

Fellow	Job title	Speciality/ Department	Clinical division	Sub-clinical division	Hospital site	Project title	Project description
Carolyn Spring	Research Nurse	Directorate of Nursing, Corporate Nursing	Corporate	Other	St Mary's	How are ICHT Nursing Associates (NAs) making a difference? Exploring the attitudes of nurses and healthcare assistants towards NAs	The recruitment of 12,500 Nursing Associates (NAs) in 2019 is a key government strategy to alleviate crisis level NHS staffing shortfalls. Using a qualitative service evaluation approach and applying an intersectionality framework, this study explores whether NAs are making a difference at ICHT. Succeeding a Mary Seacole pilot, it examines how NAs transition from a new to an emerging professional role in an already established nursing workforce. In-depth interviews will be conducted with NAs, Healthcare Assistants (HCAs) and Registered Nurses (RNs) to explore their views and attitudes concerning NAs. The objective is to identify the intra and interprofessional dynamics, organisational and managerial structures that support or impede NAs in providing effective care to enable development of an evidence base around this new role. Evidence on NAs experience and the action steps required to provide a supportive and constructive workplace will be submitted for publication.
Nunzia Altieri	Cardiac Health and Rehabilitation Dietitian	Cardiac Health and Rehabilitation Service	Surgery, Cardiovascular and Cancer	Surgery, Cardiovascular and Cancer (Cardiac)	St Mary's	Will a food portfolio that aims to maintain food structure have positive effects on postprandial glucose in type2 diabetes patients?	The aim of this study is to begin to translate new findings from Professor Frost's group about the structure and type of carbohydrate of specific foods into practice. I will evaluate the impact of a portfolio of food with a natural genetic variation in the starch assembly, on acute glycaemic control in type 2 diabetic participants. Firstly, I will do a systematic review of the current literature on resistant starch. Secondly, I will discuss to type2 diabetic people their views of this type of diet and a future study I want to conduct. Finally, I will carry out an observational study collecting blood samples from 20 participants. Results will be compared to the International Glycemic Index Table to rank the food and enable the creation of a day diet profile. The aim is to design new dietary interventions and identify more efficient and feasible strategies in the treatment of type2 diabetes.
Bijal Patel	Specialty Trainee Registrar (Year 4) in Diabetes and Endocrinology	Diabetes and Endocrinology	Medicine and Integrated Care	Medicine and Integrated Care (Acute & Specialist Medicine)	Charing Cross	Investigating the novel hormone kisspeptin as a diagnostic test for women with loss of menstrual cycles	Regular menstrual cycles are a key component of reproductive health. Loss of regular menstrual cycles (called amenorrhoea) is a major cause of infertility. The most common causes of amenorrhoea are polycystic ovarian syndrome (PCOS) and hypothalamic amenorrhoea (HA). Amenorrhoea affects a quarter of women and is associated with significant psychological and socio-economic morbidity. Unfortunately, current diagnostic tests are not able to accurately assess the underlying hormonal cause of amenorrhoea, leading to women receiving incorrect diagnoses and suboptimal therapy. Conditions causing amenorrhoea are associated with abnormal function of a part of the brain that controls reproductive hormone secretion called the hypothalamus; its function is reduced in HA but increased in PCOS. Kisspeptin is a novel reproductive hormone that tests the function of the hypothalamus. Therefore, my research aims to develop a 'kisspeptin test' in order to accurately differentiate women with HA from those with PCOS and thus improve their care.
Brett Johnson	Clinical Research Laboratory Manager	NIHR Imperial Clinical Research Facility	Medicine and Integrated Care	Medicine and Integrated Care (Integrated Care)	Hammersmith	Alpha-Melanocyte Stimulating Hormone: a novel drug target for the treatment of diabetes	Patients with Type 1 Diabetes and advanced Type 2 diabetes commonly have high blood glucose levels after eating. These can injure body organs resulting in complications such as heart attacks, blindness and kidney failure. They require life-long treatment with the hormone insulin. While insulin therapy is effective it can come with significant side-effects like very low sugar levels (hypoglycaemia) and excessive weight gain. We have discovered that a hormone from the brain called alpha melanocyte stimulating hormone ( $\alpha$ -MSH) reduces blood glucose in mice and sheep, by making them more sensitive to insulin. I now wish to find out for the first time if this is true in humans. I propose to infuse this hormone and measure blood glucose levels in healthy humans. This work will determine whether $\alpha$ -MSH holds potential to be developed as a novel drug for the treatment of both type 1 and type 2 diabetes.
