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The Victorian Renal Clinical Network (VRCN) was established in December 2007. The network was established to take a ‘whole of Victoria’ approach to enhance renal health care in Victoria.

The VRCN aims to achieve this by:

- providing a focus on prevention of illness and injury and maintenance of renal health
- promoting system integration across structural boundaries
- encouraging collaborative approaches to renal service development
- improving the delivery of sustainable renal health services in Victoria.

The role of the VRCN includes:

- providing strategic direction and commitment to advancing quality safe patient care and effectiveness of interventions
- driving best practice by providing clinical leadership and influence to improve clinical care and service delivery
- reducing unwarranted variation in care by providing advice on the development and adoption of evidence based practices
- clinical advice and influence by building health service relationships and intra and inter-network relationships
- measuring clinical performance by developing and monitoring performance indicators in areas of network related activities
- system-wide service development by supporting systems and work practices that improve clinical expertise and encourage best use of both physical and intellectual resources
- workforce development by supporting clinical workforce education and training.

The VRCN is supported by a clinical lead, manager and a leadership group. Further information on the VRCN is available at https://www2.health.vic.gov.au/hospitals-and-health-services/quality-safety-service/clinical-networks/clinical-network-renal

The VRCN has the pleasure of hosting the Victorian Renal Clinical Network: Innovation, Collaboration & Sustainability Conference 2016, and commend this abstract book to you.
## Conference program

*The program includes links to speakers*

### 8:00 – 9:00  
Registration  
Tea and coffee on arrival

| 9:00 – 9:15  | Welcome address  | **Steve Holt**, VRCN Chair and Clinical Lead |

### Plenary session 1 – Chair: Steve Holt, VRCN Chair and Clinical Lead

| 9:15 – 9:45  | Safety and quality in healthcare delivery: it’s everyone’s responsibility  | **Terry Symonds**, Deputy Secretary, Health Service Performance and Programs, Department of Health and Human Services |
| 9:45 – 10:15  | Safety and quality in healthcare delivery: CMO perspective  | **Andrew Wilson**, Chief Medical Officer, Quality and Safety, Department of Health and Human Services |

### 10:45 – 11:15  
Morning tea and networking

### Concurrent sessions

| Concurrent session 1 (Room 109):  
Chair: Frank Ierino, St Vincent’s Health  | Concurrent session 2 (Room 110):  
Chair: Katherine Barraclough, Melbourne Health |

| 11:35 – 11:55  | How renal services at a tertiary metropolitan hospital are delivering advance care planning to the home – Caroline Scott, St Vincent’s Health  | Going green in the dialysis unit – Victoria Somers, Monash Health |

### 12:15 – 1:15  
Lunch and networking

### Concurrent sessions

| Concurrent session 3 (Room 109):  
Chair: Rowan Walker, Alfred Health  | Concurrent session 4 (Room 110):  
Chair: Chris Holmes, Bendigo Health  | Concurrent session 5 (Rooms 111–112):  
Workshop: Ian McBurney, Live ecoLogical |

| 1:35 – 1:55  | Live donor transplantation rates – Peter Hughes, Melbourne Health  | Solutions to improve upper gastrointestinal symptoms in CKD – Karen Manley, Austin Health  |
| 2:15 – 2:35  | Innovation in tissue typing – Rhonda Holdsworth, Australian Red Cross Blood Service  | How many clinical pharmacists does it take to stock a haemodialysis unit? – Dalia Krumins, Northern Health  |

### 2:35 – 3:00  
Afternoon tea and networking

### Plenary session 2 – Chair: Peter Kerr, Monash Health

| 3:00 – 3:30  | Renal key performance indicator (KPI) program  | **David Power**, Director of Nephrology, Austin Health |
| 3:30 – 4:00  | Environmental sustainability – global importance  | **Ian McBurney**, Sustainability speaker, facilitator, MC, educator and author, Live ecoLogical |
| 4:00 – 4:30  | An exploration of hospital sustainability: one doctor’s journey  | **Forbes McGain**, Anaesthetist and Intensive Care Physician, Western Health |
| 4:30 – 4:50  | Network address and closing  | **Anna Burgess**, Director, Clinical Networks and Cancer and Specialty Programs, Department of Health and Human Services |

### 4:50  
Conference close

An abstract book with speaker bios is available on the Victorian Renal Clinical Network website.
Ms Anna Burgess
Director, Clinical Networks and Cancer and Specialty Programs, Department of Health and Human Services

Biography
Anna Burgess is currently the director of the Clinical Networks and Cancer and Specialty Programs Branch at the Department of Health and Human Services. She has worked in the Victorian health system since 1987 in several health services and more recently in a range of roles at the department.

Dr Paul Champion de Crespigny
Nephrologist and Lead Physician for Acute Nephrology, Melbourne Health

Biography
Paul Champion de Crespigny is a nephrologist and lead physician for acute nephrology at the Royal Melbourne Hospital and an obstetric physician at the Royal Women’s Hospital in Melbourne. Paul has been actively involved in the cultural change program and safety issues at the Royal Melbourne Hospital over the past two years. He has an active medicolegal practice and has been appointed by the Governor in Council to Medical Panels since 2007.

Paul has longstanding clinical interests in general and interventional nephrology, obstetric medicine and the management of renal disease in pregnancy.

