained in General Internal Medicine and Gastroenterology in Glasgow and gained dual accreditation in both. In 1995, he was awarded MD with honours and Bellahouston Medal, for his work on the effect of *H. pylori* infection on gastric acid secretion in man. In 1997, Professor El-Omar moved to the USA spending time in the Division of Infectious Diseases at Vanderbilt University School of Medicine, Nashville, Tennessee, followed by 2 years at the Division of Cancer

Epidemiology and Genetics, National Cancer Institute, NIH, Bethesda, Maryland. In 2000, Professor El-Omar became the Foundation Chair of Gastroenterology at Aberdeen University and Honorary Consultant Physician with NHS Grampian. In 2016, he took up the Chair of Medicine at St George and Sutherland Clinical School, UNSW.

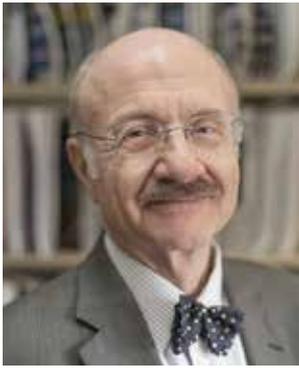
His main research interests are in the role of microbially-induced inflammation in GI cancer and inflammatory bowel disease. He is the Editor in Chief of the journal *Gut* and his research group has strong collaborations within the UK/Europe, US, Asia and Australia.

The role of the microbiome in health and disease

Abstract: The role of infectious agents in carcinogenesis has commanded significant scientific interest culminating in at least seven Nobel prizes thus far. Infections can cause cancer by a variety of mechanisms including direct transformation of cells, induction of immunosuppression with consequent reduced cancer immunosurveillance, or by causing chronic inflammation. The latter is now recognised as an essential component of many epithelial cancers by virtue of its combined effects of generating genotoxic by-products and increased cellular proliferation, thus maximising the potential for DNA damage. Perhaps the best paradigm for an infection-induced and chronic inflammation-driven malignancy is gastric cancer, which is caused by the gastric bacterium *H. pylori*. In genetically predisposed hosts, this infection induces severe gastritis with a consequent hypochlorhydric and atrophic phenotype that facilitates genotoxic damage and neoplastic transformation. The infection leads to malignant transformation through the recognised effects of the mutagenic by-products and mediators of the inflammatory process but also through the effects of the altered gastric microbiome that thrives in the absence of gastric acid. This abnormal gastric microbiota act as a “foe” hastening the development of cancer long after *H. pylori* has disappeared.

Over the past decade, it has become clear that gut microbiota plays a crucial role in human health and disease, having profound influence on weight, risk of diabetes, mental health, cancer risk (colon and liver for certain) and overall homeostatic balance. Almost every organ in the body is affected by the quality, diversity and metabolic output of this microbiota. The mechanisms are being unravelled fast and the prospect of preventing such global health problems through simple manipulation of the gut microbiota is realistic and palpable. Our efforts are now focussed on turning these foes to friends. Medicine has never been more exciting!

Zoltan ENDRE



Professor Zoltan Endre is an international leader in kidney biomarker research and acute kidney injury (AKI) and lead investigator of the Biomarker Stream of the NHMRC Centre of Excellence in Chronic Kidney Disease.

He helped pioneer biomarkers of kidney injury. He is lead chief investigator of the Biomarker Stream of the new NHMRC Centre of Excellence in Chronic Kidney Disease and a principal investigator on two HRC Programme Grants in New Zealand.

His laboratory is the reference kidney biomarker laboratory for NHMRC studies of AKI in Sri Lanka, New Zealand and as well as for studies in Singapore and Sydney and for CKD in the NHMRC Centre of Excellence in CKD.

Professor Endre is on many editorial boards including Kidney International and is Deputy Editor-in Chief of the Internal Medicine Journal.

Acute and chronic kidney disease: An introduction

Abstract: A brief introduction into the epidemiology of acute and chronic kidney disease in Australia and the link between the two will serve as background for the other speakers.

