DDHHS

Chronic Kidney Disease (CKD) in the Darling Downs- a Registry report

Sree K Venuthurupalli MD, DM, FRACP
Consultant Nephrologist-Toowoomba Hospital
Darling Downs Hospital and Health Service-DDHHS
PhD Fellow, Faculty of Medicine
Centre for Chronic Disease, The University of Queensland

CKD.QLD: Chronic Kidney Disease surveillance and research in Queensland, Australia

DDHHS

Research Higher Degree
Faculty of Medicine
The University of Queensland

Supervisors:
Professor Wendy Hoy
Prof Robert Fassett
Dr Helen Healy

Chronic Kidney Disease, Queensland (CKD.QLD)

DDHHS

CKD.QLD is a surveillance and research platform

Surveillance - definition

DDHHS

CKD QLD

"Ongoing, systematic, collection, analysis and interpretation of health data essential to the planning, implementation and evaluation of public health practice, closely integrated with the timely dissemination of these data to those who need to know."

The journey through surveillance:

DDHHS

CKD QLD

Selection of topics and measures

⇓

Identification of data sources and creation of indicators

⇓

Data collection

⇓

Data integration

⇓

Data analysis

⇓

Interpretation of results

⇓

Development of surveillance products

⇓

Dissemination of products

Powe et al, *Am J Kidney Dis*. 2009

Darling Downs Hospital and health Service- (DDHHS)

DDHHS

Great state. Great opportunity.

