

**NHSL / UoS – Update.****R Hamill for E Brankin – 04/06/2020**

NHS Lanarkshire has long-standing close research relationships with a number of colleagues in the University of Strathclyde (UoS), particularly, but not exclusively, in relation to:

- ‘rehabilitation engineering, rehabilitation technology, rehabilitation robotics and robotic surgery’ (*Prof P Rowe, Professor of Rehabilitation Science, also in collaboration with NHSL Stroke MCN*);
- ‘evaluation of supportive care and digital health interventions’ (*Prof R Maguire, Computer and Information Sciences, in collaboration with NHSL Cancer Services*)
- ‘use of technology to support and optimise neuro-rehabilitation’ (*Dr A Kerr, Biomechanical Engineering, in collaboration with NHSL Stroke MCN*);

The following table lists a selection of the UoS-sponsored research studies that have been carried out in conjunction with NHSL clinical teams

IRAS No.	Research Title	CI
<b>216630</b>	Real time symptom assessment using the Advanced Symptom Management System (ASyMS) for patients with malignant pleural mesothelioma (MPM)	Prof R Maguire
<b>272211</b>	Connected Symptom Management for Patients and Carers. Innovative, integrated and connected end-of-life care	Prof R Maguire
<b>236335</b>	The Design and Testing of an Enhanced, Treadmill Based Training Program for Post-Stroke Gait Rehabilitation, through Co-Production with Users; Incorporating Visual Flow, Ankle Foot Orthosis and Functional Electrical Stimulation	Dr A Kerr
<b>203454</b>	An observational study of the effects on gait of AFO use in people with ankle osteoarthritis - including gait analysis and the uncontrolled manifold hypothesis analysis of gait quality	Prof P Rowe
<b>206443</b>	Tuning of Ankle-Foot Orthoses for Early Stroke Rehabilitation: Does Real Time Kinematic and Spatiotemporal Feedback Make a Difference?	Prof P Rowe
<b>244713</b>	Process Evaluation for Technology Enabled Atrial Fibrillation Detection in Secondary Care in Scotland	Dr Marilyn Lennon
<b>257503</b>	The validation and evaluation of the 6 minute walk fitness app with clinical patients	Dr Liane Lewis

The establishment of our Strategic Partnership Agreement in September 2019 has seen in a step-change in the level of collaborative work being explored, as the following examples help illustrate:

- **Confidence in Concept (CiC) translational partner:** NHS Lanarkshire has been confirmed as a ‘translational partner’ on a bid that UoS have made to the Medical Research Council for a Confidence in Concept (CiC) award. The CiC scheme “...is a key part of MRC’s translational research strategy and provides annual awards of up to £1 million to institutions to flexibly support a portfolio of early stage translational research projects. It is intended to accelerate the transition from discovery research to translational development projects by supporting preliminary work or feasibility studies to establish the viability of an

approach...” <https://mrc.ukri.org/funding/browse/cic/confidence-in-concept-2019/> The progress and timelines of non-Covid-19 research has been impacted significantly by the current crisis. However, the expectation is that this CiC partnership which will give NHSL oversight of translational opportunities with working with UoS in the three core themes of:

- Diagnostics, devices and sensors
- Digital Health
- Drug Development/Molecular Medicine
- **Research into a novel class of Gram-Negative Antibiotic for clinical use:** Professor Iain Hunter and Drs Fraser Scott and Nicholas Tucker of the University are collaborating with Professor Stephanie Dancer (Consultant Microbiologist, Hairmyres) on a research project that has been awarded £297,000 by the Chief Scientist Office. The study aims to investigate a novel class of Gram-Negative Antibiotic to determine whether it is suitable for clinical use.
  - This is crucial work, given the ever-increasing risk from bacterial infections that have become resistant to current antibiotics.
  - Although pre-dating the CiC, this project illustrates the types of opportunity that may emerge in the field of Drug Development/Molecular Medicine
- **Covid-19 PCR testing project:** NHS Lanarkshire have agreed to work with a UoS Strathclyde team led by Professor Sir Harry Burns (former CMO) and Professor Iain Hunter looking at a novel PCR test, using new technology from a US company, for Covid-19 which can be tested on saliva – easier to administer than the current nasal swabs and potentially with better sensitivity.
  - Enhanced sensitivity has prompted the work to see whether viral load in saliva could serve as a good indicator of infection
  - Would simplify giving a sample, as does not need a clinical person with PPE
  - The company has their own data on saliva, which looks good
  - The company’s own data attest to its precision for CoV-2; they have tested against relevant bacteria/viruses that will be present by default and due to other infections
  - As demand for tests will inevitably increase, the proposal is to carry out direct comparison of this test with the current NHS Lanarkshire testing protocol, in the first instance, will include testing a total of 250 patients initially who are having their nasal swabs done
  - The project is being drafted for consideration by NHS and University Ethics

The above examples illustrate how the formal partnership with the University of Strathclyde is already providing new opportunities for our Board to collaborate on potentially ground-breaking research across a variety of areas.

An initial draft of a more comprehensive Framework Collaboration Agreement – covering such details processes for agreeing how Intellectual Property is managed between the two organisations – has been discussed and agreed. The necessary Schedule related to Data Sharing and confidentiality, which will greatly facilitate shared working, is being developed and will be reviewed and ratified by our Information Governance Committee before being finalised.