Network address and closing

Culture change: ‘watch my back’ and ‘mutual respect’ – words or actions?
Prof. Steve Holt
Victorian Renal Clinical Network
Chair and Clinical Lead, Director of Nephrology and Lead Physician for Peritoneal Dialysis, Melbourne Health, BSc, MBBS, PhD, FRCP, FRACP

Welcome address

Biography
Steve Holt qualified in medicine from the Middlesex and University College hospitals in London after completing a degree in biochemistry. He did much of his renal training in London, which included a Medical Research Council (UK) training fellowship examining the effects of oxidant injury on renal function, specifically caused by haem proteins or liver disease.

From 2001 to 2010 he was a consultant nephrologist, honorary senior lecturer and clinical director of the Clinical Investigation and Research Unit at the Brighton and Sussex University Hospital and Brighton and Sussex Medical School, UK.

In 2010 Steve moved to Australia to be a consultant nephrologist and clinical professor at Eastern Health and Monash University.

Since 2013 he has been the director of nephrology and clinical professor at the Royal Melbourne Hospital and the University of Melbourne.

Steve has authored numerous peer-reviewed articles and several book chapters and has co-authored a number of international guidelines. He has chaired the Victorian Renal Clinical Network since 2016.

Mr Ian McBurney
Sustainability speaker, facilitator, MC, educator and author, Live ecoLogical

Environmental sustainability – global importance

Biography
Ian McBurney is an ecological sustainability practitioner who has inspired and enabled tens of thousands in business, manufacturing, government, schools and communities to move towards a better future. He believes passionately that at this time in history when every natural system is in decline it is people and therefore culture change that will gift us a sustainable society. That society will be better for us in nearly every way. We’ll be more local and connected, happier, healthier, more profitable and more proud of who we are.

For 15 years Ian McBurney has delivered successful workplace culture change programs with business, manufacturing, local government, small business and communities, always drawing on the latest in neuroscience, environmental education, community development and culture change principles. His fast-paced and inspiring talk promises to be a journey through the complex web of human behaviour, learning and change practice.
An exploration of hospital sustainability: one doctor’s journey

**Biography**
Forbes McGain is an anaesthetist and intensive care physician at Western Health, Melbourne. He completed a PhD in 2016 through the University of Melbourne, Nossal Institute for Global Health studying hospital sustainability within the operating suite and intensive care unit. Forbes remains passionate about making seemingly small sustainability changes to how we practice medicine that become magnified through every nations hospitals.

Renal key performance indicator (KPI) program

**Biography**
David Power is a professor of renal medicine and director of nephrology and Austin and Repatriation Medical Centre, Heidelberg. He is also a professorial fellow at the University of Melbourne and was previously deputy director of nephrology at St Vincent’s Hospital Melbourne. Trained in nephrology in the UK and Australia, David holds an MBBS from the University of Western Australia and MD and PhD degrees from the universities of Aberdeen and Melbourne, respectively. The recipient of multiple competitive research grants from the Medical Research Council (UK) and the National Health and Medical Research Council (Australia), David has authored more than 150 peer-reviewed scientific publications.
Mr Terry Symonds  
Deputy Secretary, Health Service Performance and Programs, Department of Health and Human Services  

Safety and quality in healthcare delivery: it’s everyone’s responsibility

Biography  
Terry Symonds heads the Health Service Performance and Programs division of the Department of Health and Human Services, Victoria, which is responsible for the department’s stewardship role of the Victorian healthcare system. The division has lead responsibility for the funding, planning, governance and oversight of health services to ensure they meet the needs of all Victorians. The division holds policy and program responsibilities related to quality and safety, rural health, mental health and cancer care, as well as clinical networks and councils.

The division works closely with other parts of government and key providers in aged care, community health and primary care to improve access and outcomes for the Victorian community. Terry has more than 20 years of experience in the health and disability sectors in Victoria and Queensland, including in community development, hospital management, research and evaluation, strategy and performance monitoring.

Terry holds a Master of Health Studies (UQ) and postgraduate qualifications in health promotion and prevention.

A/Prof. Andrew Wilson  
Chief Medical Officer, Quality and Safety, Health Service Performance and Programs, Department of Health and Human Services  

Safety and quality in healthcare delivery: CMO perspective

Biography  
Andrew Wilson trained in medicine and cardiology at St Vincent’s Hospital before completing a PhD in atherosclerosis research at the University of Melbourne. He completed a vascular postdoctoral fellowship at Stanford University in the United States and has published widely on atherosclerotic disease.

Andrew’s clinical interests are in all areas of interventional cardiology and assessment and therapy of cardiovascular risk, particularly in high-risk patients such as those with insulin resistance, renal disease and peripheral arterial disease. Andrew is a principle research fellow at the University of Melbourne and a cardiologist at St Vincent’s Hospital Melbourne. He formerly held the position of clinical lead of the Cardiac Clinical Network and has recently been appointed Chief Medical Officer at the Department of Health and Human Services.
Dr Katherine Barraclough  
Nephrologist, Melbourne Health

A/Prof. Chris Holmes  
Director of Nephrology, Bendigo Health

Biography
Katherine Barraclough is a consultant nephrologist at the Royal Melbourne Hospital in Melbourne. She graduated from Monash University in 2001 and was admitted as a fellow of the Royal Australian College of Physicians in 2008. Her nephrology training included six months at The Alfred (Melbourne), 12 months at Vancouver General Hospital, six months at the All India Institute of Medical Sciences (New Delhi) and 12 months at the Princess Alexandra Hospital (Brisbane). She subsequently completed a PhD through the University of Queensland (2012), undertaking clinical research examining pharmacogenetic, pharmacokinetic and pharmacodynamic monitoring of immunosuppressive therapy in adult kidney transplant recipients. Her primary research interests include individualisation of immunosuppression in kidney transplantation, Indigenous Australian renal health and disease and environmental sustainability within the healthcare system. She is the current chair of the Victorian Nephrology Environmental Sustainability Special Interest Group and a committee member of the Victorian branch for Doctors for the Environment. She is also a member of the Australian Kidney Trials Network Transplant Working Group and councillor for the Australian New Zealand Society of Nephrology.

