Joint Research Day: 27th November 2018, Burnley campus

8.45-9.15	**Registration, tea & coffee** VM136		
9.15-9.20	**Welcome / Housekeeping:** Prof Cathy Jackson, Executive Dean, Faculty of Clinical & Biomedical Sciences, Head of The School of Medicine, the University of Central Lancashire VM136		
9.20 -9.40	**Keynote Address:** Prof StJohn Crean, Pro Vice-Chancellor, University of Central Lancashire VM136		
9.40-11.40	**Panel 1: presentations** VM136 *Chair: Prof Iqbal Singh* 1. Dr Sunil Nedungayil & Gemma Hedge: Preventing falls & fractures by proactive osteoporosis case finding in Primary Care – a population intervention study. 2. Dr Asan Akpan & Dr Timothy Smith: Comprehensive care of older people – a population health approach. 3. Dr Ekwegh Uruakanwa: Association between length of stay in hospital & hand grip strength – an observational study. Q&A Session		
	Chair: Prof Anton Krige VM136 4. Prof Umesh Chauhan and Dr and Dr Georgia Chronaki: **EN**hancing **E**motional **R**esilience & **G**rowth in **Y**oung People **(ENERGY).** 5. Dr Yasara Naheed: Burnley East GPs prescribe theatre for local school children. 6. Dr Candice Satchwell & Deborah Crook: Agency, literacy, aspiration & storytelling in Lancashire. 7. Dr Leo Kroll: Values-based Practice and impact on service delivery and research. Q&A Session		
	Workshop Outlines (single slide pitch) VM136 Dr Dushyanthan Mahadevan & Dr Alison Doherty: Child & adolescent mental health research in East Lancashire: recent collaboration, future opportunities and challenges' (Workshop 1). Prof Bogdan Matuszewski & Dr Shah H.M. Khan: Challenges & Advances in Biomedical Image Computing (Workshop 2). Dr Jorge Garcia-Lara (Uclan): Infectious disease, from patient data, through the bench, to translation, & into the clinic (Workshop 2). Prof Gershan K Davis (Uclan): Do heart failure apps have a role in helping heart-failure patients (Workshop 2). Prof Iqbal Singh: Frailty, community-based interventions (Workshop 3).		
11.40-12.30	**Workshops, tea & coffee**		
	1. Child & adolescent mental health research in East Lancashire: recent collaboration, future opportunities and challenges' VM136	**2.** Science & Technology meets clinical demands: challenges and opportunities VM104	**3.** Frailty: community-based interventions VM108
12.30-12.45	**Support Services: UCLan Innovation & Enterprise / UCLan NIHR Research Design Team** VM136		
12.45-13.00	**Poster presentations** VM136		
13.00-14.00	**Lunch & networking** Cafeteria, ground floor		
14.00-15.30	**Panel 2: presentations** VM136 *Chair: Michelle Pilling* 1. Dr George Dingle: The Morecambe Bay Advice & Guidance system. 2. Dr Lucy Astle: Implementing a heart failure pathway in a primary care network; a quality improvement project 3. Dr Neil Smith: Learning and impact from significant event analysis of cancer cases. 4. Dr Fahad Yousaf: Warfarin self-monitoring for AF. 5. Dr Josephine Gibson: Anticoagulation for stroke prevention in primary care – challenges and opportunities. 6. Dr Anja Fischer (Uclan): The School of School of Psychology – overview of projects. 7. Prof Gershan K Davis (Uclan): Opinions & experiences of ''eportfolio & workplace-based assessments'' in Cardiology postgraduate training in Mersey & North West UK Hospitals. 8. Dr Nasser Khan & Dr Jenny MacDowall: Developing a new final year medical school curriculum: foundation doctors' & senior doctors' perspectives *Q&A session*		
	Workshop Outlines (single slide pitch) VM136 Dr Lisa Rogan & Dr Rahul Thakur: Reversing Type 2 Diabetes (Workshop 4). Dr Aaron Poppleton, Dr Nadeem Gire and Anam Elahi: Global Mental Health: Research Across Cultures (Workshop 5). Dr Anna Sibley & Dr John Richardson: Developing and evaluating a clinical educational model (Workshop 6).		
15.30-16.20	**Workshops, tea & coffee**		
	4. Primary care projects: • Reversing Type 2 Diabetes • CRP testing in Primary Care VM136	**5**. Global mental health: research across cultures VM104	**6.** Developing and evaluating a clinical educational model VM 102
16.20-16.30	**Closing remarks:** Prof Umesh Chauhan VM136		

Morning session:

1. Dr Sunil Nedungayil & Gemma Hedge: Preventing falls & fractures by proactive osteoporosis case finding in Primary Care – a population intervention study.