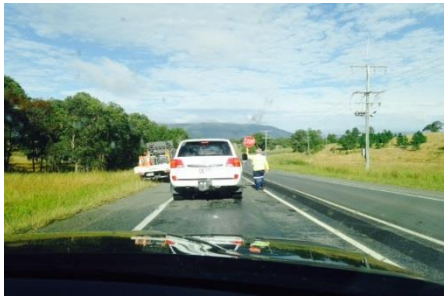
Queensland Government

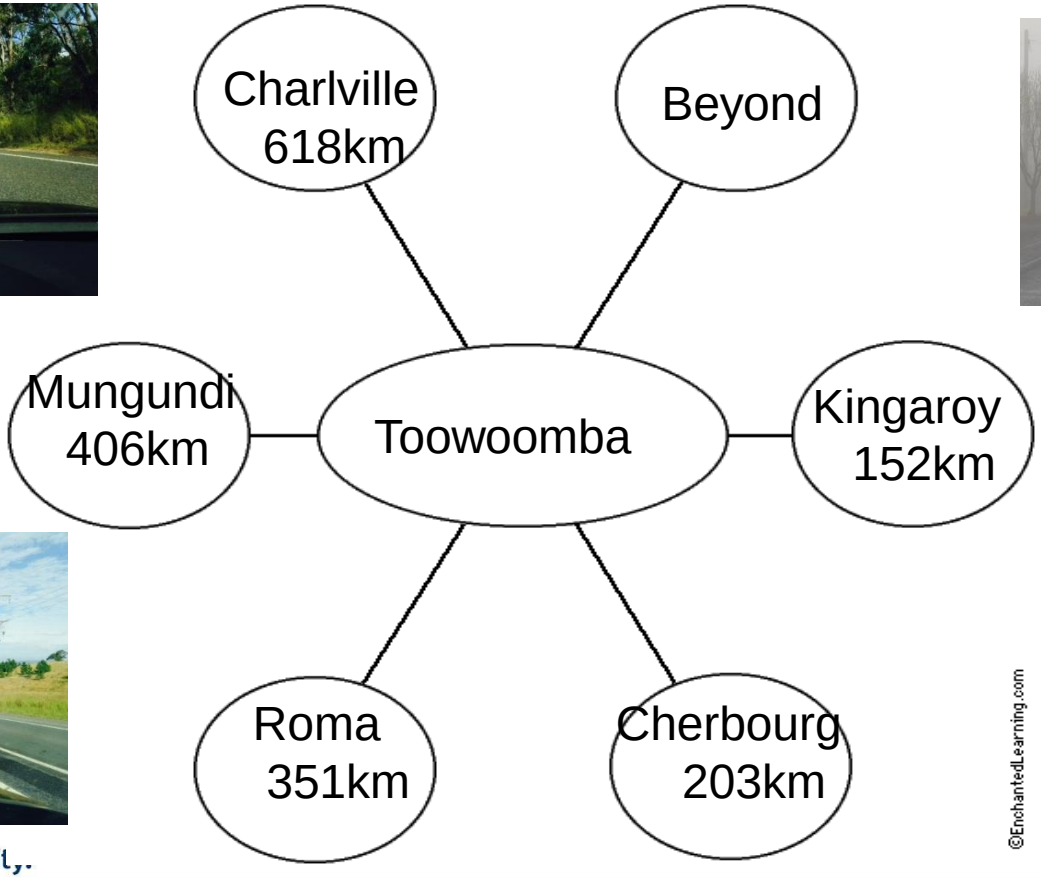
Specialist clinics -catchment

DDHHS

Distances people travel to access renal services

DDHHS





Profile of CKD cohort -DDHHS

DDHHS

- June 2011-June 2017 (Numbers recruited -1150)
- Majority of prevalent (95%) CKD patients consented
- Current recruitment-new incident patients
- Comprehensive dataset- demographics, aetiology, co-morbidities, longitudinal outcomes
- Analysis of 1051 patients (recruited between June 2011-December 2016) with at least 6 months follow up post recruitment

Demographic Profile of DDHHS CKD cohort

DDHHS

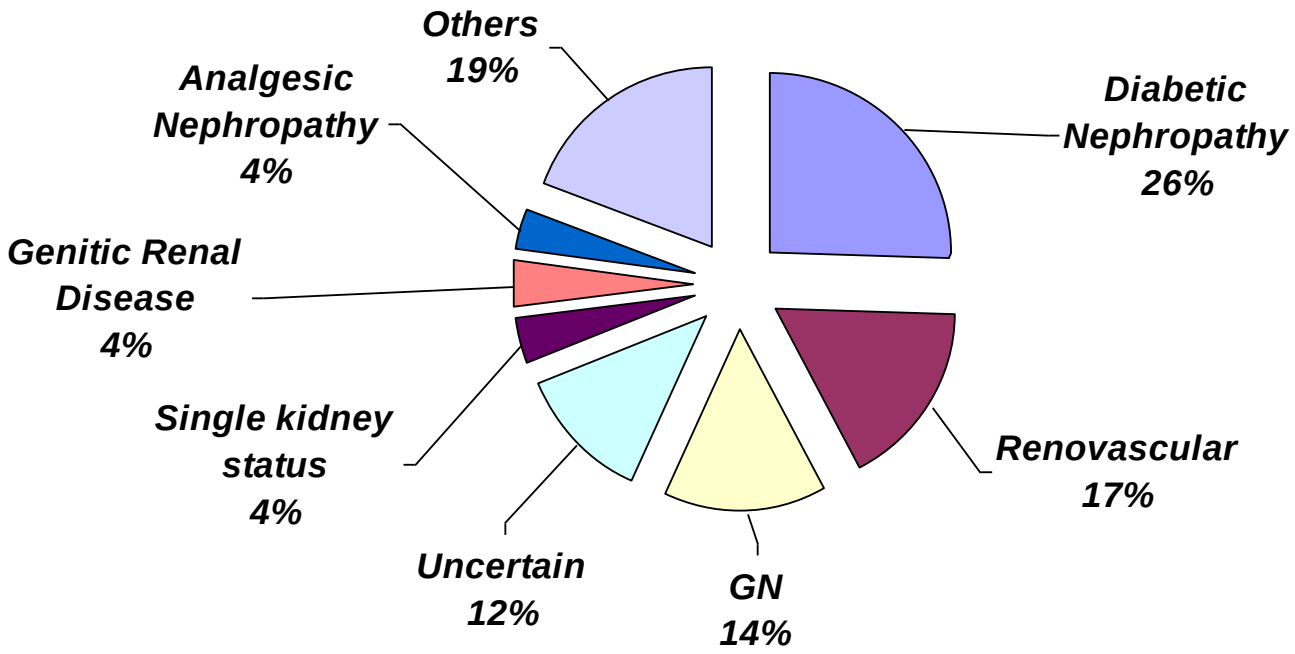
- Total number included in analysis:1051
- Male: 582 (55.3%) Female: 469 (44.6%)
- Mean (SD) Age: 63.8 ± 15.1 years
- Median age 67 years
- Older (≥ 70 years) 42.7%
- Mean (SD) eGFR: 40.3 ± 22.4 ml/min
- Country of birth: Australia (86.4%)
- Australian Indigenous 9.5%