Biography
Chris Holmes is the director of nephrology at Bendigo Health. He is a graduate of the University of Melbourne and completed training in general medicine, intensive care medicine and nephrology at the Alfred and Austin hospitals in Melbourne prior to moving to Bendigo in 1999 to help develop an independent nephrology service. Chris has a key role in the development of undergraduate medical education in Bendigo and is the director of Monash Rural Health – Bendigo, supervising more than 100 medical students from both the University of Melbourne and Monash University. Chris has had extensive experience in the development of hub renal services in rural areas and is the rural representative on the Victorian Renal Clinical Health Network Leadership Group. His research interests include lipid disorders in renal transplant patients and haemoglobin management in dialysis patients, and the innovative delivery of clinical services to isolated areas.
Prof. Steve Holt
Victorian Renal Clinical Network
Chair and Clinical Lead, Director of Nephrology and Lead Physician for Peritoneal Dialysis, Melbourne Health, BSc, MBBS, PhD, FRCP, FRACP

Biography
Steve Holt qualified in medicine from the Middlesex and University College hospitals in London after completing a degree in biochemistry. He did much of his renal training in London, which included a Medical Research Council (UK) training fellowship examining the effects of oxidant injury on renal function, specifically caused by haem proteins or liver disease.

From 2001 to 2010 he was a consultant nephrologist, honorary senior lecturer and clinical director of the Clinical Investigation and Research Unit at the Brighton and Sussex University Hospital and Brighton and Sussex Medical School, UK.

In 2010 Steve moved to Australia to be a consultant nephrologist and clinical professor at Eastern Health and Monash University.

Since 2013 he has been the director of nephrology and clinical professor at the Royal Melbourne Hospital and the University of Melbourne.

Steve has authored numerous peer-reviewed articles and several book chapters and has co-authored a number of international guidelines. He has chaired the Victorian Renal Clinical Network since 2016.

Prof. Francesco Ierino
Director of Nephrology, St Vincent’s Health

Biography
Frank Ierino is the director of nephrology at St Vincent’s Health, with clinical, scientific research and teaching interests. A major focus of his work in transplantation has been in immune tolerance, immunobiology of the allograft response and xenotransplantation.

Cardiovascular disease in chronic kidney disease is a further area of clinical and laboratory research focus.

Frank currently supervises PhD students in both transplantation and cardiovascular disease and has been invited on multiple scientific and advisory committees, including past president of the Transplantation Society of Australia and New Zealand. He is a member of the Scientific Program and Education Committee (SPEC) of the Australia and New Zealand Society of Nephrology and chair of the Tolerance Working Group of the Transplantation Society of Australia and New Zealand. His teaching commitment has been acknowledged by the award of a Fellowship of the Academy of Clinical Teachers by the University of Melbourne Medical School.
Biography

Peter Kerr is the director of nephrology at Monash Medical Centre. With academic qualifications from Monash University and the Royal Australasian College of Physicians, Peter has been with the Monash Health nephrology department since 1994.

Peter is also an Executive Member of Council of the International Society of Nephrology, a council member of the Asian-Pacific Society of Nephrology and editor-in-chief of the journal Nephrology. He is active in many areas of clinical research, most specifically haemodialysis.

Biography

Rowan Walker is currently director of renal medicine at The Alfred hospital in Melbourne, program director for cancer and medical specialties at Alfred Health and an adjunct professor of medicine at Monash University. He has been involved in numerous clinical trials in chronic kidney disease including dialysis and kidney transplantation. His other major interests currently are evidence-based medicine, clinical practice guideline development and implementation, quality improvement processes and the role of registries in clinical research.

Rowan has authorship/co-authorship on more than 250 publications. He is the immediate past president of the Australian and New Zealand Society of Nephrology and immediate past chair of the Victorian Renal Clinical Network (VRCN). He is currently chair of both the VRCN Transplant Working Group and Victorian Tasmanian Transplant Advisory Committee (VTTAC).
Abstract: The future potential for plastic recycling in dialysis services

Background
Healthcare traditionally focuses on ensuring optimum service delivery and outcomes. On the flip side, the waste created from the consumables that facilitate that service is commonly ignored. Nothing illustrates the dimension of resource consumption and the huge infectious plastic waste (iPW) generation per patient better than maintenance dialysis.¹

A back-of-an-envelope calculation attests to the overall dialysis iPW that goes to landfill or incineration:
- ~10,000 HD pts and ~2,500 PD pts (Australia)
- iPW created/treatment: HD ~2.5 kg and PD ~1.3 kg
- annual national iPW production: HD = 2.5 × 156 treatments/year × 10,000 = 3.9 × 10⁶ kg; PD = 1.3 × 365 treatments/year × 2,500 = 1.2 × 10⁶ kg
- annual national total = 51,000 tonnes
- at ~25 per cent national total, Victoria = ~12,750 tonnes.

iPW can be added to molten bitumen (ratio 1:10) to produce road surfacing with higher binding strength, heat/cold tolerance and improved durability compared with standard surfacing,² or can be added to low-tensile concrete for construction use.³

Aims
- To cooperatively develop pathways with industry for iPW re-use.
- To consider collocation of and reimbursement for consumable delivery and iPW collection.
- To centralise iPW sterilisation processing and sorting.
- To develop sustainable re-use options, with a likely focus on construction industries.