The project replicates the results of a pilot study undertaken in 2016 which saw positive outcomes in osteoporosis care. In a bid to improve outcomes for patients at risk of Osteoporosis fractures and to promote improvements in bone health, East Lancashire GP Practices have been incentivised via a local quality improvement scheme to proactively identify patients with Osteoporosis. The presentation will describe the completed and planned phases of the project and its long-term goals. It will argue that investment in both primary and secondary prevention of osteoporotic fractures may prove to be a cost-effective use of resources akin to that achieved by focusing on cardiovascular disease in recent years. The East Lancashire CCG would like to tie up with an academic partner to help with quantitative and qualitative analysis of the outcomes. The hope is to get good quality data to help shape policy and resource allocation for a comprehensive bone health programme.

2. Dr Asan Akpan & Dr Timothy Smith on behalf of the CHIME Scoping Review Group: Comprehensive care of older people – a population health approach.

Currently, as part of reorganisation arising from Sustainability and Transformation Partnerships, many regions are launching new services aimed at providing comprehensive care to people with physical, mental or social care needs. We are interested in developing a comprehensive community intervention for older people who have multiple chronic conditions. We are in the process of conducting the CHIME scoping review to help with its design. The 2016 Cochrane Review, "Interventions for improving outcomes in patients with multimorbidity in primary care and community settings," performed a literature search up to 28th September 2015. However, only 1 of the 18 trials they included met our inclusion criteria, due mainly to papers not publishing data for older people or the intervention not meeting our criteria for being comprehensive. Our preliminary searches have found a total of 8 trials, three of which are still ongoing. Broadly speaking, these interventions fall into 4 main categories: (i) Care plan/self-management (4 trials) (ii) Medication review (2 trials) (iii) Multidisciplinary team approach (1 trial) (iv) Telehealth (1 trial). There are uncertainties about the best ways to support older people with multiple chronic conditions due to the limited evidence. We will explore at the workshop gaps including different types and level of evidence that could potentially be tested in a prospective study to address these gaps.

3. Dr Ekwegh Uruakanwa: Association between length of stay in hospital & hand grip strength – an observational study.

Currently, there is a campaign towards reducing length of stay of frail older patients in hospital. The consensus behind this drive is the notion that "ten days of bed rest is equivalent to 10 years of muscle ageing." This coupled with the "#EndPJParalysis" and "last 1000 days" campaigns have led the drive for getting inpatients out of bed and back home as soon as possible. There are observational studies that confirm an association between bed rest and increase in dependency as well as between long-stay hospitalisation and increased risk of harm. However, there is no empiric research that supports the notion of muscle ageing as a direct consequence of hospitalisation. This study on the inpatients in the Royal Blackburn Hospital will attempt to answer two research questions: will an older person's hand grip measurements deteriorate in hospital and is there a difference between the change in hand-grip measurements in inpatients over and under 75 years of age? The handgrip strength is a recognised and validated tool for assessing for sarcopenia, and accordingly, physical frailty.

4. Prof Umesh Chauhan and Dr Georgia Chronaki: EN**hancing** E**motional** R**esilience &** G**rowth in** Y**oung People (**ENERGY**).**

Young people, often considered the most productive part of society, tend to be the most disengaged and vulnerable. Despite a number of prevention programmes for mental wellbeing, community-based prevention lacks a

comprehensive integrated approach that addresses how a programme works, why, and for whom. The aim of this project is to engage with young people in the Lancashire area in the development and delivery of an emotional resilience program in collaboration with Primary Care Networks (PCNs), schools, and community centres. This first phase of the program aims to conduct focus groups with young people in order to understand in an interactive setting the perspectives and attitudes of young people themselves about emotional resilience, coping mechanisms and sources of help. Insights from the focus groups and interviews with young people will inform the design of the emotional resilience program tailored to the needs of young people. This research will have important implications for an integrated approach to supporting adolescent mental in community settings.

