**Please ensure that this proposal is no longer than two A4 sides**. Thank you.

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| Host department: Manchester Choose an item. |
| Project Title: |
| Investigating interventions to enhance post-AKI care |
| Proposed supervisory team: Names and areas of expertise to be included |
| Rachel Elliott, Professor of Health Economics, University of Manchester (Health economist & Pharmacist focusing on medicines safety, complex interventions in primary care, economic modelling of acute kidney injury)  Nick Selby, Professor of Nephrology, University of Nottingham (Clinical and academic expertise in Acute Kidney Injury; complex interventions; leadership of multicentre trials (Tackling AKI; AFiRM; MOSAICC)  Other supervisors may include:  Tom Blakeman, Clinical Senior Lecturer in Primary Care, University of Manchester (GP Academic focused on acute kidney Injury safety in primary care and care transitions, with expertise in Implementation research including qualitative expertise and RCT evaluation self-management support interventions in primary care)  Elizabeth Camacho, health economist, senior research fellow, University of Manchester (Health economist and modeller with experience of economic modelling of acute kidney injury)  Darren Ashcroft, Professor of Pharmacoepidemiology, University of Manchester (International expert on medication safety and CPRD analysis/Director, NIHR GM PSTRC and Medication Safety Theme lead (2012-2023)/Pharmacovigilance Expert Advisory Group (MHRA))  Advisory Group  Tony Avery, GP, Professor of Primary Health Care and NIHR Senior Investigator, University of Nottingham  Caroline Sanders, Professor of Medical Sociology, The University of Manchester |
| Potential for cross consortium networking and educational opportunities: |
| The PhD will be led by the University of Manchester working in partnership with the University of Nottingham, both being members of the NIHR School for Primary Care Research.  The PhD will be aligned with our current NIHR and UK Kidney Research studies focused on AKI. With a need to avoid treatment burden and in a context where clinical workload has reached ‘saturation point,’ our current NIHR HS&DR (Blakeman, Ashcroft, Sanders) and UK Kidney Research (Selby) funded studies focus on:   1. Identifying, understanding and targeting variations in recommended post-discharge AKI care processes. 2. Developing, implementing and evaluating the role of biomarkers to prioritise care for those at highest risk, whilst reducing unnecessary follow-up for people at lowest risk, &   Our current research is embedded in NHS infrastructure, with our HS&DR study (NIHR131948) being formally supported by the NHSE Renal Services Transformation Programme. The Renal GIRFT Programme, and the UK Kidney Association. This builds on our leadership within the NHS England Think Kidneys Programme and the RCGP AKI Partnership between NHS (AHSNs x2) and NIHR (CLAHRC GM, GM PSTRC) organisations. We also have links with researchers in USA (ASSES AKI) who are leading research to determine how to improve outcomes for people affected by AKI. As such, the PhD is well placed to enable the translation of evidence to impact. |
| Project description: |
| BACKGROUND & RATIONALE: Acute Kidney Injury (AKI) is a common, harmful and costly clinical syndrome. In England it affects nearly half a million people a year, with 1 in 7 people admitted to hospital unexpectedly having sustained AKI. It is more common in older people living with multiple health conditions. AKI is an important marker of vulnerability and is associated with high mortality rates, high rates of unplanned readmission (1 in 5 within 30 days) and poor long-term cardiovascular outcomes (1 in 5 sustain AKI again, 1 in 6 develop chronic kidney disease (CKD), over the year following AKI, 1 in 4 suffer a major cardiovascular event).  Tackling the harms associated with AKI is a global priority. In order to reduce unplanned readmissions and improve cardiovascular outcomes, medicines management is a key element of care for people who have had an episode of illness affected by AKI. Recognising a need to place AKI in the context of people living with multiple long-term conditions (multimorbidity), post-AKI medicines management needs to consider care for people with heart failure, a history of myocardial infarction, diabetes, hypertension and/or evidence of proteinuric chronic kidney disease. This includes avoiding high risk drugs (NSAIDs) as well as identifying patients who may benefit from restarting, monitoring and titrating of cardiovascular medicines (diuretic medication in patients with heart failure; and /or affecting renin-angiotension-aldosterone system (ACE-i/ARB)).  A range of approaches have been proposed to enhance adherence to recommended post-AKI care processes including post-AKI clinics as well as expanding the role of AKI nurse specialists. Primary Care Network (PCN) Pharmacists also form part of a new workforce to improve integrated care and offer the potential to improve care and outcomes for vulnerable groups including people who are affected by AKI. However, evidence underpinning the value of these different approaches is currently unclear. As part of a wider programme of AKI research, the proposed PhD will examine the role of PCN Pharmacists in optimising care and reducing harm for people affected by AKI.  AIM: To conduct economic modelling to estimate the relative value of PCN pharmacists to improve post-AKI care and outcomes.   1. Systematic literature review to estimate the effect on outcomes of suboptimal adherence to recommended post-AKI processes of care 2. Care pathway analysis to estimate the current costs of recommended post-AKI processes of care and the economic impact of variations in adherence 3. Stakeholder consultation to identify PCN pharmacists’ role in delivery of recommended post-AKI care, infrastructure requirements and barriers to implementation, likely target populations, resource use, core process and success metrics 4. Characterise and estimate the resource use of PCN pharmacist post-AKI care approaches 5. Evaluate the potential clinical effectiveness and cost-effectiveness of implementing PCN pharmacists to optimise post-AKI care approaches 6. Characterise key uncertainties in the evidence. |

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| Training and development provision by host: |
| *Formal training:* Formal training in systematic review, economic modelling, CPRD analysis, use of STATA and R. |
| *Informal training:* The Doctoral student will gain expertise from being part of a multidisciplinary team with expertise in a range research methodologies (modelling, CPRD analysis, qualitative research and consensus methodology). The PhD will be aligned with key our NIHR infrastructure (PSTRC; SPCR) and our NIHR HS&DR funded study focused on identifying, understanding and targeting variation in post-discharge AKI care. |
| *PPIE:* Patient and carer voice and experience are central to our programme of research, with the Kidney Patient Involvement Network (KPIN) integral to our current NIHR HS&DR study. To support training, we will seek to embed the PhD into our working relationships with KPIN and PRIMER (University of Manchester) |