Key messages:
- Dialysis iPW currently remains untreated, infectious and completely wasted.
- Strategic imagination should create sustainable pathways for iPW re-use.
- Unsterilised iPW buried as landfill should no longer be an option.

Conclusion
Burying iPW in landfill is thoughtless, but ‘burying’ it in construction material offers a sustainable solution.

Ms Susan Fisher
Renal Transplant Outpatient Pharmacist,
The Royal Melbourne Hospital

Biography
Susan Fisher has been a clinical pharmacist since 1999. She gained her Master of Clinical Pharmacy in 2008, followed by several years of experience in outreach pharmacy where she worked with general medical patients to improve medication management and adherence. She also has experience in lung transplantation and HIV medicine.

Susan is now working as the renal transplant outpatient pharmacist at the Royal Melbourne Hospital, a role that was newly created by the pharmacy and nephrology departments 12 months ago. She works with nephrologists and renal transplant patients in the outpatient clinic to help optimise medication use.

Abstract: A qualitative review of medication errors made by new kidney transplant recipients

Co-authors
Michelle Nalder, Senior Renal Pharmacist, The Royal Melbourne Hospital
Steve Holt, Nephrologist, Director of Nephrology, The Royal Melbourne Hospital
Peter Hughes, Nephrologist, Physician in Charge of Transplantation, The Royal Melbourne Hospital

Background
After kidney transplantation, patients follow a complex and frequently changing medication regimen. Non-adherence to the prescribed regimen is associated with increased rates of rejection and graft loss, but detecting patients who make errors can be difficult. To assist with improving medication management in this group, the renal transplant outpatient pharmacist (RTOP) role was established.

Aims
To identify the rate and types of medication administration errors made by patients after renal transplantation, to explore reasons for errors, identify predictors for errors and develop strategies to promote patient adherence.

Methods
The RTOP reviewed all new kidney transplant patients in clinic post-discharge between 1 July 2015 and 2 March 2016, providing medication education and early identification of medication errors. Medication administration errors were routinely recorded in the nephrology patient database (Nephworks). Records were then reviewed retrospectively to identify and characterise the patients and errors.

Results
A total of 84 patients were reviewed by the RTOP during the study period. Of concern, 35 patients (41.7 per cent) made at least one error, with 71 errors being detected overall. Notably 22 patients (26.2 per cent) made errors with immunosuppressants.

No obvious predictors were identified because the demographics were similar in patients who made errors and those who did not.

Conclusion
Medication errors were common in the early post-transplant period, but no predictors were found to identify who will make them. These results highlight the importance of the RTOP routinely reviewing all new transplant patients to identify medication errors and providing close follow-up to prevent their recurrence.
Ms Simone Gleeson
REAP Project Manager, Eastern Health

Biography
Simone Gleeson has spent more than 15 years working in projects aiming to improve the primary and secondary healthcare sectors. A keen advocate for improving the health and wellbeing of individuals and communities, Simone has developed skills and experience in stakeholder engagement, service improvement and project management at the strategic, regional and local levels.

Abstract: The Victorian framework for continuing renal patient education

Background
The Victorian Renal Clinical Network Leadership Group approved funding to develop a framework and process for delivering and evaluating effective renal patient education.

Aims
To provide an update on the development of a:
- Victorian framework for continuing renal patient education
- process for evaluating the effectiveness of this education.

Key messages
The Renal Education Advancement Project (REAP) Work Group has designed a framework that is about to undergo stakeholder consultation. The framework includes:
- key principles to underpin patient education:
  - (1) access and equity
  - (2) quality and safety
  - (3) person-centred and fostering a partnership in care
  - (4) timely, continuing and holistic
  - (5) action-oriented and supporting positive lifestyle change
- a set of recommendations for health professionals on consistent delivery of effective patient education that encompass:
  - treatment options
  - ongoing education and self-care
  - key elements of delivery and content
- standards to apply the principles and recommendations to everyday practice.

To assist implementation, the framework will be supported by:
- a patient syllabus detailing key topics for patient education
- a health professional’s resource toolkit offering:
  - a shortlist of recommended patient resources
  - a patient education pathway prompting recommended milestones and processes
  - an education checklist indicating minimum education content for treatment option decision making
  - a screening tool for decisional conflict – such as the SURE questionnaire.

A process for evaluating education is currently being explored including:
- a revised ‘key performance indicator-1’ for education that acknowledges all treatment options
- key measures of content, recurrence and timing of education delivered
- patient-reported experience measures of education received.

Conclusion
REAP is a collaboration to improve the education of patients by creating an innovative and sustainable statewide approach to its delivery and evaluation.
Ms Rhonda Holdsworth
National Manager, Transplantation and Immunogenetics, Australian Red Cross Blood Service

Abstract: Innovation in tissue typing for solid organ transplantation

Background
There have been significant scientific and technological advances in the field of tissue typing over the past decade both in human leukocyte antigen (HLA) typing and HLA antibody identification.

