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

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CKD.QLD is a surveillance and research platform
“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:

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

Specialist clinics - catchment

Mount Moffat
Forestvale
Durham Downs
Mungallala
Roma
Miles
Condamine
The Gums
Moonie
Millmerran
Dalby
Toowoomba
Gatton
St George
Dirranbandi
Goondiwindi
Warwick
Millmerran
Stanthorpe
Texas
New South Wales

Great state. Great opportunity.
Distances people travel to access renal services

- Toowoomba: 0km (base)
- Kingaroy: 152km
- Cherbourg: 203km
- Roma: 351km
- Mungundi: 406km
- Charlville: 618km
- Beyond: 152km

Great state. Great opportunities.

Department of Health
DDHHS

Queensland Government

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• 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
• 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%
Primary renal disease leading to CKD $n=1051$

- Diabetic Nephropathy: 26%
- Renovascular: 17%
- GN: 14%
- Uncertain: 12%
- Others: 19%
- Single kidney status: 4%
- Genitic Renal Disease: 4%
- Analgesic Nephropathy: 4%
Cardiovascular risk

DDHHS CKD cohort cardiovascular burden and risk factors

- Peripheral vascular disease: 8.9%
- Cerebrovascular disease: 11.6%
- Obstructive sleep apnoea: 12.8%
- Chronic obstructive lung disease: 14.8%
- Coronary artery disease: 24.7%
- Cardiac disease: 41.2%
- Diabetes: 44.2%
- Obesity: 51.9%
- Smoking: 57.4%
- Hypertension: 90.8%

Percentage
Co-morbid conditions

DDHHS CKD Cohort Mutimorbidity profile

- Metabolic bone disease: 9.5%
- Eye disorders: 10%
- Thyroid disorders: 13.5%
- Gastro-oesophageal reflux: 19%
- Psychiatric disorder: 5.8%
- Depression: 19.7%
- Malignancy: 23.2%
- Joint replacement: 6.9%
- Musculo-skeletal: 16.5%
- Gout: 23.6%
- Arthritis: 24.6%
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
Management of Chronic Kidney Disease via Tele-Health
Reduce MILES - Spread SMILES
Sree Venuthurupalli

Darling Downs Hospital and Health Service
View from my clinic...

Great state. Great opportunity.
This is how they see me....
• 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

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 Tele-health July 2016 to May 2017

Departments

Exclusion  Orthopedic  Fracture Clinic  Nephrology  Hematology  cardiology  Endocrinology  Oncology  Pre-anesthetic  Pal care  Medicine  Gastroenterology

Numbers

0 200 400 600 800 1000 1200 1400 1600

1494 440 526 501 345 132 173 155 198 85 62 51
CKD patients journey - Current picture

- 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
Chronic kidney Disease, Dialysis, Death and Dignity are the 4Ds 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

• 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
DDHHS CKD Registry

- 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

It’s a beautiful feeling when someone tells you, “I wish I knew you earlier.”