5. Dr Yasara Naheed: Burnley East GPs prescribe theatre for local school children.

Local GP practices felt that the physical and mental health, resilience and aspirations of young people needed support following a stakeholder event held in January 2018. As a result, local GP leads worked with schools to develop an idea using theatre to improve the resilience of young people. Creative arts have shown to help young people feel confident and participate in group activities as well as build resilience in everyday life. Theatre can help explore issues in an amusing and safe way by looking at following themes: ambition, emotional and physical health. Emotional resilience is the ability of an individual to deal with stressful situations. Resilient people are able to cope and adapt to the challenges of life without any long-term or lasting problems, and it is important that we prepare our young people so that they are equipped to deal with these situations. Moreover, research has shown correlation with mental health and risk of developing long-term chronic conditions in adulthood. We will be working on this theme following the employment of the mental health workers in each of the main high schools working with BFC in the community and partners.

6. Dr Candice Satchwell & Deborah Crook: Agency, literacy, aspiration & storytelling in Lancashire.

This talk will present three projects currently taking place in Lancashire, led by educational researchers from UCLan. ***Stories2Connect*** is a large AHRC-funded research project (2015-2018), working with disabled and disadvantaged young people in Lancashire to hear and tell their stories of facing and overcoming challenges in their lives. Through a complex process involving community writers and artists, we co-produced 48 short fictional stories as books, videos and animations to share the young people's life experiences. We also created novel co-designed digital objects as a means of telling the stories. During the course of the project the young people involved gained greatly in confidence and skills, and audiences have commented on the power of the stories to convey their perspectives. Using similar story-based methods we are now working with disadvantaged young people in areas where participation in HE is much lower than expected to understand their aspirations, and how these may include (or not) Higher Education. Our aim is to understand from their point of view the personal challenges and socio-economic barriers they face. This project, called ***Rewriting the Future***, is part of the wider Future U outreach programme, funded by HEFCE. A third project called ***Children Leading on Reading*** is an intervention to enhance young children's agency in reading. Our pilot research is examining not only literacy development, but also associated social, behavioural and educational benefits of families reading together. We will present examples of stories and other outputs created with young people and discuss the significance of researching educational, social and health/well-being issues through arts-based research.

7. Dr Leo Kroll: Values-based practice and impact on service delivery and research

What is Values-Based Practice (VBP)? How does it translate into real life clinical situations? VBP is more than just another name for person-centred care, or shared decision making. The core activities of the VBP Collaborating Centre are based around three linked areas – education and training, regulation, law and guidance, and teamwork. Why does Values-Based Practice matters? We are also part of a moral and professional values-based system, one being Evidenced Based Practice (EBM). Understanding values across the whole system will affect quality of service provision. This presentation will discuss skills needed in Values Based Practice such as communication skills, decisional skills, relational skills with other agencies. It will also examine VBP impact on CAMH services that are in the midst of transformation plans with pressures across the workforce at macro, meso and micro levels. Understanding more about

VBP should help deliver quality and person-centred feedback about what really matters to our patients and us. The VB CAMH system network aspires to develop CAMH specific training in VBP over the coming years. To read more see http://valuesbasedpractice.org/more-about-vbp/full-text-downloads/ and for more information, or to join the network contact.

Afternoon session:

1. Dr George Dingle: The Morecambe Bay advice & guidance system.

The Morecambe Bay Advice & Guidance system is a bespoke, locally developed web-based communication system developed as a joint initiative by Morecambe Bay acute trust and CCG which allows GPs across the locality to access timely, secure, patient-specific advice from local consultant colleagues. This presentation will provide 1) an overview of the project journey so far; 2) a chance to see how the system works and 3) a review of the latest outcome data. We will also explore how the system has been developed further over the last five years, as well as analyse the potential for scaling up of the service for wider use.