DDHHS- CKD Cohort aetiology of CKD

DDHHS

CKD QLD

Primary renal disease leading to CKD n=1051

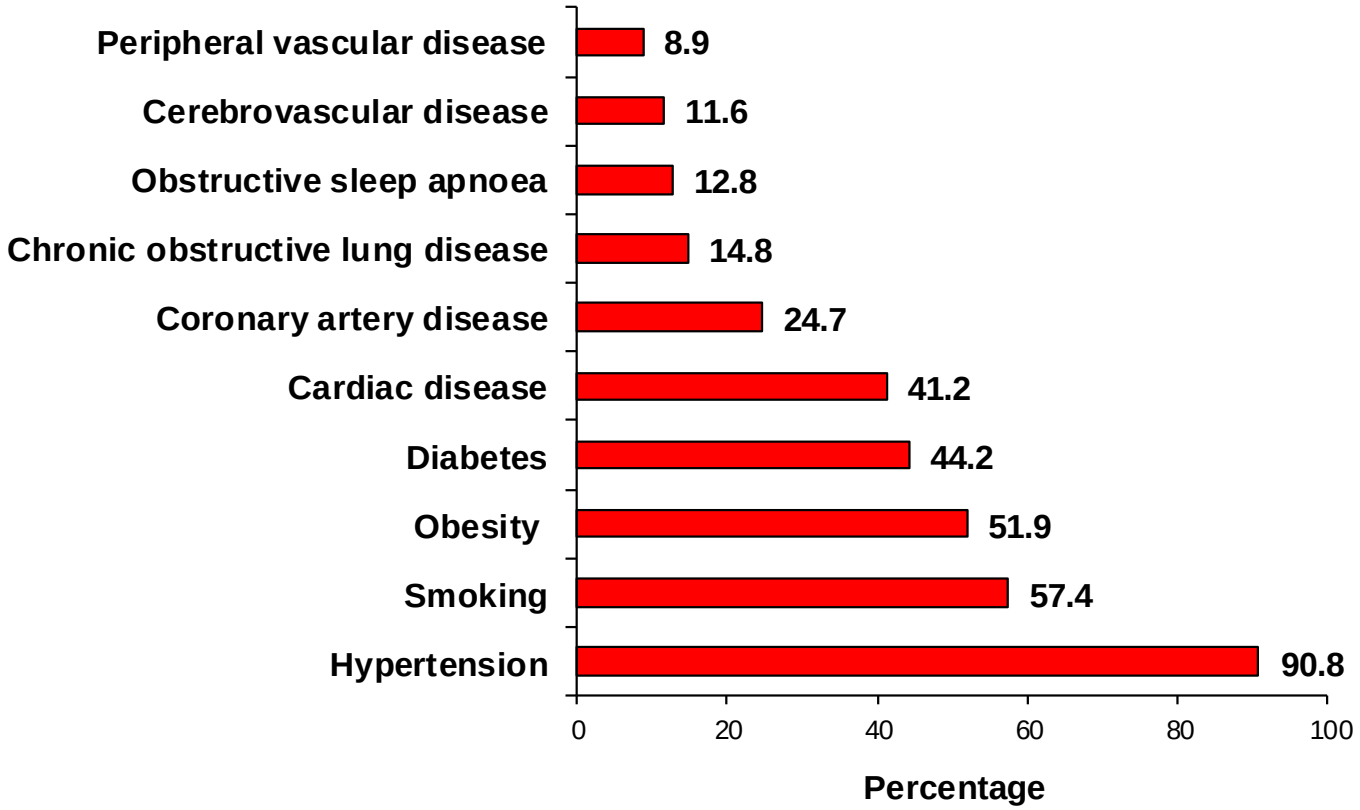


Cardiovascular risk

DDHHS

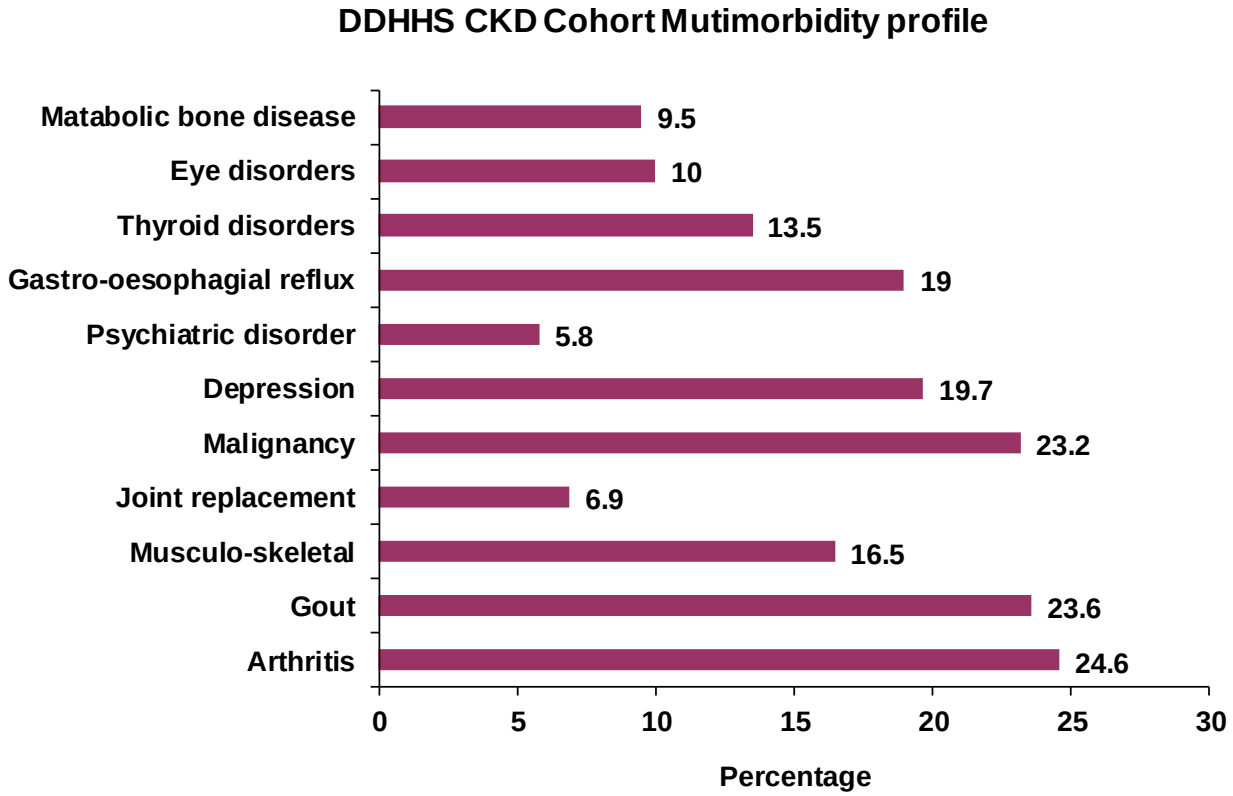
CKD QLD

DDHHS CKD cohort cardiovascular buden and rsik factors



Co-morbid conditions

DDHHS



Long-term outcomes

DDHHS

CKD QLD

Outcomes in 6 years 178/1051(35.9%)

Renal replacement therapy (RRT)

Started RRT
93/1051 (8.8%)

No RRT
958/1051 (91.2%)

Mortality 175/1051 (16.6%)

Died on RRT
31/93 (33.3%)

Died with out RRT
144/958 (15.0%)

Discharged, Transferred or Lost to follow up 141/1051(13.4%)

It is obvious...