Aims
Minor changes in the nucleotide sequence of HLA alleles can be immunologically significant, and HLA alloantibodies can be identified to epitope level. The introduction of real-time polymerase chain reaction (PCR) technology has enabled routine identification of six loci for deceased organ donors, enabling detailed analysis of donor-specific antibodies for organ allocation. HLA antibody detection with solid phase assays (Luminex™) has provided complete characterisation of HLA antibodies across all loci. Luminex assays have enabled HLA class 1 and class 2 antibodies to be identified at the allele/epitope level.

Key messages
The implementation of DNA sequence-based typing protocols has enhanced the resolution of HLA antigens to the allele level, characterising thousands of new HLA alleles. The assessment of donor-specific antibodies is now focused on the immunological targets, which has changed the focus from matching to immunological compatibility. HLA epitope analysis theoretically predicts likelihood of antibody development – a potential matching algorithm that limits HLA sensitisation in younger patients.

Conclusion
These developments have provided powerful tools to assess compatibility in donors and recipients for transplantation.
A/Prof. Peter Hughes
Associate Professor, Melbourne Health

Abstract: Live donor transplantation rates

Background
Rates of deceased donor transplantation have progressively increased in Australia over recent years. However, over the same period of time rates of live donor transplantation have fallen, lessening the increase in overall transplantation rates. Similar reductions in live donor transplantation have been observed in other countries; however, the rate in Australia varies between regions.

Aims
This presentation will review the data supporting the use of live donors for kidney transplantation. It will compare the data regarding live donor rates in Australia with other countries and review the potential reasons for the decline in live donor rates. Discussion will include the metrics that can be followed to monitor the rates of live and deceased donor transplantation to allow comparison between centres and regions. Measurement and monitoring to understand the reasons underlying any change in live donor rates will be discussed. These metrics can also help to determine whether there are differences in the characteristics of the waiting lists or unit practice that might influence these rates. Potential strategies to increase live donor rates will also be discussed.

Key messages and conclusions
Live donor rates have declined, although this varies between regions. An understanding of the potential underlying reasons allows discussion of strategies to monitor and improve live donor rates, potentially leading to: reduced variation between centres; improved transplantation rates and patient outcomes; improved quality and safety; and a better patient experience.

Biography
Peter Hughes has held the position of physician in charge of kidney transplantation at the Royal Melbourne Hospital since 2012 and is an associate professor in the Department of Medicine at the University of Melbourne. He obtained his PhD working in the biology of cell death and its role in immunology at the Walter and Elisa Hall Institute and the University of Melbourne. His ongoing research interests include the transplantation of sensitised patients, ABO-incompatible transplantation, kidney transplant allocation, monitoring immunosuppression and immune function, non-invasive transplant monitoring and mechanisms of acute kidney injury.
Abstract: Innovation in pancreas transplantation

Background
Australia has two national pancreas transplant units for solid organ transplantation – one at Westmead Hospital in Sydney and the other at Monash Medical Centre in Melbourne. Solid organ pancreas transplantation began in the 1980s and has evolved along similar lines to the experience in other countries. The total number of procedures performed is small by some international standards (approximately 700), the vast majority as simultaneous pancreas-kidney (SPK) transplants. Islet transplants are also performed in Australia (although less than 100 since 2002).

Aim
To update participants on the current status of pancreas transplantation in Australia.

Key messages
Characteristics of the Australian solid organ pancreas transplant program include: (1) geographic challenges with two east coast transplant centres servicing the entire country; (2) prioritised allocation of kidney with pancreas when organs are suitable; (3) predominance of the SPK procedure and extremely few pancreas after kidney (PAK) or pancreas transplant alone (PTA) procedures; (4) tight selection criteria for recipients (largely under 50 years old); and (5) strict, but possibly inconsistently applied selection criteria for donors. No specific scoring system is applied; the two units assess donor suitability on a case-by-case basis.

Conclusion
In Australia a model for solid-organ pancreas transplantation has evolved that meets the nation’s unique challenges. The procedure is well established and continues to be required despite the promise of newer technologies on the horizon.
Ms Daila Krumins
Renal Outpatient / Dialysis and Clinical Trials Pharmacist, Northern Health

Biography
Daila Krumins has worked at Northern Health as the renal outpatient / dialysis pharmacist for three years. Prior to this she worked at Alfred Health and Wollongong Hospital in renal, outpatient and clinical trial roles.

Daila has a strong focus on patient care, particularly in providing education to patients on a level that is meaningful to the individual. She is also dedicated to finding innovative ways to improve efficiency and to reduce costs and wastage in the provision of medications to dialysis units.

Abstract: How many clinical pharmacists does it take to stock a haemodialysis unit?

Co-author
Janette Parsons, Renal Pharmacy Technician, Northern Health

Background
Haemodialysis is a resource- and labour-intensive process. There are currently 130 satellite haemodialysis patients across three Northern Health (NH) sites. The previous coordination of supply of routine dialysis medications to these patients was heavily reliant on clinical pharmacists. The addition of a pharmacy technician role to the service in 2015 at 0.2 EFT was evaluated as a means to improve efficiency and reduce overall costs. The overarching goal was to improve logistical efficiency and clinical service capacity in this high-demand service area.

Aim
To evaluate the time and cost of providing a pharmacy dispensing service to renal dialysis units.

Methods
Data was collected to calculate the overall cost and time demand of coordinating medication supply to the 130 patients across NH haemodialysis satellites. Key data points examined were the ordering and dispensing time, number of scripts processed, and actual cost savings.

