

Academic strategy for nephrology in Sheffield 2015-2018

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Executive summary

Academic nephrology in Sheffield has a long and respected tradition expressed through research and educational activities at the Sheffield Kidney Institute (SKI) and the Academic Unit of Nephrology. Given recent changes in personnel, national funding priorities, university and NHS reorganisation, we propose this 3 year strategy that aims to safeguard and promote academic nephrology in Sheffield that both university and clinical stakeholders can support. We plan to strengthen our infrastructure and research team in order to increase our capacity to deliver a high impact program of both clinical and academic research.

Current research strengths

- Polycystic kidney disease/Renal genetics
- Peritoneal dialysis/Home dialysis therapies
- Clinical trials – high recruitment rate, excellent research coordinator
- Good laboratory infrastructure with international reputation
- All university staff returned in REF 2014 (5/5)

Current research infrastructure

Our team.

The academic research team is headed by Professor Albert Ong (academic head), supported by Prof Martin Wilkie (CRN Division 2 co-lead) and Dr Arif Khwaja (CRN Renal Specialty lead and Clinical Research Lead).



Our clinical research team comprises a research co-ordinator Louese Dunn and a research nursing team within the NIHR Clinical Research Facility based on the Northern General Hospital Site. We have strong engagement from consultant clinical colleagues, including nephrologists and renal failure surgeons, as principal investigators in NIHR portfolio adopted studies. Promising areas for development include recent collaborations with SCHARR, Bone Metabolism and Cardiovascular Science within the Faculty of Medicine.

We are in the unique and fortunate position of having a number of extremely high-calibre academic nephrology trainees who have completed or are working towards higher degrees and have a proven track record of attracting competitive funding. They have the potential to have a transformative impact on the academic and research activities at SKI if they can be retained in Sheffield. These include:

- Dr Roslyn Simms (post PhD) – NIHR clinical lecturer (supervised by Prof Ong) who has been awarded a prestigious Academy of Medical Sciences starter grant and an INSIGNEO translational bursary within a year of appointment to a lecturer's post.
- Dr Tim Ellam - British Heart Foundation Fellowship (post-PhD - supervised by Dr T Chico and Prof S Frances cardiovascular science) currently applying for an intermediate British Heart foundation fellowship
- Dr James Fotheringham – Kidney Research UK Fellowship (post PhD - supervised by Prof M Campbell (SchARR) and Prof El Nahas) currently applying for an NIHR intermediate fellowship
- Dr Syazrah Salam - Kidney Research UK Fellowship (supervised by Dr Khwaja and Prof R Eastell, Metabolic Bone)
- Dr Victoria Briggs – Baxter Clinical Evidence Council funding (supervised by Prof Wilkie and Prof M Campbell (SchARR))

Working arrangements

Clinical Research

The clinical research programme is managed through bi-monthly research executive meetings. The terms of references of the executive are to strengthen the clinical research within the directorate by:

- Giving all renal patients the opportunity to participate in clinical research
- Ensuring a high standard of research governance
- Building on our reputation to deliver high quality research studies
- Strengthening our capacity to recruit participants to clinical research studies
- Securing reputable research grant income for innovative projects

Clinical study accrual is closely and actively managed through monthly team meetings between the clinical research director, the clinical research co-ordinator and the CRF nursing team.

Laboratory research

Preclinical translational research is conducted in the Medical School and managed through monthly meetings of the Academic Nephrology Unit led by Prof Ong. Current research priorities are in the areas of molecular pathogenesis and treatment of ADPKD and kidney fibrosis although areas of new development will be supported by the recruitment of high calibre staff if aligned to research priorities.

Research Themes

- ADPKD and inherited renal diseases
- Dialysis outcomes research (peritoneal and haemodialysis)
- Complications of CKD including bone and cardiovascular disease
- Links with the UoS and STH cross cutting research themes including SchARR, INSIGNEO, clinical trials, imaging

Research Aims and Objectives

- Academic directorate status – application Feb 2015
- Continue to build a strong research team focussed on areas of strength

- Create a culture in which research is embedded into routine clinical activity with a strong basis in patient partnership
- Attract competitive research funding
- Increase high impact publication profile
- Ensure robust academic succession planning

Alignment with STH research objectives

We will work with the STH research office to strengthen our organisational objectives for research development. We will support colleagues to apply to join the STH and ScHARR Sheffield Clinical Research Academy. We will work with our clinical director to invest PAs for research to individuals who are able to contribute most to the research programme based on track record and development opportunity.

Metrics by which our performance will be assessed

We have identified appropriate measures that focus on our strengths and they are returned in our POF table. Our primary metrics to assess progress are clinical research accrual and delivery (number of patients recruited to portfolio studies and the 70 day recruitment benchmark). We will also return grant income, high impact publications and trial finance as these are important to us but are more unpredictable given the small size of our directorate. We will performance manage our activity against these metrics, through the bi-monthly clinical research executive meetings, monthly research business meetings and report as a key performance indicators to the monthly Directorate Management Team meeting and to the research office. Our clinical research co-ordinator will be responsible for completing and reporting our clinical research metrics.

Barriers to achievement

1. Strengthening the academic team

Attract senior clinical researchers as visiting professorships to nephrology in Sheffield for 2 days periods recurrently over 3 years. The objective will be to promote and develop collaboration with other research institutions of excellence and provide external critical review of our research program and infrastructure.

Expand numbers of mid-level academics through supporting trainees to obtain competitive fellowships. In order to do this we will appoint post-CCT research fellows to provide them the opportunity to apply for competitive external intermediate research fellowships. This will be supported by charitable and directorate funding. In addition we will provide mentorship and support for entry-level researchers to encourage/support speciality doctors to apply for academic clinical fellowships (ACFs), research training fellowships and NIHR clinical lectureships (1 year).