- Older
- Long distances
- Multiple co-morbid conditions
- Significant joint/pain issues
- Dependent on family to drive/travel
- May be carers for family or partners

Healthcare Delivery alternate models

Management of Chronic Kidney Disease via Tele-Health
Reduce MILES - Spread SMILES

Sree Venuthurupalli

Darling Downs Hospital and Health Service

View from my clinic...

DDHHS

This is how they see me....

DDHHS

Outcomes

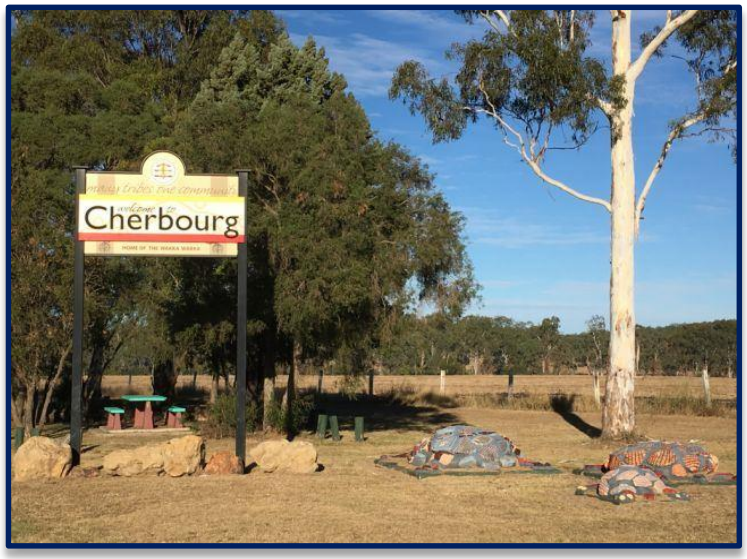
DDHHS

CKD QLD

- Total of 237 patients seen (September 2011-June 2017)
- For single visit for 237 patients to Toowoomba
  - Average 100,000 KM distance travelled
  - About $28,440 spent on fuel
- About $35,000 saved in PTSS in 6 years for QH
- More than 90% included a family member during consultation
- Few transferred to Toowoomba for renal related admissions

