

Centre of Research Excellence

CKD.CRE: Health Economics Team

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Health Economics @ UQ



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 Centre for the Business and Economics of Health (CBEH) <u>https://cbeh.centre.uq.edu.au/</u>

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• CKD.CRE and CBEH are key research partners.

Strategic Fit



- CBEH's joint investment with CKD.CRE
 - Dr Marcin Sowa
 - 0.7FTE CRE
 - 0.3FTE CBEH



- Leverage of other CBEH resources
 - Expertise in health economics, econometrics, business disciplines, big data analytics, economic evaluation (e.g., cost-effectiveness analysis), insurance economics, information economics...

Innovative Research



- The partnership between CKD.CRE and CBEH provides unprecedented opportunities to capitalise
 - on rich datasets held on CKD in Qld and Australia
 - on econometric methods for the analysis of observational data that have not been employed in any systematic way to this area of research
 - to join clinical and economic/econometric expertise for the analysis of these data to prioritise analytics for:

Efficient and Effective Care



NHMRC Chronic Kidney Disease Centre of Research Excellence

- health services planning
- optimisation of patient benefit from resources dedicated to their care
- safe, effective, and cost-effective treatment
 protocols for people with CKD in Queensland
 - with national and international implications for the cost-effective delivery of care
- equitable and efficient care including focus on
 - economically- and socially-disadvantaged groups
 - Indigenous Australians.





- Economies of scale and scope via the extensive collaborative networks and expertise of the CKD.CRE
- With leverage provided by investments in CBEH, by
 - Faculty of Health and Behavioural Sciences
 - Faculty of Business Economics and Law,
 - Mater Research Institute-UQ
 - UQ Vice-Chancellor and UQ Deputy Vice-Chancellor Strategic funds.

Leverage for CKD.CRE



- These provide unprecedented access to
 - Economics and business expertise from across the BEL Faculty
 - As well as the three Professors and six
 Postdoctoral Research Fellows that CBEH will have when the full complement of staff is employed at the Centre
 - At present: two Professors of Health Economics and four Postdoctoral Research Fellows in Health Economics.

What has been done:



- Collaboration via the CKD.CRE and its extensive network, and the goodwill of partners, has led to
 - the provision of a rich, linked dataset, at the unitrecord (i.e., patient-level) for CKD patients in Queensland with matching
 - 3 controls for each CKD.QLD registered patient
 - development of an analytical plan to use a range of advanced econometric techniques to estimate *causal* relationships from observational data

Enrolment with consent to CKD.QLD Registry [n=7,804] Active and Inactive



*See the Surveillance Team presentation for further details.

What has been done



The data characteristics (thanks to Queensland Health Statistical Services Unit and ABF Unit and CKD.QLD Registry) enable the application of a range of econometric techniques, including advanced applications of:

- Econometric panel data methods (which exploit both the crosssectional *and* time-series dimensions of the data to achieve *identification* of causal relationships)
- Count data methods to analyse determinants of variables that are over-dispersed (contain many zeros for some patients, for some time-periods), e.g., unplanned admissions to hospital.

What will be done



- In collaboration with clinical researchers
 - Identification of the costs and consequences of treatment pathways for CKD
 - Consequences include health outcomes and their sequelae, including health care utilisation and the costs of different patterns of these variables
 - Development of population models of CKD to estimate and predict health service demands and outcomes under a range of different treatment protocols and triage options

Practical Consequences



- Policy-relevant modelling and scenario analyses
 - expected costs and consequences of "do nothing" scenario
 - expected costs and consequences of scenarios to change management of CKD in ways that
 - Improve outcomes for patients (and their families); and
 - Reduce costs of treatment of CKD
 - to create safe, effective and cost-effective management pathways, based on best international (and local) evidence.

Conclusion



- The health economics program in the CKD.CRE was integrated at the outset of the research program.
 This is a great strength.
- As planned, the program started in earnest almost exactly 12 months ago.
- In the forthcoming 12-18 months the planning that has occurred to date will bear fruit, and
- Will place the CRE at the forefront of economic research on CKD.