Predicting progression of Chronic Kidney Disease

Abstract: Australia is part of a global epidemic of chronic kidney disease (CKD), affecting approximately 13.5% of adult Australians. This includes 50% of subjects over the age of 65. Approximately 25% of these subjects have progressively declining renal function and this is matched by declining survival because of increasing mortality from cardiovascular disease. The remaining 75% are stable and some even recover function. Predicting progression has important implications for health planning and for appropriate recruitment into interventional trials to delay progression. However we have no reliable means of predicting progression.

The hope is that novel biomarkers will enhance existing clinical risk factors in predicting subjects who will progress.

Ritin FERNANDEZ



Dr Ritin Fernandez is Professor of Nursing at the Centre for Research in Nursing and Health, a joint initiative between University of Wollongong and St George Hospital, Kogarah.

Ritin is also the Director of the Centre for Evidence Based Initiatives in Health Care: A collaborating centre of the Joanna Briggs Institute. Her teaching and research interests have focused on evidence based practice, patient safety, chronic disease management, cardiovascular disease and health in culturally and linguistically diverse communities.

Ritin has extensive experience in systematic reviews and meta-analysis, having published numerous reviews in the Cochrane Library and the Joanna Briggs database. Ritin is the recipient of an NHMRC grant and numerous other competitive grants. Ritin has published over 200 peer reviewed journal articles and is currently supervising 10 Research Higher Degree students.

Engaging nurses in evidence-based practice

Abstract: Following its formal introduction in 1992, Evidence-Based Practice (EBP) is a term that has been bandied around by health care professionals. The term started off in medicine as Evidence Based Medicine (EBM) and has rapidly spread to other disciplines. The basic philosophy underpinning EBP is that decision making in patient care should be based on the best available evidence and in consultation with the patient.

Numerous efforts have been made to implement to EBP in clinical practice including various models of EBP implementation, educational outreach visits, decision-support systems, mass media campaigns, audit and feedback, the use of local opinion leaders, and incentives and penalties. In addition, EBP has been included as an integral part of the undergraduate nursing programs. Likewise, there are numerous postgraduate EBP courses offered by universities and healthcare organisations.

This presentation will focus on a model developed to strengthen the incorporation of evidence into clinical practice by nurses.

Courtney FIELD



Courtney is a Senior Research Officer with Justice Health and Forensic Mental Health Network's Research and Evaluation Service. Prior to this, he was lecturer in criminology in the School of Law, Murdoch University in Western Australia, where he maintains an adjunct position.

His personal research focuses on the psycho-social impact of violent crime on victims with particular interest in the suitability of PTSD symptomology to explain victim outcomes. He is also interested in the impact on victims and offenders of restorative alternatives to the traditional criminal justice system.

Within his professional role, Courtney is keen to further Justice Health and Forensic Mental Health Network's research priorities. He is currently examining the experiences and health needs of older inmates and the challenges they pose for correctional health service providers and modern penological theory.

Health on the inside: Key findings from the Network Patient Health Survey of prisoners in NSW

Abstract: The Network Patient Health Survey (NPHS) is the largest and most comprehensive survey of prisoner health undertaken within a single jurisdiction anywhere in the world. The 2015 iteration represents the fourth in a series of studies spanning two decades. The NPHS provides a unique, and sometimes disturbing, glimpse into the health and well-being of prisoners in NSW.

Results indicate that prisoners experience far poorer health than those in the general community with a higher prevalence of chronic disease, mental illness, and disability. In addition, prisoners are more likely to report the misuse of alcohol as well as a range of other substances.

NPHS is an invaluable resource informing service provision at the Justice Health and Forensic Mental Health Network but it also constitutes a sought-after resource for scholars and professionals in the criminal justice and public health sectors.

Ian JACOBS



Professor Ian Jacobs has been President and Vice-Chancellor of UNSW since February 2015. Prior to this he was Vice-President, Dean, Faculty of Medical and Human Sciences and Director, Manchester Academic Health Science Centre (2011-2015).