Tele-health Clinics from Cherbourg

DDHHS

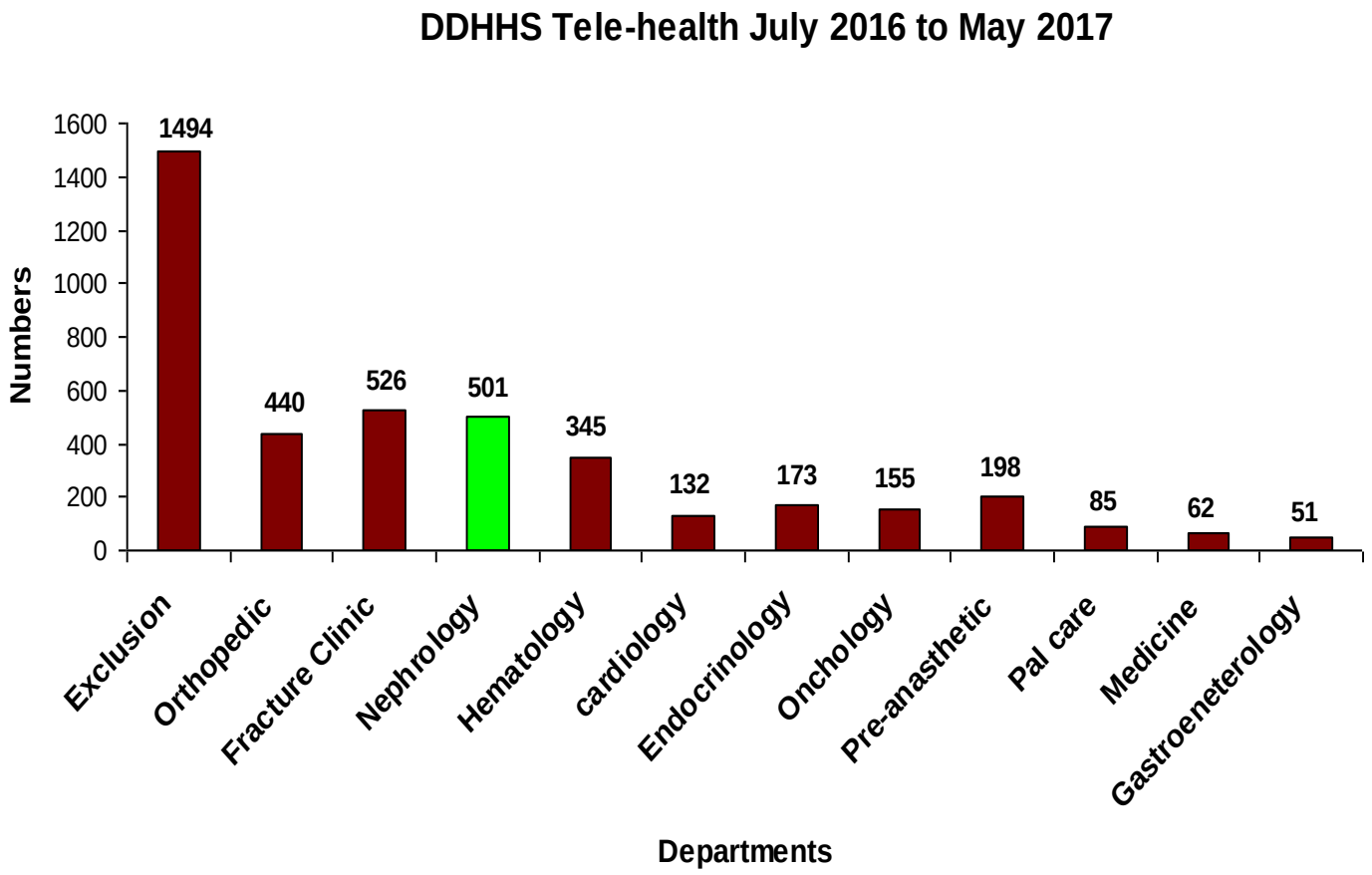


Fifty Indigenous patients seen via Tele-health
Seen at much earlier stages of CKD
Multidisciplinary approach
Those who started RRT were planned RRT…
with advance education and access and starting dialysis at Kingaroy or quick transfer back to Kingaroy

DDHHS-Tele-health service July 2016 - May 2017

DDHHS

CKD QLD



Great sta

Queensland Government

CKD patients journey- Current picture

DDHHS

- More than 50% died in hospitals
- Referred to palliative care-25-30%
- Palliative care mostly towards terminal event
- Multiple hospitalizations including for nursing home placement
- Repeated out-patient visits
- Contact with healthcare personal episodic