2. Dr Lucy Astle: Implementing a heart failure pathway in a primary care network; a quality improvement project.

Heart failure is a complex clinical syndrome affecting over half a million people in the UK. It is more common than cancer and carries a worse prognosis. In spite of this, it receives less public attention and systems around the care of patients with heart failure are less robust and more variable. With an ageing population, the cost of managing patients with heart failure is increasing, estimated to be around 2% of the annual NHS budget. Within Ribblesdale Primary Care Network, we carried out a joint audit of heart failure against NICE guidelines and quality standards. The results highlighted areas for quality improvement, and we have gone on to develop a pathway for heart failure, incorporating a pilot echo advice service, and training for practice nurses to carry out enhanced primary care heart failure reviews. The project is a collaboration between primary care and secondary care Cardiology and Heart Failure Specialist Nursing services.

3. Dr Neil Smith: Learning and impact from significant event analysis of cancer cases.

The Lancashire and South Cumbria Cancer Alliance is supporting a project where GPs undertake Significant Event Analysis of recent cases of lung cancer. This is based on an established process in Pennine Lancashire where GPs discuss cancer cases, share their learning and make recommendations for practices, CCGs and secondary care. The University of Central Lancashire will offer independent thematic analysis of learning and recommendations. The aim is to add value and impact, moving beyond simple case discussion to improving services and creating better patient pathways. The ultimate goal is to diagnose lung cancer sooner, improve patient experience and save lives.

4. Dr Fahad Yousaf: Warfarin self-monitoring for AF.

TBC

5. Dr Josephine Gibson: Anticoagulation for stroke prevention in primary care – challenges and opportunities.

Stroke is a leading cause of death and severe disability in the UK. Non-valvular atrial fibrillation (AF) is a common and important risk factor for stroke, but the risk can be reduced with oral anticoagulation (OAC). This requires several steps: the detection of AF (which is often asymptomatic and thus diagnosed incidentally), evaluation of risks and benefits of starting treatment, choice of agent and dose, and support of adherence and persistence with treatment and monitoring. For many years, oral anticoagulant (OAC) treatment with warfarin by secondary care outpatient services has been the mainstay of stroke prevention in AF. However, uptake of OACs is worse than for any other class of stroke prevention medication. Furthermore, poor control of warfarin therapy confers higher bleeding risks and poorer prevention of stroke. There have been three recent developments in this model of care. Firstly, the introduction of direct oral anticoagulants (DOACs) has enabled simpler dosing, and eliminates the requirement for frequent dose variation and blood tests. Secondly, transfer of clinical responsibility for anticoagulation management from secondary

to primary care has occurred. Thirdly, patient self-management, via self-monitoring of anticoagulation using home testing, is now available and appears to be safe and cost-effective. Decision-making and ongoing management of anticoagulation are, however, complex challenges for both clinicians and people with AF, giving rise to poor uptake and outcomes. In this talk I will discuss some of the implementation challenges for these steps in the anticoagulation pathway and current evidence on how they might be addressed.

6. Dr Anja Fischer (Uclan): The School of School of Psychology –overview of projects.

The presentation will showcase research and projects in the School of Psychology at UCLan.

7. Prof Gershan K Davis (Uclan): Opinions & experiences of ''eportfolio & workplace-based assessments'' in Cardiology postgraduate training in Mersey & North West UK Hospitals.

The eportfolio and workplace-based assessment (WBA) was introduced into the Cardiology curriculum and speciality training in 2007. Based on research evidence, it is now felt to contribute to learning via the immediate provision of feedback on observed activity. There is uncertainty as to whether this intended value is being achieved. We performed a qualitative, phenomenological study of trainers' and trainees' experiences with the eportfolio and WBA. The findings showed that trainees felt the eportfolio to be of educational value and benefited their training, but it was not able to highlight their strengths and weaknesses. In conclusion, neither trainees or trainers see WBA as an effective learning tool. They think that the feedback and learning benefits could be enhanced by better implementation (undertaking the assessments and providing feedback; incorporating new technology to aid/speed up time use; better training of trainers to ensure consistency, reliability and accuracy of assessments).

8. Dr Nasser Khan & Dr Jenny MacDowall: Developing a new final year medical school curriculum: foundation doctors' & senior doctors' perspectives.