Employ a non-clinical lecturer/senior lecturer in laboratory science – preferably in the area of animal models to support research in ADPKD (2-3 years).

Employ an individual who can support grant writing supported by charitable funds – intermediate timescale (2 – 3 years).

Ring fence 2 hours per week of directorate business management to focus on research development directed through monthly business meetings (1 year)

2. Increase accrual to clinical studies.

In order to tackle this important problem we will -

- Motivate our current clinical team for example by incentivising clinical colleagues to participate in research – all renal consultants to be study PIs (where possible); incorporating time for research (i.e. PAs for doctors) as part of the annual job planning round allied to delivery of key targets within 2-3 years (including representation from the multidisciplinary team); to include a research accrual target in job plans (e.g. 2 patients per month).
- Work with the research nursing team provided via the clinical research facility in order to improve research effectiveness. We will increase nursing presence at key clinics, review skill mix to ensure the most effective use of nursing resource and employ a full time research support worker (on going). We will also increase research awareness amongst clinical nursing staff.
- All speciality trainees to be GCP trained and involved in at least 1 study per year as sub-PI as part of generic training in research. This will be delivered during the first year.

3. Strengthen clinical research infrastructure

To achieve this we will –

- Provide administrative support for our clinical research co-ordinator (1 year).
- Support to grant writing – in the form of an individual of high aptitude who has experience in this area (2-3 years).
- Ensure that IT systems incorporate the necessary functionality to support a vibrant clinical research programme.
- Ensure that clinical staff who have a track record in research and attracting funding can be supported to develop clinical research further through flexibility in job planning

4. Attract external funding that build on current and potential future strengths

We will

- Establish funding streams through collaboration with pharma. We have already secured funding in excess of £100,000 with UCB pharmaceuticals and University of Sheffield to develop a biobank and fund a clinical research facility nurse for 3 years to facilitate enrolment into clinical trials.
- Build on existing NIHR and charitable grant successes through collaboration with the Research Design Service.
- In conjunction with our collaborators (international and national) develop robust research proposals for key clinical trials (eg a resubmission of patient vs nurse needling for HD, resubmission of Health Foundation Scaling Up Award, Horizon2020 ADOPT consortium).

5. Pump-prime the development of major priorities

We will utilise renal research funds held by Sheffield Hospitals Charitable Trust to support key posts.

Additional funding sources include the kidney patient charities – Sheffield Area Kidney Patient Association and small grants from British Renal Society and Kidney Research UK

Communication and publicity

We will increase our visibility and contacts locally, regionally, nationally and internationally through the following -

- Prominent national leadership – eg at CRN, CLAHRC, D4D and Renal Association level, work within international societies, International Society of Nephrology sister centres, lecturing nationally and internationally, key research collaborations, publications.
- Robust research collaborations – local (eg SCHARR, INSIGNEO), national (eg University of North Staffordshire), international (PDOPPS, EuroCYST, TranCYST).
- A robust output of high impact peer reviewed, scientific publications (10 per year).
- Developing the considerable national and international ‘brand’ value of SKI as a centre of excellence for clinical training to further drive research activity. These include
 - i) building upon a number of recent awards to SKI from the International Society of Nephrology to support visiting international clinical trainees ; ERA-EDTA Fellowships;
 - ii) national educational study days in areas of expertise such as PD and ADPKD
 - iii) continue to attract clinical researchers to SKI in PD based upon the reputation of Prof Wilkie as Editor in Chief of Peritoneal Dialysis International
 - iv) forging closer links with the Global Kidney Academy to help promote SKI’s research profile internationally
 - v) promote Sheffield as a transplant centre of excellence through the Higher Degree in Transplantation Science course run by Mr Ahmed Halawa (Consultant Surgeon, Sheffield) with the University of Liverpool .

Future Directorate aspirations

To establish the SKI as a premier centre of kidney research excellence in the UK by 2018

Patient & Public Involvement

Increase the prominence of patient partnership in all aspects of our work – including in the outpatient clinic, as well as planning and delivery of clinical research. We will dedicate sufficient resources to this to ensure that patient partnership is explored and given priority. We will develop the role of research ambassadors advertised at our World Kidney Day event; and continue to run an *ad hoc* clinical research panel.

Appendix 1 - SWOT analysis for academic nephrology in Sheffield 2014 – major points

Strengths

- Polycystic kidney disease/Renal genetics
- Peritoneal dialysis/Home therapies
- Clinical trials – high recruitment rate, good research coordinator
- Good laboratory infrastructure with international reputation
- All university staff returned in REF 2014 (5/5)

Weaknesses

- Split site for laboratory and clinical research and activity
- No agreed joint identity or research strategy between university and NHS
- Diversity of research interests
- Low critical mass of senior researchers (1 WTE clinical, 1.2 WTE non-clinical)
- Lack of significant investment for new posts from NHS

Opportunities

- Promising early career researchers (post-doctoral) appointed – ACL, CDF
- Academically able junior clinical researchers – if they can be supported and retained
- Links with strong themes within the faculty – Bone, SCHARR
- Cross-faculty Interdisciplinary within university – engineering, medical physics/imaging, computing
- International links and regional networks

Threats

- Retirement and resignation of 2 non-clinical WTE – acceptable replacements
- Lack of funded career track for younger trainees (ACF/ACL) alongside reduction in NTN
- Service pressures will make academic development secondary to service development
- Oversupply of trainees nationally will discourage new entrants into nephrology
- Potential university reorganisation of research in biomedical sciences (Tooke report)