Anna Kowalka	Biomedical Scientist	Clinical biochemistry	Women's, children's and Clinical Support	Women's, Children's and Clinical Support (NWL Pathology)	Charing Cross	Accelerating new treatments for obesity and diabetes with new ways to measure gut hormones	Bariatric or weight-loss surgery is currently the best treatment for diabetes and obesity. It works by increasing the secretion of hormones from the gut which reduce appetite (leading to weight loss) and improve the body's ability to process and utilise food (leading to improvement in blood sugar levels). Examples of such gut hormones include peptide YY (PYY) and glucagon-like peptide-1 (GLP-1). However, our ability to research how the surgery works is impeded by our current assays, which cannot distinguish between active and inactive forms of gut hormones. We literally cannot tell which is the right hormone to use for treatment. This project will develop new assays using a technology known as liquid chromatography/mass spectrometry. This is a technology that is able to distinguish between the active and inactive types of gut hormones. These assays will allow us to develop new treatments for diabetes and obesity for patients beyond surgery.
Vicky McKechnie	Highly Specialist Clinical Psychologist	Clinical Health Psychology and Neuropsychology	Medicine and Integrated Care	Medicine and Integrated Care (Specialist Medicine)	Charing Cross	Fear of hyperglycaemia in adults with type 1 diabetes	Living with type 1 diabetes can be associated with a number of psychological difficulties that can impact a person's self-management. Some of these difficulties have been well investigated. We have identified people who attend our type 1 diabetes clinic who experience fear of high blood glucose levels (hyperglycaemia), which has been given very little attention in the research literature. This project aims to learn more about fear of hyperglycaemia. Patients attending our type 1 diabetes clinic will complete a number of measures to ascertain the levels of this problem, and whether there are any factors with which it is associated. A sample of patients will take part in in-depth interviews to learn more about fear of hyperglycaemia. The aim is to better understand fear of hyperglycaemia so that clinicians are equipped to assess for it and support individuals experiencing it, aiming to improve their diabetes self-management and psychological wellbeing.
Roshni Mansfield	Foundation Year 2 doctor	Department of Neonatology	Women's, children's and Clinical Support	Women's, Children's and Clinical Support (Children's Services)	Queen Charlotte's & Chelsea	Non-Invasive Continuous Cardiac Output Monitoring (NICCOM) and arterial function measurement in growth-restricted newborn infants.	The structure and function of babies' hearts and blood vessels change significantly immediately after birth. Sick babies can become unstable during this time, with low blood pressure and reduced blood flow to vital organs. Comprehensively understanding heart function helps doctors make safer decisions when managing unstable babies. At present, monitoring options are either intermittent imaging (called echocardiography) or risky invasive techniques. Babies who do not grow well in the womb (called fetal growth restriction; FGR) are more likely to become unstable after birth. They also have an increased risk of high blood pressure, strokes and heart attacks in adulthood, which may be a result of changes in blood vessel function that can be detected very early in life. We aim to validate a novel non-invasive heart monitor (NICaS) in FGR babies, and use NICaS and vessel imaging techniques to study heart and vessel function after birth and at three months.
Simona Racaru	Staff nurse	Vascular Surgery/ Zachary Cope Ward	Surgery, Cardiovascular and Cancer	Surgery, Cardiovascular and Cancer (General and Vascular Surgery)	St Mary's	An exploration of access to and experiences of care for patients with diabetic foot disease	Half of the population with diabetes are affected by diabetic peripheral neuropathy, which is the main cause of foot ulceration and amputation. Diabetic foot ulcers and amputations are associated with poor quality of life and high rates of premature deaths. The National Institute of Health and Care Excellence recommends that people with diabetes receive a) regular foot screening to detect those at risk of foot ulcerations and b) rapid access to specialist services for those with active foot ulcers, to reduce foot complications and amputations. However, recent studies found that many people with diabetic foot complications do not have full access to these services. Such inconsistencies in care lead to adverse outcomes. This study involves routine data analysis and qualitative interviews with patients and healthcare professionals to identify barriers in accessing foot specialist services and to explore inconsistencies in treatment for patients with diabetic foot disease within Imperial College Healthcare NHS Trust.
Paul Martin	Renal medicine specialist trainee 6 (ST6)	Renal Medicine	Medicine and Integrated Care	Medicine and Integrated Care (Renal)	Hammersmith	Transplant renal artery stenosis: Observation versus stenting (TRASOS Study)	Transplant renal artery stenosis (TRAS) is a narrowing in the artery to a transplanted kidney. Symptoms of TRAS include high blood pressure, swollen legs and even transplant failure. At Imperial NHS Trust, all transplant recipients (symptomatic and asymptomatic) are screened for TRAS by a scan called magnetic resonance angiography (MRA). Patients who are found to have an MRA scan which is suggestive of TRAS proceed to angiography, with a stent placed across the narrowing if it is confirmed. Approximately 25% of our transplant patients have an angiogram, and approximately half of these will have a diagnosis confirmed and have a stent placed. Whether asymptomatic patients benefit from the stent is not known, as there have been no prospective studies to investigate this. This research aims to investigate firstly if MRA scans can better predict significant TRAS and secondly if stenting TRAS is beneficial to patients.