

PhD Opportunity

Routine Monitoring of Depression and Anxiety in Patients with Chronic Kidney Disease (CKD)

Supervisory Team

Dr Dez Kyte, Professor Rebecca Stack, Dr Konstantinos Papdopoulos, Professor Paul Cockwell

Director of Studies:

Dr Dez Kyte, Senior Lecturer, School of Allied Health & Community, University of Worcester, UK. Associate member of the Centre for Patient-Reported Outcomes Research, University of Birmingham, Living with Long-Term Conditions Research Group, School of Allied Health and Community, University of Worcester

Supervisors:

Professor Rebecca Stack MBChB Assessment Lead, School Teaching and Learning coordinator, School EDI Lead and Professor of Student Success and Medical Assessment at Three Counties Medical School, Living with Long-Term Conditions Research Group, University of Worcester

Dr Konstantinos Papadopoulos, Head of Department for Occupational Therapy, Physiotherapy and Nutritional Therapy courses, School of Allied Health and Community, Living with Long-Term Conditions Research Group co-lead.

Prof Paul Cockwell, (External Advisor) Department of Renal Medicine, Queen Elizabeth Hospital Birmingham, University Hospitals Birmingham

Research Group: [Living Well with Long-Term Conditions](#)

his PhD project is aligned with the 'Living with Long-Term Conditions' (LWLTC) research group at the University of Worcester. The LWLTC group aims to facilitate the development and implementation of high-quality research and knowledge exchange, targeted at helping people with long-term conditions and their families to live well.

The PhD Opportunity

Approximately 15 million people in England, representing 1 in 4 adults, have one or more long-term conditions (LTCs).^{1 2} A LTC is an illness that cannot be cured, but may be controlled with medicines or other treatments.³ People living with LTCs face considerable challenges around the management of their long-term physical and mental health.²

Chronic kidney disease (CKD) is a LTC with a global health concern⁴, high prevalence⁵ and substantial healthcare and societal costs.⁶⁻⁸ Patients with CKD commonly experience considerable symptom burden⁹ and associated poorer long-term health-related quality of life (HRQL)¹⁰ and mortality.^{11 12}

Increasingly, routine measurement of symptoms in CKD populations is undertaken using patient-reported outcome measures (PROMs): psychometrically validated questionnaires which collect informative data provided directly from the patient.¹³ PROM data can be collected between clinic appointments, often alongside information regarding HRQL, in order to augment clinical data, build a longitudinal picture of disease burden and enhance care.¹⁴ This approach has demonstrated considerable benefits in patients with cancer, including reduced A&E visits, fewer hospitalisations, increased HRQL and lower rates of mortality.¹⁵⁻¹⁷ Feasibility of routine symptom monitoring has been established in patients with advanced CKD¹⁸ and exploration of effectiveness in patients receiving dialysis is currently ongoing.¹⁹

However, there remains much variation in the PROMs utilised to measure symptoms in CKD. In a recent systematic review and meta-analysis, 54 different PROMs were used to collect data on symptoms across the included studies, with no single tool measuring >45% of symptoms reported in the population.⁹ Thus, comprehensive measurement of the symptoms that matter most to patients with CKD currently requires concurrent completion of multiple PROMs, which may lead to questionnaire burden: a widely recognised threat to adherence.²⁰

Whilst there is ongoing work to standardise the PROMs used to measure HRQL and somatic symptoms in CKD, there remains uncertainty regarding the optimal PROM(s) for routine measurement of depression and anxiety. This is important, as the prevalence of both depression and anxiety is particularly high in patients with CKD^{21 22} and depression is associated with a substantially increased risk of mortality.²³

We are looking for a PhD student who would like to develop an in-depth programme of research to enhance our understanding around the optimal PROM(s) for routine measurement of depression and anxiety in patients with CKD. This multi-disciplinary, collaborative study will be conducted across both University and NHS environments, offering an opportunity for the successful applicant to develop an applied research study which could directly impact patient outcomes in this important area of CKD care.

References

1. Fund K. Long-term conditions and multi-morbidity 2022 [Available from: <https://www.kingsfund.org.uk/projects/time-think-differently/trends-disease-and-disability-long-term-conditions-multi-morbidity> accessed 11/11/22 2022.
2. Charities TRGo. No time to lose - Changing the trajectory for people living with long-term health conditions 2022 [Available from: <https://richmondgroupofcharities.org.uk/no-time-lose-changing-trajectory-people-living-long-term-health-conditions> accessed 2023.
3. Association TP. Long term conditions 2022 [Available from: <https://www.patients-association.org.uk/long-term-conditions>] accessed 11/11/22 2022.