Professor Jacobs has held a number of roles at University College London including Dean of Biomedical Sciences, Director of the Comprehensive Biomedical Research Centre at UCLH/UCL, Research Director UCL Partners Academic Health System and Director of UCL Institute for Women's Health. Previous to this, Professor Jacobs was Professor of Gynaecological Cancer at Queen Mary University of London.

Professor Jacobs is the Principal Investigator for the Cancer Research UK and Eve Appeal funded PROMISE (Prediction of Risk of Ovarian Malignancy Screening and Early Detection) programme and on several large multi-centre clinical trials including the UK Collaborative Trial of Ovarian Cancer Screening (involving 202,000 participants in 13 collaborating UK centres) and the UK Familial Ovarian Cancer Screening Study.

In 2005, Professor Jacobs established the Uganda Women's Health Initiative, which conducts a series of projects in Uganda including a cervical screening programme.

He has been President of the British Gynaecological Cancer Society and of the European Society of Gynaecological Oncology. He is Medical Advisor to the Eve Appeal charity (aka Gynaecology Cancer Research Fund) which he founded in 1985, a Patron of Safehands for Mothers, founder and non-Executive Director of Abcodia Ltd and patent holder of the ROCA (Risk of Ovarian Cancer Algorithm).

Since joining UNSW, Professor Jacobs has been made Honorary Senior Principal Research Fellow, Garvan Institute of Medical Research, a Director of Research Australia, Chair of Australian Conservation Foundation's Leadership Forum for Energy Transition, a member of Australian Research Council Impact and Engagement Steering Committee and is Lead Universities Australia Vice-Chancellor on Equity and Diversity.

Ovarian cancer screening in the general population

Background: The largest general population ovarian cancer (OC) screening trial (UKCTOCS) reported initial mortality data in December 2015. **Methods:** 202,638 post-menopausal women aged 50–74 years from 13 centres in the UK were randomised to: annual multi-modal screening (MMS) with serum CA125 interpreted with use of the risk of ovarian cancer algorithm; annual transvaginal ultrasound screening (USS); or no screening, in a 1:1:2 ratio. Exclusion criteria were previous bilateral oophorectomy or ovarian malignancy, increased risk of familial ovarian cancer, and active non-ovarian malignancy. **Findings:** At a median follow-up of 11.1 years OC was diagnosed in 1282 women of which 148 (0.29%) women in the MMS group, 154 (0.30%) in the USS group, and 347 (0.34%) in the no screening group died of OC. The primary analysis using a Cox proportional hazards model gave a mortality reduction over years 0–14 of 15% (95% CI –3 to 30; $p=0.10$) with MMS and 11% (–7 to 27; $p=0.21$) with USS. The Royston-Parmar flexible parametric model showed that in the MMS group, this mortality effect was made up of 8% (–20 to 31) in years 0–7 and 23% (1–46) in years 7–14, and in the USS group, of 2% (–27 to 26) in years 0–7 and 21% (–2 to 42) in years 7–14. A prespecified analysis of death from ovarian cancer of MMS versus no screening with exclusion of prevalent cases showed significantly different death rates ($p=0.021$), with an overall average mortality reduction of 20% (–2 to 40) and a reduction of 8% (–27 to 43) in years 0–7 and 28% (–3 to 49) in years 7–14 in favour of MMS. **Conclusions:** Although the mortality reduction was not significant in the primary analysis, there was a significant mortality reduction with MMS when prevalent cases were excluded. There was encouraging evidence of a mortality reduction in years 7–14, but further follow-up is needed before firm conclusions can be reached on the efficacy and cost effectiveness of OC screening.

Sradha KOTWAL



Dr Sradha Kotwal is a nephrologist with a specific background in epidemiology, biostatistics and the analysis of linked health data along with extensive experience in analysis of large observational registry and administrative datasets. This has allowed her to use linked health data to answer relevant clinical questions in chronic kidney disease. Her experiences include leadership of and designing projects using linked health data linking administrative and federal datasets to clinical registries. As a result of this experience, she has an in-depth understanding of the processes and procedures

required for appropriate access to such datasets in a way that protects patient privacy and confidentiality. She also has a track record of collaboration with national and international research leaders and institutions.

