

MEET THE HSC CLINICAL ENTREPRENEURS: Biographies and Photos**Profile 1: Peter Cosgrove – Consultant Physician**

Peter is a Consultant Physician in Paediatric Emergency Medicine and Northern Ireland Specialist Transport & Retrieval (NISTAR) working at the Royal Belfast Hospital for Sick Children. He retains Specialist Registration in Ireland, the UK and Board Certification in General Pediatrics and Pediatric Emergency Medicine in the US. Peter moved home to Northern Ireland in 2020 after working as Consultant in the Division of Emergency Medicine at Boston Children's Hospital, and Instructor of Pediatrics at Harvard Medical School. In Belfast Peter provides direct patient care and simultaneous clinical instruction to trainees at all levels. His remaining efforts are spent in academic pursuits that centre on educational and research efforts focused on resuscitation, procedural sedation as well as a number of translational research activities.

The NHS Clinical Entrepreneur Programme aims to break down the silos and improve the crosspollination between the clinical, academic and industrial sectors for the benefit of patient care. After encountering numerous patients and parents in the ED who have had significant difficulties accessing healthcare exacerbated by the pandemic, Peter's idea evolved around how to improve this collaboration between patients/parents and key stakeholders of the healthcare system.

Profile 2: Frances Duffy – Consultant Clinical Psychologist

Frances is a consultant clinical psychologist working in the Northern Health and Social Care Trust (NHSCT), Northern Ireland. Her clinical work is in older people's mental health and includes diagnosis of dementia, post diagnostic support and specialist rehabilitation in delirium. She works with colleagues on regional and national committees to improve the experience and quality of life of older people and people living with dementia, including the Northern Ireland Regional Dementia Improvement Collaborative who produced the Regional Dementia Care Pathway. Frances has also collaborated with the Northern Ireland Dementia Analytics Research Users Group (DARUG) and is engaged in research to improve diagnosis and post diagnostic support in dementia.

Frances heard about the NHS Clinical Entrepreneur Programme through an email in my trust and thought it sounded like a good fit for her interests. She is passionate about finding innovative ways to understand and improve the experience of people who need support and access our services. Frances developed CLEAR Dementia Care©, an innovative model to help carers to understand dementia and respond to changes in behaviour to reduce potential distress. CLEAR Dementia Care has demonstrated improved clinical outcomes, increased clinical efficiency, financial savings, improved wellbeing for people with dementia and improved staff performance.

Profile 3: Dr Alexander Davey – ED Doctor



Sandy is an anaesthetist by training and intensivist by substantive appointment. With the COVID pandemic he also become an ED doctor! He has been exploring innovation in digital health technology from an early point in his career. Following a successful project to demonstrate machine learning use in predicting patient deterioration Sandy formed Digital Care Systems with an experienced data scientist. Their mission is to enhance patient outcomes with data-driven digital health technology solutions.

Sandy was aware of the NHS Clinical Entrepreneur Programme from an early stage but did not have a mechanism to apply at that point. There was an announcement on social media that HSCNI would be supported by InvestNI to facilitate participation and having developed a taste for innovation with a few small projects Sandy just knew that he had to go for it! Sandy has developed a digital platform called eFluidChart. It improves patient care by optimising three key pillars of intravenous fluid management:

- 1) Clinical Skills: As a web-based electronic prescribing tool it can be used for simulation-based learning in competency development.
- 2) Clinical Governance: Analytics features facilitate both real-world and virtual rapid-cycle audit to provide useful metrics of clinical practice.
- 3) Clinical Decision Support: Using simulation we are able to rapidly iterate knowledge representation from clinical guidelines in a prototype system for deployment in clinical practice.

The digital tool enhances the systems approach to managing intravenous fluid therapy and has potential to drive meaningful and measurable improvements to safety, quality, and efficiency of acute care.

Profile 4: Charlotte Quinn - Registered Nurse



Charlotte works in the acute hospital setting as a registered nurse in coronary care and of recent in cardiovascular specialist practice. She is interested in enterprise and innovation. Before nursing she worked for Local Authorities within economic development and in export and business development for the mechanical engineering sector.

A colleague involved with health innovation emailed details about the NHS Clinical Entrepreneur Programme. After reading about its unique position in bringing together healthcare workers with solutions to meet healthcare challenges, Charlotte was convinced this was a wonderful opportunity that could help explore and bring to fruition many ideas and develop her entrepreneurial thinking. In 2016 Charlotte was awarded the Mona Grey Nursing Research Award for a research proposal based on the development of a Health Innovation App.

Charlotte's main focus is disease prevention and improving patient autonomy and patient efficacy. The MyStatus.uk digital business aims to provide people with the opportunity to assess their own health status using evidence-based research and statistics with research-based strategies to improve their health outcomes. MyStatus.uk uses the most up to date evidence on health and offers health improvement strategies that are specific to the person, and always research based.