4. Go AS, Chertow GM, Fan D, et al. Chronic kidney disease and the risks of death, cardiovascular events, and hospitalization. *The New England journal of medicine* 2004;351(13):1296-305. doi: 10.1056/NEJMoa041031 [published Online First: 2004/09/24]
5. Hill NR, Fatoba ST, Oke JL, et al. Global Prevalence of Chronic Kidney Disease – A Systematic Review and Meta-Analysis. *PLOS ONE* 2016;11(7):e0158765. doi: 10.1371/journal.pone.0158765
6. Chaker L, Falla A, van der Lee SJ, et al. The global impact of non-communicable diseases on macro-economic productivity: a systematic review. *Eur J Epidemiol* 2015;30(5):357-95. doi: 10.1007/s10654-015-0026-5 [published Online First: 2015/04/04]
7. Sundström J, Bodegard J, Bollmann A, et al. Prevalence, outcomes, and cost of chronic kidney disease in a contemporary population of 2.4 million patients from 11 countries: The CaReMe CKD study. *Lancet Reg Health Eur* 2022;20:100438. doi: 10.1016/j.lanepe.2022.100438 [published Online First: 2022/09/13]
8. Pollock C, James G, Garcia Sanchez JJ, et al. Healthcare resource utilisation and related costs of patients with CKD from the UK: a report from the DISCOVER CKD retrospective cohort. *Clin Kidney J* 2022;15(11):2124-34. doi: 10.1093/ckj/sfac168 [published Online First: 2022/11/04]
9. Fletcher BR, Damery S, Aiyegbusi OL, et al. Symptom burden and health-related quality of life in chronic kidney disease: A global systematic review and meta-analysis. *PLOS Medicine* 2022;19(4):e1003954. doi: 10.1371/journal.pmed.1003954
10. Perlman RL, Finkelstein FO, Liu L, et al. Quality of life in chronic kidney disease (CKD): a cross-sectional analysis in the Renal Research Institute-CKD study. *American journal of kidney diseases : the official journal of the National Kidney Foundation* 2005;45(4):658-66. doi: 10.1053/j.ajkd.2004.12.021 [published Online First: 2005/04/05]
11. Ricardo AC, Goh V, Chen J, et al. Association of Sleep Duration, Symptoms, and Disorders with Mortality in Adults with Chronic Kidney Disease. *Kidney Int Rep* 2017;2(5):866-73. doi: 10.1016/j.ekir.2017.05.002 [published Online First: 2017/10/24]
12. Amro A, Waldum B, von der Lippe N, et al. Symptom clusters predict mortality among dialysis patients in Norway: a prospective observational cohort study. *J Pain Symptom Manage* 2015;49(1):27-35. doi: 10.1016/j.jpainsymman.2014.04.005 [published Online First: 2014/05/27]
13. FDA. Guidance for industry: patient-reported outcome measures: use in medical product development to support labeling claims: draft guidance. *Health & Quality of Life Outcomes* 2006;4:79.
14. Calvert M, Kyte D, Price G, et al. Maximising the impact of patient reported outcome assessment for patients and society. *BMJ* 2019;364:k5267. doi: 10.1136/bmj.k5267 [published Online First: 2019/01/27]
15. Basch E, Deal A, Kris M, et al. Symptom Monitoring With Patient-Reported Outcomes During Routine Cancer Treatment: A Randomized Controlled Trial. *Journal of Clinical Oncology* 2015;10.1200/JCO.2015.63.0830