Acute kidney injury and eAlerts

Abstract: Acute kidney injury (AKI) is defined as the abrupt loss of kidney function, resulting in the retention of waste products and dysregulation of fluid status in the body. Patients that experience acute kidney injury have poor outcomes and a higher risk of death. International evidence using laboratory measurements from the USA and the UK estimate an incidence of 13-22% of AKI in hospitalised patients. The propensity to develop AKI increases with increasing age, but there has been limited measurement of this problem in an Australian context. The impacts of these important elements of AKI measurement and management have not been systematically explored in Australia. Standardised measurement of burden of AKI, the use of eAlerts for early identification and clinical pathways for the management of AKI are tools that may significantly impact upon the outcomes of patients with AKI.

Andrew LLOYD AM



Professor Andrew Lloyd AM is an infectious diseases physician and an epidemiology and immunology researcher at UNSW. He is a National Health and Medical Research Council Practitioner Fellow. He leads a research group studying epidemiological, clinical, and basic science aspects of hepatitis C infection, including a prospective cohort study recording transmissions, an innovative nurse-led model of hepatitis treatment, and a clinical trial of treatment-as-prevention – all in the prison setting. He was awarded an Australia Medal for his work in establishing the hepatitis service in prisons and for his research achievements in infectious diseases.

Hepatitis C elimination from Australian prisons

Abstract: Australia is in a unique situation worldwide in relation to the global hepatitis C (HCV) epidemic with the combination of:

- i) a large burden of chronic HCV infection, with approximately a quarter of a million individuals affected;
- ii) high existing rates of diagnosis (75%);
- iii) unrestricted, cost-free access to testing;
- iv) unrestricted, heavily subsidised access to the new, highly effective direct-acting antiviral (DAA) therapies, including cost-free access to prison inmates; and
- v) well-developed health infrastructure and evidence-based models of care for scale-up of DAA-based treatment in the correctional setting.

As approximately 5% of the HCV-infected population in Australia are incarcerated each year, a period of imprisonment offers the opportunity for curative therapy. This presentation will offer insights from the NSW prisons as to how the custodial sector can make a major contribution for Australia to the WHO HCV elimination goal.

James MACKIE



Dr Jim Mackie is a renal physician and the Medical Executive Director for South Eastern Sydney Local Health District. As a renal physician, he has had a particular interest in kidney transplantation, patient safety initiatives and service development, especially in the provision of dialysis services.

The medical executive director role is part of the District Executive Team with wide ranging responsibilities, which include strategies to improve medical engagement across the LHD. He is a contributor to the LHD patient safety program, “Towards Zero Together” which fits well with his executive sponsorship of the eMeds program and also its development and roll out across the LHD. The Medical Executive Directorate also leads the Service Rationalisation Project across the District and the Development of the LHD Research Strategy.

SESLHD Draft Strategic Plan

Abstract: This presentation will examine the Draft Strategic Plan for research for SESLHD including the rationale for development of the plan. The methodology for plan development will be described and the draft clinical plan will be presented in detail.

John MYBURGH AO



John Myburgh AO is Professor of Intensive Care Medicine, St George & Sutherland Clinical School, UNSW and Director of Critical Care, George Institute, Sydney. He has extensive experience, over 30 years, in all aspects of adult critical care and trauma in South Africa and in Australia since 1986.

Over the last 25 years, Professor Myburgh has established an international research profile in catecholamine physiology, traumatic brain injury, fluid resuscitation and conducted over 35 clinical trials in intensive care medicine. He has received cumulative funding of over \$63M since 1998 and published over 200 papers and 25 chapters. In addition, he has received 5 major research awards including 2 NHMRC Practitioner Fellowships. Professor Myburgh has delivered over 400 presentations, including over 50 plenary presentations at major scientific congresses. He is a Foundation Member and past Chairman of ANZICS Society Clinical Trials Group, and was listed on ANZICS Honour Roll in 2013. He is a council member of World Federation of Intensive Care Medicine and a Fellow of Australian Academy of Health and Medical Sciences. He has delivered extended service to education in critical care medicine over 25 years at undergraduate and postgraduate levels. He was instrumental in establishing the College of Intensive Care Medicine in 2010 and served as President from 2010-2012. In 2014, Professor Myburgh was made Officer of the Order of Australia for distinguished service to medicine as an intensive care practitioner, educator and researcher, and as an international innovator in patient management.