Results
The cost of medications supplied to dialysis units in a 12-month period exceeds $500,000, with more than 1,500 prescriptions being processed. This process takes an estimated 16–20 hours per week. Through judicious redispensing of high-cost drugs, a significant reduction in drug wastage was achieved to a value of over $150,000.

Discussion
By shifting the medication supply logistics from the renal pharmacist to a technician, two notable benefits occur: (1) more cost effective use of workforce; and (2) additional time for the pharmacist to perform clinical rather than logistical duties. The payoff is in improved patient clinical care while maintaining the current level of logistical service.

Conclusion
The addition of a pharmacy technician to the Renal Dialysis Service has increased the capacity of this growing area of demand while also improving the operational efficiency of the service. In order to develop an economically sustainable workforce model that allows the delivery of a high level of clinical care provision, a further increase in the EFT for the pharmacist technician is the next logical step. Further evaluation of the improved clinical outcomes from the higher level of clinical pharmacist intervention will be undertaken in the coming months.
Ms Karen Manley
Clinical Specialist Renal Dietitian, Austin Health, BSc, MHN, Dip Ed, Dip of Dietetics.

Abstract: Solutions to improve upper gastrointestinal symptoms in chronic kidney disease

Background
Uraemic symptoms including taste changes, nausea and dry retching are common in chronic kidney disease (CKD). Taste buds detect basic tastes: sweet, salty, sour, umami and bitter. Patients with CKD have increased saliva concentrations of urea, sodium, potassium and phosphate, with higher pH. Genetic sensitivities to bitter taste and changes in saliva can cause taste changes and uraemic symptoms.

Aim
To determine if mouth wash solutions of water, salt, sodium bicarbonate or citric acid improve upper gastrointestinal (GI) symptoms in patients with CKD.

Methods
Forty-two CKD patients (21 males, 21 females) with GI symptoms were recruited from the Austin Health renal outpatient clinic to participate in an international crossover study. Subjects completed a questionnaire to assess upper GI symptoms and were tested for genetic taste sensitivities. A saliva sample was analysed. Rinsing the mouth with solutions of salt, bicarbonate, citric acid and de-ionised water were trialled in random order for patient reaction and symptom improvement.

Results
All 42 patients complained of anorexia, 39 (93 per cent) reported taste changes, 27 (48 per cent) noted nausea and 27 (48 per cent) listed dry retching. All solutions improved symptoms in some patients. Sodium bicarbonate (p = 0.005) gave the greatest improvement in mouth feel and symptom control compared with the least favoured citric acid solution. Sixty-six per cent of patients found sodium bicarbonate beneficial, with a 40 per cent preference over the other solutions.

Conclusion
There are simple practices that can relieve or eliminate some uraemic symptoms. Rinsing the mouth with a sodium bicarbonate solution cleanses receptors on taste buds and may alter mouth pH, thereby reducing upper GI uraemic symptoms in CKD patients.

Biography
Karen Manley has been a dietitian for more 30 years and has been working as a renal dietitian at Austin Health for 25 years. She is a member of the Australian and New Zealand Society of Nephology, Australian Kidney Health and the American National Kidney Foundation. Karen is a former renal dietitian representative for the International Congress of Renal Nutrition and for the Cochrane Renal Group, taking part in its review of fish oils in renal transplantation. She has been an invited speaker at many workshops and conferences in Australia and internationally.

Karen’s research has focused on renal patients’ wellbeing with the use of probiotics in VRE, winning the best research article the Medical Journal of Australia for 2007. Her most recent research involves taste changes and symptom control in renal patients.
Mr Ian McBurney
Sustainability speaker, facilitator, MC, educator and author,
Live ecoLogical

Workshop: Environmental sustainability in the clinical setting

Overview
This interactive workshop will explore opportunities to identify and implement positive changes within the clinical setting that improve the environment, organisation finances and staff and patient experiences. This workshop will be of interest to clinicians of all levels including managers, support services staff, consumers and sustainability officers.

Biography
Ian McBurney is an ecological sustainability practitioner who has inspired and enabled tens of thousands in business, manufacturing, government, schools and communities to move towards a better future. He believes passionately that at this time in history when every natural system is in decline it is people and therefore culture change that will gift us a sustainable society. That society will be better for us in nearly every way. We’ll be more local and connected, happier, healthier, more profitable and more proud of who we are.

For 15 years Ian McBurney has delivered successful workplace culture change programs with business, manufacturing, local government, small business and communities, always drawing on the latest in neuroscience, environmental education, community development and culture change principles. His fast-paced and inspiring talk promises to be a journey through the complex web of human behaviour, learning and change practice.
Lawrence McMahon is a professor of nephrology at Monash University and has been the director of renal medicine at Eastern Health since its inception in 2008. He is and has been a member of various editorial boards and committees, including chair of the Victorian Renal Clinical Network Dialysis Sub-Committee and a member of the VRCN Leadership Group. He has been associate editor of Nephrology Dialysis Transplantation and remains a regular reviewer of numerous international journals. He and his research group are involved in international and national research studies, and he maintains an active interest in education through his role as a senior national examiner for the Royal Australasian College of Physicians.

Abstract: Pathway options to improve home and supportive care in end-stage kidney disease (POISE)

Co-authors
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Background
Victoria is witnessing a rise in the number of both peritoneal dialysis (PD) and failing transplant patients, most of whom end up on satellite/home haemodialysis (HHD), often at the cost of their health and independence. Early introduction of once-weekly HD may slow abandonment of PD, improve uptake of HHD for transplant and PD patients, and enable realistic decisions about conservative care.

