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Kidney care receives innovation boost

Pioneering solutions addressing the life-changing effects of kidney failure are now underway thanks to a national funding competition.

The 14 winners have been announced today, as part of a £3.6m competition funded by the Department of Health through the Small Business Research Initiative and managed by the National Institute for Health Research Devices for Dignity Healthcare Technology Co-operative (NIHR Devices for Dignity HTC).

The aim of the competition is to help the 5,000 people diagnosed with kidney failure every year. There are currently 41,000 patients in England receiving treatment for kidney failure.

The loss of kidney function is a life changing event that can result in life-long dependence on healthcare for the patient. Innovations in earlier diagnosis of kidney disease could reduce the number of affected individuals while others can give patients with kidney failure greater independence and enable treatment closer to home.

Although end-stage renal failure affects only 0.05% of the general population it commands 1-2% of the annual NHS Budget.

Lord Howe, Health Minister, said:
“Innovation is essential for improving treatments and finding new cures, so I am delighted that the NIHR Devices for Dignity HTC is awarding these funds to help develop technologies that can make a difference to patients suffering with kidney disease. This will also build on Britain’s reputation as a world leader in science, research and development. I look forward to learning more about the progress and success of this initiative now that these winners have been announced.”

Three of the 14 winners of the competition are aimed at the prevention of Acute Kidney Injury (AKI). It is estimated that 4.9% of hospital patients have AKI and severe cases are associated with a 10-20% chance of death within one year.

Another of the projects funded will see the development of a test for kidney disease progression in patients with diabetes, the most common cause of kidney failure.

The remaining 10 successful projects aim to improve patient independence and quality of life of people with kidney disease. These projects spread across all areas of renal medicine from pre-dialysis, haemodialysis and peritoneal dialysis and transplantation.

David Coyle, a patient who has suffered with kidney disease for over 25 years, was a judge on the competition. David said: “I was delighted to be asked to use my kidney patient knowledge and experience as a judge on the D4D selection panel to identify innovative ideas to use technology to benefit patients.

“The competition has produced some truly excellent technology initiatives which, I believe, will greatly transform patient welfare and facilitate greater independence.

D4D has found a winning formula to leverage technology for the benefit of patients at every stage of renal disease."

The winners of the SBRI competition are:

- University of Cambridge and SensorHut Ltd - development of an innovative sensor that can detect early AKI by sensing volatile molecules in the urine, at the bedside.
- Helier Scientific Ltd - development of a sensitive test for urinary K-Cadherin, a marker of kidney disease progression in patients with diabetes
- Jasmine Media Productions LLP - a virtual 4D technology to increase patient confidence towards vascular access cannulation and promote self-care and home haemodialysis treatment options
- Patientrack Limited and Western Sussex Hospitals NHS Trust – automated information technology system to calculate risk and alert clinical teams
- DocCom Careflow (tm)- ensuring faster treatment of Acute Kidney Injury using secure messaging to deliver alerts to clinicians in real time and then enabling instant, mobile cross team referrals and conversation
- UK Renal Data Collaboration-– delivering patient results in real time and modules to allow patients to flag up mistakes and changes in their medical records
- East and North Hertfordshire NHS Trust - a telemedicine platform to reduce patient hospital attendance
- IF Sensing Ltd - a device for monitoring renal function at home using interstitial fluid allowing out of hospital monitoring of kidney function
- Atlantis Healthcare - an online support programme using coping exercises to improve self-management in order to delay disease progression and aid shared decision-making around dialysis in order to reduce distress and decisional conflict
- Randox Laboratories Ltd - a test for Aminoacylase-1, a biosensor for early transplant function
- University of Leeds - an immunoabsorption system for patients due to have blood group incompatible transplants and can be used simultaneously with haemodialysis, reducing treatment time and time spent in hospital.
- Microsensor Limited - infection sensors that can be incorporated into existing peritoneal dialysis products
- Frazer-Nash Consultancy Ltd – modelling the "dialysis day" with the aim of minimising delays in haemodialysis patient treatment
- 365 Response Ltd - a booking app for transport, one key factor for delays in haemodialysis treatment

ENDS

Notes to Editors

About the NIHR Devices for Dignity Healthcare Technology Co-operative

Delivering technology solutions to support people with long-term conditions - preserving their dignity and independence.

The National Institute for Health Research (NIHR) Devices for Dignity HTC is a National initiative, hosted by Sheffield Teaching Hospitals NHS Foundation Trust, working with people, clinical and healthcare staff, inventors, charities, industry and

academics - bringing real solutions to areas of clinical and patient need in assistive and rehabilitative technologies, urinary continence management and renal technologies.

D4D's Renal Technologies theme aims to develop systems, devices and services to assist people with renal conditions to maintain their independence.

Projects within the scope of the Renal Technologies area focus on:

- Preserving dignity and promoting independence and quality of life for people suffering kidney diseases
- Improving patient access to home dialysis
- Improving patient experience and rehabilitation
- Enabling early diagnosis and prevention of kidney disease

Using hands-on support, NIHR D4D HTC takes ideas from concept through to commercialisation as rapidly as possible - providing a sustainable pipeline of projects.

For further information contact us on enquiries@d4d-htc.org.uk or visit www.devicesfordignity.org.uk/

About SBRI

The Small Business Research Initiative (SBRI), delivered through the Technology Strategy Board, is a well established process to connect public sector challenges with innovative ideas from industry, supporting companies to generate economic growth and enabling improvement in achieving government objectives.