16. Velikova G, Absolom K, Warrington L, et al. Phase III randomized controlled trial of eRAPID (electronic patient self-Reporting of Adverse-events: Patient Information and advice)—An eHealth intervention during chemotherapy: American Society of Clinical Oncology, 2020.
17. Basch E, Schrag D, Henson S, et al. Effect of Electronic Symptom Monitoring on Patient-Reported Outcomes Among Patients With Metastatic Cancer: A Randomized Clinical Trial. *Jama* 2022;327(24):2413-22. doi: 10.1001/jama.2022.9265 [published Online First: 2022/06/07]
18. Kyte D, Anderson N, Bishop J, et al. Results of a pilot feasibility randomised controlled trial exploring the use of an electronic patient-reported outcome measure in the management of UK patients with advanced chronic kidney disease. *BMJ open* 2022;12(3):e050610.
19. Greenham L, Bennett PN, Dansie K, et al. The Symptom Monitoring with Feedback Trial (SWIFT): protocol for a registry-based cluster randomised controlled trial in haemodialysis. *Trials* 2022;23(1):419. doi: 10.1186/s13063-022-06355-0 [published Online First: 2022/05/20]
20. Basch EM, Abernethy A, Mullins CD, et al. Development of a guidance for including patient-reported outcomes (PROs) in post-approval clinical trials of oncology drugs for comparative effectiveness research (CER). *Value in Health* 2011;14(3):A10.
21. Huang CW, Wee PH, Low LL, et al. Prevalence and risk factors for elevated anxiety symptoms and anxiety disorders in chronic kidney disease: A systematic review and meta-analysis. *Gen Hosp Psychiatry* 2021;69:27-40. doi: 10.1016/j.genhosppsy.2020.12.003 [published Online First: 2021/02/01]
22. Palmer S, Vecchio M, Craig JC, et al. Prevalence of depression in chronic kidney disease: systematic review and meta-analysis of observational studies. *Kidney Int* 2013;84(1):179-91. doi: 10.1038/ki.2013.77 [published Online First: 2013/03/15]
23. Palmer SC, Vecchio M, Craig JC, et al. Association between depression and death in people with CKD: a meta-analysis of cohort studies. *American journal of kidney diseases : the official journal of the National Kidney Foundation* 2013;62(3):493-505. doi: 10.1053/j.ajkd.2013.02.369 [published Online First: 2013/04/30]

Application Process

To begin the application process please go to

<https://www.worc.ac.uk/research/research-degrees/applying-for-a-phd/>.

The Interview

All successful applicants will be offered an interview with the proposed Supervisory Team. You will be contacted by a member of the Doctoral School Team to find a suitable date. Interviews can be conducted in person or over Microsoft Teams.

Funding your PhD

For information about Doctoral Loans please visit: <https://www.worc.ac.uk/study/fees-and-finance/doctoral-loans.aspx>

During your PhD you can access the Research Conference Support Scheme to support the costs of presenting your research at an external conference.

Research at the University of Worcester

Research is central to the University's mission to make a difference in everything that we do. We are committed to delivering excellent research which extends the boundaries of human knowledge but which also improves people's lives by enabling better health outcomes, improving food security, developing environmentally sustainable solutions for crop production and socially sustainable solutions to our ageing population, enhancing public knowledge and understanding of the past and present.

The University hence focuses its research around five high-level challenges facing society, locally, nationally and globally:

- [Human Health and Wellbeing](#)
- [Sustainable Futures](#)
- [Digital Innovation](#)
- [Culture, Identity and Social Exclusion](#)
- [Professional Education](#)

The success of our research is reflected in our continuous improvement in external research assessment processes. In the most recent Research Excellence Framework, REF 2021, the University saw a near 50% increase in the scale of its research and 12% increase in quality, building on its performance in REF 2014 when it was the UK's most improved university in terms of Research Power, a combination of scale and quality.

Research Degrees at Worcester

Our research students are central to our overall mission for research. They are working at the cutting edge of their disciplines and driving forward the quality of our research whilst enriching our research culture. We are looking to increase our research student numbers as a strategic imperative.

Our commitment to our students is reflected in the results of the Postgraduate Research Experience Survey 2023 in which we ranked 3rd for overall research student satisfaction nationally. Key to our success in this area is the Doctoral School, a focal point for all our research students.

It provides:

- day-to-day support for our students, both administrative and practical, through our dedicated team.
- a Research Student Study Space with both PCs and laptop docking station.
- a comprehensive Researcher Development Programme for students and their supervisors.
- a programme of student-led conferences and seminars.

Living Well with Long-Term Conditions Research Group

Approximately 15 million people in England, representing 1 in 4 adults, have one or more long-term conditions (LTCs). A LTC is an illness that cannot be cured but may be controlled with medicines or other treatments. People living with LTCs face considerable challenges around the management of their long-term physical and mental health.

The 'Living Well with Long-Term Conditions' Research Group aims to facilitate the development and implementation of high-quality research and knowledge exchange, targeted at helping people with long-term conditions and their families to live well.

Widening Participation

As part of its mission statement the University is committed to widening participation for its higher degrees. Although most candidates will have an undergraduate and/or a Masters degree, the University is happy to accept applications from candidates with relevant professional qualifications and work related experience.

For further information or an informal discussion on this project, please contact Dr Dez Kyte (Director of Studies) via email at d.kyte@worc.ac.uk

