**Examples of Current and Past Academic Intern Track Projects**

# **Clinical Research**

**Medicine**

* The experiences of marginalised groups in society of accessing COVID testing and vaccinations
* Investigating the potential use of BH3 mimetics in oesophageal cancer to increase the effectiveness of neoadjuvant chemotherapy
* Identification and Validation of microRNAs as Novel Diagnostic and Therapeutic Targets in Ischaemic Brain Injury
* Prescribing Patterns of High-Tech Immunosuppressant Drugs in the COVID-19 Era
* Hearing the patient voice in a renal obesity clinic

**Surgery**

* Analyzing Artificial Intelligence methods for real time tissue classification in patients undergoing endoscopic colorectal surgery following neoadjuvant chemoradiotherapy
* National audit of the neurosurgical management of Traumatic Brain Injury in Ireland
* Retrospective study to determine the validity of novel score determining the one-year survival in burns patients over 65
* Length of stay, satisfaction, complications and accuracy of robotic TKA versus computer assisted TKA
* A multi-arm interventional pilot study investigating the effect of preoperative range of motion shoulder exercises on postoperative range of motion in women undergoing sentinel lymph node biopsy and axillary lymph node dissection for breast cancer

**Anaesthetics**

* The Role of the Therapeutic Alliance in Chronic Pain Outcomes and Opioid Prescribing
* The effects of multimodal analgesia on the incidence of rebound pain following regional anesthesia in operative ankle or wrist fixation
* Management of Autism Spectrum Disorder patients in the peri-operative period
* Organ Failure Prediction in Intensive Care - A Time Series Machine Learning Approach
* Development and assessment of an online pre-op assessment tool

**Obstetrics and Gynaecology**

* A Review of Gestational Trophoblastic Disease in Ireland
* Diet quality, maternal blood pressure and placental weight among pregnant women with overweight and obesity: a secondary analysis of PEARS RCT study
* A clinical audit of the management of antenatal syphilis infection in 3 major maternity hospitals
* Therapeutic potential of mitochondrial superoxide scavenging in an in vivo model of pre-eclampsia
* Comprehensive evaluation of endometrial samples obtained from hysteroscopy and ERPC: defining normality

**Paediatrics**

* Physical activity surveillance in children with type 1 diabetes: A mixed-methods investigation using wearable technology to inform clinical management
* PoRPoISE Study: Preterm Infants and Persistant Inflammation and Sleep
* Enhanced Sensory Experience on Infant Sleep Patterns: Impact on Early Cognitive Development
* Extracellular vesicle function in extremely premature infants compared to term controls

**General Practice**

* Characterising Problematic Polypharmacy in Older People Attending General Practice
* Current practice and referral patterns for patients with heavy menstrual bleeding in primary care: a cross-sectional analysis
* A review of GP referrals to a paediatric dermatology clinic
* Pre-Exposure Prophylaxis provision in General Practice
* Towards optimum mental disorders treatment (OPTIMIST Study): A mixed methods study of prevalence, identification, and treatment in general practice

**Psychiatry**

* Establishing an Intensive Post-Traumatic Stress Disorder Treatment Programme in the Irish Defence Forces
* Mode of delivery and depression and anxiety in adolescence: findings from the Millennium Cohort Study
* Brain inputs in early psychosis: the role of the thalamic nuclei in young adolescents with psychotic experiences - a longitudinal case-control study
* Making sense of sadness: An exploration of depression in men living in rural Ireland
* Investigating the gut microbiota composition in patients with schizophrenia

**Ophthalmology**

* Evaluating the safety and efficacy of the new individualised screening pathways within RetinaScreen
* Effect of metformin on mitochondrial function in glaucomatous eye disease and exploration of possible biomechanical mechanisms of action
* Identification of novel biomarkers in age-related macular degeneration
* Identifying novel microRNAs that contribute to the pathogenesis of ocular surface inflammation in primary Sjögren’s Syndrome
* The effect of matrix rigidity/substrate stiffness on lamina cribosa cells and its role in glaucoma

# **Education**

* Eye-Tracking Technology as an Adjunct in the education of Paediatric Trainees to identify abnormal head shapes associated with non-syndromic craniosynostosis
* The Student Leadership in Healthcare Programme - Developing a Leadership Development course for medical and healthcare students
* Educator experiences in Irish psychiatry: a thematic analysis of trainer priorities for undergraduate recruitment and trainee retention
* Evaluation of the utility of simulation in supporting trainees to achieve competencies in clinical practice
* A prospective study comparing multimedia application to printed information leaflets in the provision of patient information and patients’ satisfaction with the information they have received
* Developing a Competencies Based e-Learning Module in Clinical Genetics for Undergraduate Medical Students
* Successfully transitioning to Medical Practice: an assessment of educational needs before, during and at the end of intern year
* 3D printed airway model for simulation training in emergency cricothyroidotomy
* Assessment of the impact of novel methods on undergraduate pathology teaching
* Defining assessment standards at the nodal point of a trainee to autonomous Consultant Surgical practice in the European Union (EU) and Affiliates
* Enhancing Emergency Simulations with 3D-Printed Pathology
* The EQUITY Project: Evaluating Existing Education on Health Equity

# **Healthcare Leadership and Management/QI**

* The impact of the COVID-19 pandemic on maternity services in Cork University Maternity Hospital (CUMH), a major tertiary hospital from January 2019 to December 2023
* Sustained Improvement in Malignant Melanoma Prognosis at a Consultant-Delivered Multidisciplinary Pigmented Lesion Clinic in Cork: A Follow-Up Study
* An Evaluation of Disparities of Care in terms of Nationality in Breast Cancer in Ireland
* Termination of Pregnancy in Ireland: a retrospective review of the first three years of service at one tertiary maternity unit
* Establishing actual weight in ischaemic stroke patients to facilitate accurate dosing of thrombolysis: a process evaluation and QI project
* Defining and Remediating the Patient Safety Trajectory of Cancer at a National Cancer Centre
* Exploration of the association of global national income with time-to-death in critically ill patients
* A systematic review and meta-regression analysis to identify which QI strategies or combination of QI strategies are most effective in improving parameters of diabetes care and engagement in children with T1D
* Progression of Healthcare Associated Infections within Ireland: Retrospective record analysis from the Second Irish National Adverse Events Study (INAES-2)
* Adherence to the Kidney Disease: Improving Global Outcomes (KDIGO) guidelines in haemodialysis patients
* A quality improvement initiative to reduce delays in assessing C-Spine patients dramatically (Health Service Executive, 2018/2019)
* Hepcare: Integrating Hepatitis C care for at risk patients
* Bioethics of funding a national pre-exposure prophylaxis (PrEP) programme for HIV infection
* Effect of electronic reminders on physicians ordering blood tests.
* A comparative study of before and after introduction of the WHO Safe Surgery checklist
* Audit of the investigation and management of moderate to severe hyponatraemia
* Investigating the adequacy of our approach to vascular access in haemodialysis patients in the West of Ireland and the reasons for our low arteriovenous fistula uptake rates
* The Mater Hot Joint Pathway - Use of rapid access polarised light microscopy and a secure group messaging app to improve the diagnosis and management of patients with acute hot swollen joints: a quality improvement project
* Implementing a delirium pathway and a staff education programme to improve delirium detection in the emergency department
* Modelling the clinical and economic impact of the HSE Chronic Disease Management Programme