



CASE STUDY:

Diabetes and chronic kidney disease

This project is designed to improve self-management, communication and coordination of care for those battling complex co-morbid conditions.

Diabetes and kidney disease are among the top five co-existing chronic diseases in Australia. Existing models of care in Australia are suboptimal with documented significant gaps between best practice guidelines and received care and limited patient engagement in co-design of services. Furthermore, patients are often left navigating complex and confusing multiple health services that are not designed for patient centred care.

About this project

To address this gap, focus groups, semi-structured interviews and surveys with general practitioners (GP), endocrinologists, nephrologists, nurse practitioners, patients with diabetes and chronic kidney disease (CKD), and patient advocacy groups including Diabetes Australia and Kidney Health Australia contributed to a codesigned new model of care in 2015. The model of care, Diabetes Kidney Service, an integrated patient centred model of care across primary and multidisciplinary specialist care was implemented in 2016 at Monash Health.

This project is novel as it is designed by patients with diabetes and kidney disease for care of this population. It brings multiple specialities together in one integrated service, with multidisciplinary staff. This project scaled-up a new model of care that had been co-designed, implemented and evaluated in one site. This service is designed to improve patient self-management and improve communication and coordination of care between endocrinologists, nephrologists and GPs, who remain the coordinator of patient care. Consistency is maintained by using standard patient assessment templates and minimising staff attrition.

This model of care has been implemented at Alfred Health, tailored to the local site, overcoming significant local health service barriers. Data collected from the evaluation phase of the new health care model (multidisciplinary clinic) at Monash Health (outcome and process evaluation over a 12 month period at three monthly intervals) is currently being analysed.

“This project is designed to improve patient self-management and improve communication and coordination of care.”

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Impact

Staff members, referring general practitioners and attending patients felt that a co-designed integrated diabetes kidney service improved integration of care and improved health and management of health. Additionally, health-related quality of life of patients was maintained and improved across some domains over 12 months.

Participants reported that the new model of care improved integration of care and improved health and management of health. The key finding was that health-related quality of life (HRQoL) of patients attending the model of care was maintained and improved across some domains over 12 months. This is significant given that HRQoL usually deteriorates over time in this population.

This project has offered significant implementation learnings beyond the effectiveness and impact of the service, to inform implementation and scalability of integrated models of care across primary and acute settings and in chronic and complex disease. It has demonstrated scalability across health services as well as disseminating learnings and resources to other health settings nationally to broaden the benefits of this project. Extensive publications and presentations have occurred and a Diabetes Kidney Service information package has been developed and shared with other health services through the large National Association of Diabetes Centres. Ultimately applying both the implementation learnings and the specific service approach to other instances of multimorbidity and complex health care needs would be anticipated to deliver greater benefits.

Other clinical outcomes from the data-set derived from the quantitative evaluation, such as HbA1c, eGFR, patient satisfaction, patient diabetes self-care and patient activation, outcomes from the quantitative evaluation dataset are being analysed.

Our longitudinal study has found that an integrated diabetes and kidney disease model of care may prevent deterioration of HRQoL among patients with comorbid diabetes and CKD especially among those with stage 5 CKD.

“Health-related quality of life of patients was maintained and improved across some domains over 12 months.”

Further information

For further information email Professor Sophia Zoungas, sophia.zoungas@monash.edu

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1. Zimbudzi E, Lo C, Ranasinha S, et al. Health-related quality of life among patients with comorbid diabetes and kidney disease attending a codesigned integrated model of care: a longitudinal study. *BMJ Open Diab Res Care* 2020;8:e000842. doi:10.1136/bmjdr-2019-000842.
2. Zimbudzi E, Lo C, Robinson T, Ranasinha S, Teede HJ, Usherwood T, et al. (2019) The impact of an integrated diabetes and kidney service on patients, primary and specialist health professionals in Australia: A qualitative study. *PLoS ONE* 14(7): e0219685. <https://doi.org/10.1371/journal.pone.0219685>.
3. Zimbudzi E, Lo C, Kerr PG, Zoungas S. A need-based approach to self-management education for adults with co-morbid diabetes and chronic kidney disease. *BMC Nephrology* 2019. 20:113
4. Zimbudzi E, Lo C, Ranasinha S, Fulcher G, Jan S, Kerr PG, Teede HJ, Polkinghorne KR, Russell G, Walker RG, Zoungas S. Patient reported barriers are associated with low physical and mental well-being in patients with co-morbid diabetes and chronic kidney. *Health and Quality of Life Outcomes* 2018; 16:215.
5. Lo C, Zimbudzi E, Teede HJ, Kerr PG, Ranasinha S, Cass A, Fulcher G, Gallagher M, Polkinghorne KR, Russell G, Usherwood T, Walker R, Zoungas S. Patient-centred factors associated with poor glycaemic and blood pressure control in co-morbid diabetes and chronic kidney disease. *Journal of Diabetes Complications* 2019;33 (1):63-68. doi: 10.1016/j.jdiacomp.2018.09.020.
6. Lo C, Zimbudzi E, Teede H, Cass A, Fulcher G, Gallagher M, Kerr PG, Jan S, Johnson G, Mathew T, Polkinghorne KR, Russell G, Usherwood T, Walker RG, Zoungas S. An Australian Model of Care for co-morbid diabetes and chronic kidney disease. *Nephrology* 2018 Feb 5. doi: 10.1111/nep.13232.
7. Lo C, Zimbudzi E, Kerr PG, Ranasinha S, Cass A, Fulcher G, Gallagher M, Polkinghorne KR, Russell G, Usherwood T, Walker R, Zoungas S. Patient-reported barriers and outcomes associated with poor glycaemic and blood pressure control in co-morbid diabetes and chronic kidney disease.
8. Zimbudzi E, Lo C, Ranasinha S, Fulcher G, Jan S, Kerr PG, Polkinghorne KR, Russell G, Walker RG, Zoungas S. Factors associated with patient activation in an Australian population with comorbid diabetes and chronic kidney disease: a cross-sectional study. *BMJ Open*. 2017 Oct 22;7(10):e017695.
9. Zimbudzi E, Lo C, Ranasinha S, Kerr PG, Polkinghorne KR, Teede H, Usherwood T, Walker RG, Johnson G, Fulcher G, Zoungas S. The association between patient activation and self-care practices: A cross-sectional study of an Australian population with comorbid diabetes and chronic kidney disease. *Health Expect*. 2017 Jul 4. 10. Lo C, Teede H, Fulcher G, Gallagher M, Kerr PG, Ranasinha S, Russell G, Walker R, Zoungas S. Gaps and barriers in health-care provision for co-morbid diabetes and chronic kidney disease: a cross-sectional study. *BMC Nephrol*. 2017 Feb 28;18(1):80.

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