Aims
We propose early implementation of a system to identify impending failure of renal replacement therapy (RRT) by identifying PD patients with a Kt/V < 1.7/ or cr clearance < 65 L/week, and transplant patients who reach a creatinine > 300 µmol/L. These patients will be referred to a monthly, multidisciplinary meeting to appraise realistic options and begin appropriate hybrid home or satellite dialysis, or conservative care.

Discussion
The multidisciplinary team meeting will incorporate the home dialysis nurse unit manager, a social worker, transplant coordinator, occupational therapist, psychologist and a nephrologist to identify the patient’s best available options as their preferred mode of RRT fails. In particular, their capacity for hybrid dialysis and transition to HHD by once-weekly training in the home dialysis centre will be assessed. The team will also identify: those patients not suitable for HHD training but who could continue PD with satellite-based hybrid dialysis; transplant patients who could enter the hybrid home training program with weekly dialysis in preparation for transition to home dialysis; and patients considered either unsuitable for continued dialysis or expressing a wish not to proceed with alternative RRT options.

The cornerstone of the program will lie in a subsequent, private meeting with the patient (and family) where options are discussed in a supported environment. The patient’s commitment to the identified RRT pathway is critical.

We expect up to 35 per cent of PD patients to remain home-based by 18 months, and 35 per cent of hybrid satellite patients to be self-care dialysis patients. It is also expected that there will be a definable rise in the number of HHD patients and a small increase in conservative care patients. Ongoing audit of successes and failures will be performed and assessed.

Conclusion
If successful, this approach will open possibilities for better and more appropriate care for PD and treatment patients who will continue to comprise an increasing percentage of the haemodialysis population.
A/Prof. Craig Nelson
Head of Unit – Nephrology, Western Health, MBBS FRACP PhD

Biography
Craig Nelson is the director of nephrology at Western Health in Victoria and an honorary clinical associate professor with the Western Division of the University of Melbourne. His PhD was completed on novel markers of cardiovascular risk in early chronic kidney disease (CKD). His present interest is in utilising e-health to improve the detection and management of early CKD, and to improve uptake and outcomes in home dialysis therapies.

Abstract 1: eMAP:CKD – electronic diagnosis and management assistance to primary care in chronic kidney disease improves identification of at-risk patients, testing, diagnosis and the management of CKD

Background
The increasing burden of chronic kidney disease (CKD) underpins the importance for improved early detection and management programs in primary care to delay disease progression and reduce mortality rates.

Aims
eMAP:CKD is a pilot program for primary care aimed at addressing the gap between current and best practice care for CKD.

Methods
Software programs were developed to integrate with primary care electronic health records (EHR), allowing real-time prompting for CKD risk factor identification, testing, diagnosis and management of CKD according to Kidney Health Australia's best practice recommendations. Patient data were analysed at baseline and at 15 months.

Results
At baseline, the 21 primary care practices had 150,910 current patients, increasing to 175,917 at 15 months. Over 15 months, there was improvement in CKD risk factor recognition (29.40 per cent vs 33.84 per cent; p < 0.001), complete testing for CKD (3.20 per cent vs 4.30 per cent; p < 0.001), entry of a diagnosis of CKD into the EHR (0.48 per cent vs 1.55 per cent; p < 0.001) and an improvement on CKD patients achieving each of Kidney Health Australia's recommended management targets (p < 0.0001).

Discussion
The eMAP:CKD program, introduced into a real-world environment, has demonstrated efficacy in helping to overcome the noted gap between current and best practice in primary care.

Conclusion
The success of the pilot program has encouraging implications for use across the primary care community as a whole and in other chronic disease states.
Abstract 2: Home dialysis using telehealth guidance (HUG) increases home dialysis uptake

Background
The impact of telemonitoring on home dialysis uptake and clinical endpoints has yet to be described.

Aims
We investigated if telemonitoring and teleconsultation is associated with improved home dialysis incidence and prevalence or secondary clinical endpoints in peritoneal dialysis (PD).

Methods
A prospective 12-month observational study was performed. A substudy compared PD patients participating in the Home Dialysis using Telehealth Guidance (HUG) Project and those not (non-HUG) to assess the secondary endpoints of peritonitis, exit site infections, blood stream infections, adequacy of PD, admissions rates and length of hospital stay (LOS). Results are reported mean ± SEM. Statistical analysis used chi-square analysis and student’s t-tests. Significance was taken at p < 0.05.

Results
Fifty-two patients were analysed – HUG (n = 25) and non-HUG (n = 27). Comparisons made: HUG:non-HUG; age (55.8 ± 3.0;60.5 ± 2.9) years (p = 0.26) and gender: male (44.0 ± 10.0;73.1 ± 8.9)(p = 0.036). Incidence of six-month home dialysis increased from 12 per cent to 84 per cent at 12 months (p = 0.002), six-month prevalence increased from 16.2 per cent to 19.0 per cent (p = 0.46). Peritonitis 0.24 ± 0.17 vs 0.25 ± 0.10 per cent, (p = 0.561); exit site infections 0.08 ± 0.05 per cent vs 0.11 ± 0.08 per cent, (p = 0.524); PD adequacy kt/V 2.80 ± 0.23 vs 2.82 ± 0.22, (p = 0.962); creatinine clearance 94.4 ± 9.6 vs 107.7 ± 12L/week/1.73m2, (p = 0.389). Hospital admissions: 2.92 ± 0.49 vs 2.04 ± 0.38 days, (p = 0.160) and LOS 16.5 ± 3.4 vs 7.41 ± 1.6 days, (p = 0.022).