PITCH for CHANGE

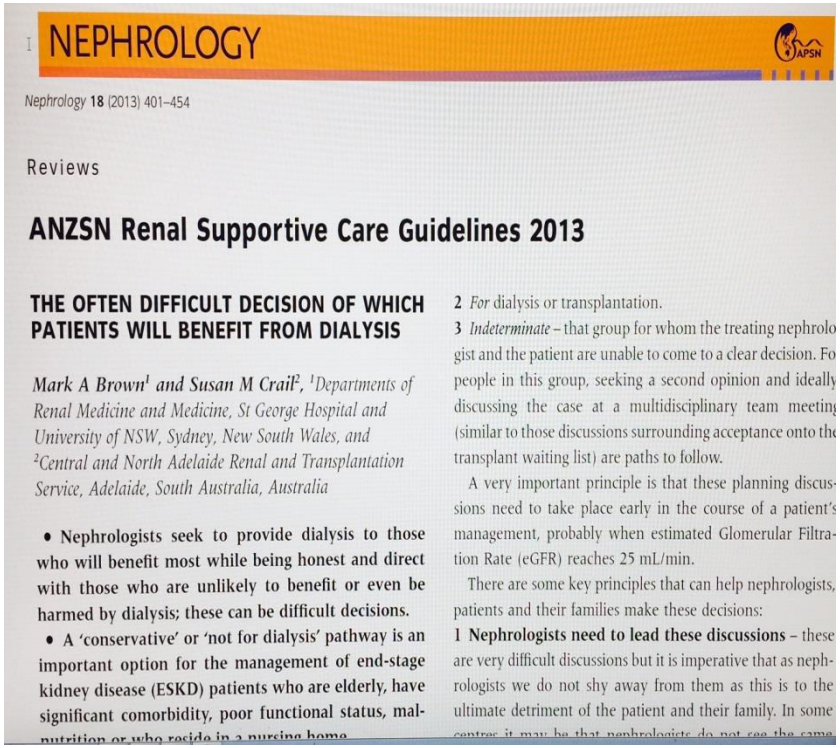
DDHHS

Chronic kidney **D**isease, **D**ialysis, **D**eath and **D**ignity are the **4D**s that are important in the journey of kidney disease patients. All patients with CKD do not get to dialysis but dying with dignity is a critical component of renal care. Currently the system to look after these patients towards the later years of their disease is at best disruptive and uncoordinated. The plan is to set up a multidisciplinary, well coordinated support-care system for CKD patients with advanced disease.

Expected measurable outcomes

DDHHS

- Reduced hospitalizations including critical care admissions
- Reduced dialysis initiation
- Minimized interventions
- Rationalization of drugs
- Reduced out-patient visits
- Smooth transition to high care facilities
- Improved patient/family satisfaction



NEPHROLOGY

Nephrology 18 (2013) 401–454

Reviews

ANZSN Renal Supportive Care Guidelines 2013

THE OFTEN DIFFICULT DECISION OF WHICH PATIENTS WILL BENEFIT FROM DIALYSIS

Mark A Brown[1] *and Susan M Crail*[2], [1]*Departments of Renal Medicine and Medicine, St George Hospital and University of NSW, Sydney, New South Wales, and* [2]*Central and North Adelaide Renal and Transplantation Service, Adelaide, South Australia, Australia*

- Nephrologists seek to provide dialysis to those who will benefit most while being honest and direct with those who are unlikely to benefit or even be harmed by dialysis; these can be difficult decisions.
- A 'conservative' or 'not for dialysis' pathway is an important option for the management of end-stage kidney disease (ESKD) patients who are elderly, have significant comorbidity, poor functional status, mal-

2 *For* dialysis or transplantation.

3 *Indeterminate* – that group for whom the treating nephrologist and the patient are unable to come to a clear decision. For people in this group, seeking a second opinion and ideally discussing the case at a multidisciplinary team meeting (similar to those discussions surrounding acceptance onto the transplant waiting list) are paths to follow.

A very important principle is that these planning discussions need to take place early in the course of a patient's management, probably when estimated Glomerular Filtration Rate (eGFR) reaches 25 mL/min.

There are some key principles that can help nephrologists, patients and their families make these decisions:

1 **Nephrologists need to lead these discussions** – these are very difficult discussions but it is imperative that as nephrologists we do not shy away from them as this is to the ultimate detriment of the patient and their family. In some

DDHHS CKD Registry

DDHHS

- Registry recruitment
- Collection of data
- Analysis of data
- Identification of issues
- Development of alternative models of care
  - Tele-health
  - Nurse practitioner clinics
  - Cherbourg clinics
  - Renal support care clinics

DDHHS-CKD Registry report

Thanks for your attention