There is no such thing as a negative trial

Abstract: Research is a cornerstone of good clinical practice. The aim of research is to create knowledge to improve the health of people. Medicine is a living science, constantly evolving and it behoves clinicians to constantly challenge current and past treatments as humans continue to evolve and respond to changing and emerging health challenges. Clinical research underpins critical thinking so that patients who are treated in systems with a strong and vibrant research culture have better outcomes than patients who are not. Clinical research is a spectrum of activities – ranging from concept development, discovery, comparative effectiveness, implementation and translational priorities. Answering a research question requires careful consideration of the best methodology to minimise bias to produce the most accurate result.

A fundamental understanding of methods is essential to interpret the results of studies, particularly when these either accord or disagree with previous held beliefs. In this context, interpreting the results clinical trials needs consideration of the impact of the result on clinical practice – whether this improves patient outcomes through the application of the tested intervention, or by withholding potentially harmful or cost-ineffective interventions; or whether there is an overall effect on community health as a result of the adoption of the study results.

Too often, ‘positive’ trials are those that are considered to result in an increased return of investment for shareholders of commercial companies through the application of a new drug or device; while ‘negative’ trials are those where discernible differences in patient-centred outcomes are small or insignificant.

It is the latter group of trials, particularly in critical care medicine, that have had the greatest impact on public health and it is these trials that should be celebrated as research successes within the context of improving overall public health and creating new knowledge.

Chris PUPLICK AM



Chris Puplick is the Principal of Issus Solutions Pty Ltd, a private consultancy firm working primarily in the field of public health. He held public office as a Senator for New South Wales, a member of the Shadow Cabinet and statutory office as President of the NSW Anti-Discrimination Board; NSW Privacy Commissioner; Chair of the Central Sydney Area Health Service and Chair of the Australian National Council on AIDS, Hepatitis C and Related Diseases.

He has represented Australia internationally at meetings of the United Nations General Assembly Special Session on AIDS and the International Whaling Commission. He was the inaugural Chair of the National Film and Sound Archive and served previously on the Boards of NIDA and the Theatre Board of the Australia Council and is now Deputy Chair of the Advisory Committee of the National Archives of Australia. He is current chair of the Justice Health and Forensic Mental Health Network.

He has authored over 90 publications or broadcasts including five books. He was made a Member of the Order of Australia for services to social justice and the fight against HIV/AIDS.

Australian values – Inside and out

Abstract: During their period of incarceration most Australian prisoners will receive better health care than they are likely to receive at any other time in their lives.

What does this tell us about the values-system which prevail in Australia – what does it tell us about ourselves as Australians?

In exploring the challenges which health-service providers face within the corrections and forensic mental health systems ethical issues and issues about values and how they shape public policy can never be far from the centrality of the debate.

Lena SUCCAR



Dr Lena Succar is a post-doctoral research fellow at Prince of Wales Clinical School, UNSW commencing in 2012. Based at the Australian Kidney Biomarker Reference Laboratory, headed by Professor Endre, her research work involves utilising experimental models of acute on chronic kidney injury to profile biomarkers of kidney damage and pathogenesis. Lena is also appointed on the CRE QLD clinical trial as the scientist for validation of biomarkers profiles in patient samples. Lena is involved in supervising medical students undertaking research projects within the laboratory. Lena's post-

doctoral work is an extension of her established research in kidney research, following her PhD from the The University of Sydney through the Centre for Transplant and Renal Research, at Westmead Hospital. Lena hopes that her research will contribute to the future development of methods for early detection of kidney injury in subclinical CKD.