Profile 5: Sinead Welsh – Social Worker and Child Protection Specialist



Sinead is a mother of 3 young children from a small rural town called Fintona in Co. Tyrone Northern Ireland. She is a Social Worker, qualified from the Queen's University of Belfast, and an International Child Protection Specialist having spent over 10 years working for the Australian Government. She has held a series of senior management positions to include Case Conference Chair Lady; Court Officer; Family Law Court Liaison Advisor and held the Child and Adult Mental Health Portfolios. Sinead worked alongside Victoria Police around the establishment of the Child Sexual Assault and Family Violence Investigation Teams in Melbourne. She is a Mental Health Advocate.

Sinead saw the NHS Clinical Entrepreneur Programme advertised on LinkedIn and felt that she had the qualifications, international experience and drive to excel her Informed Minds App with the expertise and networks on the CEP.

Profile 6: Richard Mayne - GP



Richard works clinically as a GP as well as undertaking research in sedentary behaviour and physical activity. He is developing innovative solutions to help people to be less sedentary and more physically active in order to live longer, happier and healthier lives.

Richard heard about the NHS Clinical Entrepreneur Programme through the HSC R&D email bulletin and decided to apply as he is keen to see how he can take his idea further by establishing connections in the healthcare sector both inside and outside of the NHS. Richard's start-up idea is all about helping desk-based workers to be less sedentary and more physically active.

Profile 7: Rawa Lina Jawad - Dentist



"I graduated in 2014 and started my journey as an NHS dentist. As an AI and business enthusiast, I was inspired by Peter Thiel's zero to one philosophy, and Max Tegmark's philosophy of developing responsible AI and AI governance.

"Being curious about automation and the management of complex systems, I became intrigued by the pitfalls within the standard patient consent journey, where only incremental improvements have been made over the years.

"I was surprised to find out that this lack of improvement had led to billions of pounds of litigation in NHS hospitals alone, making them some of the biggest future liabilities on government balance sheets.

"Guidance documents for healthcare professionals are incredibly complex, particularly for dentists and doctors, and I became fascinated with the concept of streamlining the consent process in the healthcare setting.

"Having conducted hours of interviews with patients, dentists and doctors, I reached out to my network of business mentors, academic professors, and other founders for guidance on how to tackle the problem of getting a cost effective prototype built.

“I created a solution using my own experiences with patients and feedback from my market research.

“Medicube was born! It can be described as an AI assisted remote learning platform, which aims to automate some of the communications between clinicians and patients.

“In a world where face-to-face contact has been challenged, Medicube allows clinicians to compile informative educational material for patients with regards to upcoming healthcare procedures. Medicube is to be used alongside healthcare consultations, to empower the patient and, by automating part of the process, saves time for the clinician.

“Nothing could have been better suited for my start-up progress than the NHS clinical entrepreneurs’ program, due to its extensive network and access to NHS stakeholders.”

Profile 8: Dr Luke Ward - Chief medical officer with Eolas medical



Dr Luke Ward is the Chief Medical Officer with Eolas Medical, a Belfast based software company that aims to give healthcare workers access to important operational information at the point of care.

With many years experience in emergency medicine, he has witnessed first-hand the limitations of our current healthcare systems and is driven to harness the latest technological advancements to change this.

Profile 9: Dr Michael Quinn – Consultant Nephrologist



I started as a Consultant Nephrologist and then became fascinated by data and digital - I got involved in procuring technology for the DoH, in running clinical aspects of EPR and system wide digital transformation and supporting Covid responses with TRES. As a pragmatist I'm become more and more drawn to building and trying to fix things with software. At Round Safely we use video and voice technologies to accelerate new ways of communicating between clinicians, patients and their relatives. Our mission is to become the platform to handle sensitive information in a way that prioritises patients and makes healthcare feel a bit easier to navigate!

Profile 10: Dr Phil McElnay – CEO MedAll

Dr Phil McElnay is the CEO at MedAll - an organisation on a mission to make great healthcare training more accessible to millions of global healthcare professionals. In 18 months MedAll has enabled 1600 healthcare organisations to deliver 5k virtual and hybrid courses and conferences to colleagues in over 170 countries. He was previously a National Institute for Health Research Academic Clinical Fellow in Cardiothoracic Surgery and Global Medical Director at GlaxoSmithKline.

Profile 10: Dr Murali Shyamsundar - Consultant respiratory /intensive care physician and honorary senior lecturer in critical care

Dr Murali Shyamsundar is a research active respiratory/ critical care consultant. He held the NIHR clinician scientist fellowship from 2015 – 2020. He is engaged in developing smart clinical decision alert tools underpinned by innovative AI technology in collaboration with researchers in Institute of Electrical Electronics and Computer Sciences of Queen's University Belfast. Intensive care units are data rich environments with a significant potential to leverage routinely collected patient data that are otherwise discarded. His aim is to demonstrate real world impact of the effective data usage that will benefit patients in critical care settings worldwide.

Profile 11: Dr Patrick Stirling – GP

Patrick has a long history of innovation within both the digital and HSC realms with involvement in a number of successful projects such as New Models of Prescribing, GPNI.co.uk and ongoing work with the Primary care GP Intelligence platform (GPIP). His innovation within his own clinical practice as a GP partner has led to his work on digital optimisation of clinical pathways and disease monitoring within his organisation. He has a passion to help other organisations unlock the power of digital to facilitate automated, intelligent, agile, data driven digital workflows that give clinical teams the ability to work better and smarter.