Discussion
Telemonitoring and teleconsultation in a 12-month pilot program is associated with significant increase in uptake of incident home dialysis therapies. There was no significant impact on overall prevalence of home dialysis during this period or clinical secondary endpoints. There was a statistical increase in hospital LOS in those on the HUG program, which may reflect detection of complications by the telemonitoring.

Conclusion
Telehealth may assist in the uptake of home dialysis therapies.
Abstract: Valuing the patient beyond their sick kidneys: how renal services at a tertiary metropolitan hospital are delivering advance care planning to the home

Co-author
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Background
bestCARE is the St Vincent’s advance care planning (ACP) program. It allows patients to express their values and preferences to inform clinical decision making for when they are unable to directly participate.

Aims
To assist with the rollout of ACP in nephrology, a strategy to engage nephrology patients was required.

Methods
A letter explaining what ACP is was sent to selected nephrology patients with the bestCARE brochure. Both of these met the required health literacy level for patient communication. Due to diverse cultures of patients treated at St Vincent’s the letter was translated into five other languages.

Results
From the 630 letters sent, the ACP manager received 14 phone calls (2.2 per cent vs baseline of 0.15 per cent), resulting in 11 information packs being sent out. The letter mail out prompted one patient to send us their ACP and four patients to write their own ACP and share it with St Vincent’s (at six-month follow-up).

Staff reported additional enquires from patients that resulted from the letter mail out. The exact number of these enquires is unknown.

Discussion/conclusion
The call-back rate of 2.2 per cent from the nephrology ACP letter mail out may suggest that the cost overrides the benefit. However, the letter mail out seems to be more effective way of getting the message across to patients compared with posters. If funds are available this would be a worthwhile exercise to repeat. Another service or avenue to which patients could be referred in order to have these important discussions and medical signing of the document could eliminate the present gap and provide a time-appropriate option to patients.
Ms Victoria Somers
Registered Nurse, Monash Health

Abstract: Going green in the dialysis unit: reduce, reuse, recycle

Co-authors
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Background
Thomas Street Haemodialysis is known for having one of the highest amounts of clinical waste in a clinical setting.

Aims
The aims of the initiative were to:
• reduce clinical waste in dialysis unit
• reduce ‘paper wastage’ in the clinical area by decreasing the amount of printing, using black ink versus colour, etc.
• reduce power usage such as by turning off computers at night and turning off unnecessary lights during the day
• propose the idea of co-mingle recycling at 122 Thomas Street in the future
• decrease water usage by using the ‘autoflow’ setting on dialysis machines
• create future plans of recycling dialysis water including the possibility of recycling water for building amenities, parks, gardens, car washes, etc.
• significantly reduce the expenditure on water in healthcare.

Methods
The initiative incorporated staff education including in-services and demonstrations to help engage staff. It also made use of the ‘autoflow’ function on the 5008 machines. More bins were provided in the clinical area, and waste was divided into general and clinical waste. We reduced waste by recycling to animal welfare (for example, uncontaminated goods such as gowns, gauze and bluies) and involved support services in these processes to help collect data.

Results
The initiative has achieved a decrease in clinical waste of about 50 per cent. By switching the 5008 machines to autoflow, we estimate annual water saving of 936,000 litres of tap water.

Discussion
We started with a general discussion with the ward, including ideas that have been used by other units and any suggestions from staff. We then implemented the use of smaller clinical waste bins, and began to weigh each bin at the end of the day. We found that by designating a clinical and general waste bin to each staff member, we decreased the weight of clinical waste by 50 per cent within the first few weeks.

In the upcoming nursing EBA a service delivery partnership plan has been implemented, with the aim of reducing clinical waste and improving sustainability in the dialysis setting.

Conclusion
We have significantly reduced the amount of clinical waste, along with educating staff on ways to reduce waste. We have empowered the patients in dialysis to participate in the Going Green Initiative.
Abstract: Could your fistula rupture?

Co-author
Greg Collette, Dialysis Blogger, BigDandMe, App Designer, Diaverum

Background
In February 2010 a 15-year-old New Zealand girl, Maya, posted a story on the BigDandMe dialysis blog. She told of how her father’s sore and swollen fistula burst when in bed at home and he bled to death. Subsequent blogs show this death is depressingly common. Many could have been prevented if nursing staff and especially patients knew of the possibility of rupture, how to prevent it and how to respond.

Aims
The pilot program Could Your Fistula Rupture? is designed for regular (quarterly) fistula safety training for new staff and patients on haemodialysis. It aims to increase awareness about the possibility of fistula rupture.

Key messages
The program delivers three key messages:
1. Fistula ruptures can happen and they can be fatal.
2. To avoid a rupture: Be Fistula Fussy! Red and sore fistulas, blisters or large scabs could indicate the fistula is infected, blocked or have weak spots that fail to re-seal after needling. All are warning signs of a potential impending rupture.
3. What to do if a rupture happens? Don’t panic! Press with your finger. Lift your arm. Call for help. Immediately apply direct pressure over the site of bleeding with a single finger. Raise the ruptured area of the bleeding above the level of your heart. Call for help or ring triple zero (000).

Conclusion
The pilot program has successfully educated dialysis nursing staff and dialysis patients. They are more aware and proactive regarding the care of fistulas. It will now be made available nationally and internationally.