Subclinical chronic kidney disease modifies diagnosis of acute kidney injury

Abstract: Subclinical chronic kidney disease (CKD) often goes undetected until the patient has progressed to advanced kidney damage. Currently an increase in serum creatinine (sCr) is the gold standard method used to routinely diagnose kidney disease clinically. Interestingly, patients with subclinical CKD are at great risk of developing acute kidney injury (AKI) than those with normal renal function, likewise, patients who develop AKI are at risk of developing CKD. Over the past two decades, urinary biomarkers of kidney damage have emerged as sensitive markers of kidney damage, particularly in the absence of a rise in sCr. We recently conducted a study using experimental rodent model acute on CKD and hypothesised that subclinical CKD modifies both functional and damage AKI biomarker profiles. CKD was induced in rodents with adenine (adenine-CKD) or aristolochic acid (AA-CKD) without increasing sCr. AKI was induced with a subnephrotoxic dose of cisplatin and biomarker profiles assessed. The biomarkers measured were, urinary Kidney injury molecule-1 (KIM-1), cytochrome C, monocyte chemotactic protein-1 (MCP-1), clusterin and interleukin-18 (IL-18). During the development phase of CKD, all biomarkers increased, without increases in sCr. After AKI in adenine-CKD, KIM-1, clusterin and MCP-1 increases were delayed and reduced. Increases in sCr were associated with diffuse tubulointerstitial injury in the outer strip of outer medulla coupled with >50% cortical damage. After AKI induction to AA-CKD, urinary KIM-1, clusterin, MCP-1, cytochrome C and IL-18 level increases exceeded controls and rose higher with earlier AKI induction on day 21 versus day 42. Subclinical CKD modified functional and damage AKI biomarker profiles in diametrically opposite ways. Functional biomarker profiles were more sensitive, while damage biomarker diagnostic thresholds and rise rates were diminished and delayed, with concentrations inversely linked with prior damage. In conclusion, AKI biomarker panels are modified by context including subclinical CKD.

Kenneth YONG



Dr Kenneth Yong is a nephrologist with specific interests in cardiovascular disease and renal transplantation. He is currently completing a PhD which examines the relationship between inflammation and surrogate cardiovascular risk markers in chronic kidney disease patients. His work has been presented at several national and international meetings. This has included being a finalist for the Kidney Health Australia Clinical Science Award at the joint Australia/New Zealand Annual Scientific meeting and Asia Pacific Congress of Nephrology in Perth, September 2016 and also

the Young Investigator Award at the 2010 Annual Scientific Meeting for the Transplant Society of Australia/New Zealand.

Overview of cardiovascular disease in chronic kidney disease

Abstract: Patients with chronic kidney disease (CKD) are at a very high risk of death due to cardiovascular (CVD) causes, such as heart disease and stroke, compared to the general population.

In Australia and around the world, CVD is the leading cause of death in CKD patients which is now well known to often be more severe and occur more commonly in comparison to people with normal kidney function.

In addition, the very nature of CVD in CKD patients appears to be very different to that seen in the general population. This appears to be related, in part, to the presence of pre-existing traditional risk factors (blood pressure and diabetes) and novel risk factors such as inflammation which appear to be of increased relevance.

This overview aims to summarise the complex biomechanisms underlying CVD in patients with CKD.

Official Guest Speakers and Session Chairs

Terry CAMPBELL AM



Professor Terry Campbell AM BSc (Med) MBBS MD UNSW DPhil Oxon FRACP FACC is Deputy Dean, UNSW Medicine. He is Past President of the Cardiac Society of Australia and New Zealand and served as the Chair of the Therapeutics Advisory Committee of the Royal Australian College of Physicians from 1996 to 2000. He also served as a Director of the New South Wales Division of the National Heart Foundation and was the Honorary Secretary/Treasurer of the XIV World Congress of Cardiology in 2002. Professor Campbell obtained his BSc (Med) MBBS from UNSW, undertaking clinical student training at Prince

Henry Hospital, Royal Hospital for Women and Sydney Children's Hospital. He completed postgraduate training in Internal Medicine and Cardiology at St Vincent's Hospital and completed a Nuffield Fellowship in Cardiac Pharmacology at Oxford University. His extensive research work has encompassed both basic laboratory research and clinical cardiology. His laboratory research includes cardiac electrophysiology and pharmacology, using patch-clamp methods to study individual cardiac ion channels and their modulation by drugs and more recently, their structure-function relationships. His clinical research activities have been related to drug therapy for arrhythmias, heart failure and ischaemic heart disease.

