



SPECIAL EU PROGRAMMES BODY

Project Case Study: Centre for Personalised Medicine Clinical Decision Making and Patient Safety - Project update

THEME:

Research and Innovation

FUNDING (ERDF+MATCH):

€8,720,567.79

MATCH FUNDERS:

Department for the Economy and the Department of Business, Enterprise and Innovation, NHS Highland and University of Highlands and Islands

LEAD PARTNER:

Ulster University

PROJECT PARTNERS

Voscuris, Healthcare Analytics Limited, Letterkenny Institute of Technology, NHS Highland, NI Clinical Research Services, NUI Galway, Randox, Randox Teoranta, United Health Group (Optum), University of Highlands and Islands, Western Health and Social Care Trust, Letterkenny General Hospital, C-TRIC, Donegal Clinical and Research Academy.

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The aim of the CPM project is to enhance the regional research capability, while serving as a magnet for regional and FDI industry, to create innovative products and new optimised care pathway tools in priority disease areas for patients and commercial benefit.

The five Research Clusters use the methods and technologies from personalised medicine and apply them to heart disease, emergency surgery, acute kidney injury, diabetes and dementia. These are areas associated with significant clinical need and commercial potential and will benefit significantly from the interdisciplinary academic and commercial cross-border expertise and collaboration. This case study outlines the projects work on emergency surgery.

Emergency surgery

Understanding the patterns of disease and managing variations in care delivery and outcomes in emergency general surgery (EGS) poses a major challenge for hospital systems worldwide. EGS, accounting for 10% of all hospital admissions, carries a much higher risk of complications and mortality than elective procedures and has one of the highest mortalities in medicine.

The Emergency Surgery Research Cluster is currently investigating the pattern, presentation and management of emergency surgery cases. The focus is on developing a high value care solution in the form of an EGS registry, data analytics, team education and evaluation of patient related outcome measures.

Data assimilated into the registry will support the development and evaluation of evidence-based care pathways and AI-based tools for clinical decision making. The solution seeks to benefit the health care system by improving outcomes in EGS care, facilitating patient flow, and improving resource efficiency through translation to clinical and commercial utility.

The project is highly interdisciplinary, combining the computational expertise at the ISRC at UU, extensive knowledge in biology at Northern Ireland Centre for Stratified Medicine, and the Emergency Surgery clinical expertise at Letterkenny University Hospital and Altnagelvin Hospital. Digital data, with shared care pathways and linkages to hospital systems, has enormous potential in risk assessing EGS patients and improving decision making. Using accurate, risk-adjusted, and concurrent clinical data, new education programs and AI systems, and robust decision management aids will improve outcomes for EGS admissions across our hospital systems.