Gerry MARR OBE



Gerry Marr OBE is the Chief Executive of South Eastern Sydney Local Health District, taking up the position in February 2014. Prior to this position, Gerry held Senior Executive roles over the past thirteen years, with the National Health Service (NHS) Tayside, firstly as Chief Executive Tayside University Hospitals Trust, then Chief Operating Officer/Deputy Chief Executive Officer, NHS Tayside and then Chief Executive from 2010 until 2013. In his role as Chief Executive, NHS Tayside, Gerry was responsible for an operating budget of \$1.6b, 14,000 staff and the provision of community through to tertiary level

services – including neurosciences and specialist cancer services - for a population of over 400,000 people. Facing performance challenges when Gerry took up the role of Chief Executive, NHS Tayside is now seen as one of the top performing NHS Boards in Scotland. Prior to his time at NHS Tayside, Gerry held senior roles in system performance and human resources management with the NHS Scotland Department of Health and senior management roles at major tertiary hospitals, including Yorkhill Hospitals NHS Trust in Glasgow and the Women and Children Services, Greater Glasgow Health Board. With qualifications in nursing and education, Gerry has been a passionate advocate for quality in health care delivery. He has led the implementation of a range of quality programs within the Scottish health system in partnership with The Institute of Healthcare Improvement based in Boston, was a non-executive Board member, Healthcare Improvement Scotland, and is an international guest speaker on the topic of quality and safety.

Michael STILL



Michael Still has enjoyed a 30 year career in investment banking, corporate finance, equity investment and infrastructure in Australia and globally. As well as being engaged in a broad range banking and business roles including M&A, reconstruction and corporate advisory, he has been responsible for the leadership of infrastructure and property companies and for projects of many types. These have included large-scale urban renewal, public private partnerships for social infrastructures as well as major economic infrastructures. He has significant experience in project and long term financing and direct ownership. Over a long period Michael has advised governments, offshore corporates and investment funds on strategic matters and ownership and financing issues across many industries and asset types. He brings to bear significant experience in dealing with equity investors and debt financiers globally. Michael is Chairman of the South Eastern Sydney Local Health District, is a Committee Member of the NSW Government's Medical Devices Fund Expert Group and is a member of the Advisory Council to the NSW Minister for Health and Medical Research. He is also a director of the Silverchain Group and the Silverchain Foundation. He holds a Masters in Business Administration from the Macquarie Graduate School of Management.

Notes

Health Science Alliance Partners



BLACK DOG INSTITUTE

Black Dog Institute



South Eastern Area Laboratory Services



Children's Cancer Institute



South Eastern Sydney Local Health District



Eastern Heart Clinic



Southern Radiology



Neuroscience Research Australia



Sydney Children's Hospital



Prince of Wales Hospital



Translational Cancer Research Network



Prince of Wales Private Hospital



UNSW Medicine



Royal Hospital for Women



UTS Faculty of Health

Collaborators

UNSW Business School
National Drug and Alcohol Research Centre, UNSW

website: thehealthsciencealliance.org

The logo for The Health-Science Alliance features the organization's name in a blue, cursive script. Below the name, the words 'SYDNEY • AUSTRALIA' are written in a smaller, red, sans-serif font.

The Health-Science Alliance
SYDNEY • AUSTRALIA

Our Logo

If the elimination of suffering were the measure of greatness, there'd be no Australian greater than Howard Florey. He and his team, in their painstaking development of penicillin, are testimony to the power of alliance between medical scientists and clinicians – hence our insignia, 'penned' in Howard Florey's hand.

We thank Professor Charles Florey for providing examples of his father's handwriting.

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