As a new school, we have an opportunity at UCLan to create a Year 5 programme which is truly fit for purpose. Data was collected from both foundation doctors (FYs) and senior doctors to inform the design of the curriculum with the aim of developing a workforce optimally suited to the challenges of being an FY, hence improving standards and patient safety whilst reducing errors and clinical incidents. As a result of the research (surveys, focus groups and thematic analysis), we have learned that FYs found clinical problems and professionalism issues most challenging. On-calls, shift working and workload were also common themes. There was strong concordance with the data collected from the senior doctors, though professionalism issues such as attendance, punctuality, work ethic were particularly strong themes. The focus group confirmed the findings from the survey and provided some useful suggestions as to what students should be taught. The information gathered will inform the development of the Year 5 taught curriculum, and will be added to material previously collected from other initiatives with stakeholders and patients. Awareness of common problems will allow these to be addressed proactively so to avoid the same errors and to ensure newly qualified doctors who are truly prepared for practice.

Workshops

Workshop 1: Child & adolescent mental health research in East Lancashire: recent collaboration, future opportunities and challenges'.

(Facilitator: Dr. Leo Kroll)

An ongoing qualitative research project will be discussed, which focuses on GP experiences in East Lancashire of working with children and young people with mental health problems. The project has involved collaboration between ELHT, UCLAN and the East Lancashire GP Federation. Its results will inform the development of the ELCAS Primary Care team. There are exciting opportunities for practice-based research and evaluation in this area, although these are challenging to balance with the current demands of delivering services for children and young people with mental

health problems. We will discuss the experiences of workshop participants, and consider specific opportunities and challenges in further collaboration

Workshop 2: Science & Technology meets Clinical Demands: Challenges and Opportunities
(Facilitator: Prof Bogdan Matuszewski)

1) *Prof Bogdan Matuszewski (Uclan) & Dr Shah H.M. Khan: Challenges & advances in biomedical image computing*. The ongoing advances in the mathematical modelling, the growing prevalence of very large datasets, ever-increasing computational power and progress in biomedical imaging devices established the biomedical image computing as a mature scientific discipline with rapidly growing number of applications fully unlocking data's diagnostic potential. These advances not only have enabled to refine existing but also made possible discovery of new biomarkers supporting biomedical research, as well as day-to-day clinical diagnosis and treatment monitoring. The talk will focus on description of the essential image computing and machine learning technologies supporting biomedical applications. Image segmentation, registration and classification methodologies will be introduced as the key enabling technologies. Examples of various applications of these technologies will be given in the context of the research projects run at the UCLan's Computer Vision and Machine Learning (CVML) Research Group and will include: radiotherapy planning and delivery monitoring; histopathology mitotic cell detection and delineation of the benign/malignant glands; workflow analysis in laparoscopic surgeries as well as support for endoscopic examinations. A brief discussion of possible joint work between CVML group and the ELHT's radiology department will also be mentioned. It is envisaged, that at least initially, it will focus on applications of artificial intelligence (AI) for anatomical segmentation and landmark detection and, more specifically, detection of bone metastases in CT scans.

2) *Dr Jorge Garcia-Lara (Uclan): Infectious disease, from patient data, through the bench, to translation, & into the clinic.*

Last century, infectious disease was responsible for a third of all deaths. Now, Medicine faces critical health threats: antimicrobial resistance (AMR), clinical trial failures for novel vaccine candidates, the changing paradigm of infectious presentations (from more and misdiagnosed skin infections, through a shift on fungal pathogens or endocarditis culprits), a raise on death from sepsis, a simmering pool of evolving pathogens, or the ever-increasing recognition of polymicrobial infection cases.

We need to 'kill bad bugs' while strengthening the patient's own microbial defences and managing AMR – not trivial. New effective therapeutic/prophylactic tools and novel targets are essential, and must be framed within the understanding of host-pathogen interactions, to efficiently address the challenges; because pathogens are here to stay!

In my laboratory at the School of Medicine (UCLan) we contemplate these challenges with an all-encompassing view and a multi-prong strategy, from basic science to application, innovation and translational science/medicine, with aligned projects on:

1. new antimicrobial small molecules: ionic fluids/lipids and foldamers
2. target identification: (i) potential novel targets for prophylaxis/immunomodulation, and (ii) a novel molecular network linking bacterial cellular organisers, essential processes and virulence factors regulation
3. human microbiota selection and pathogenesis modulation by micronutrient environments
4. biofilm model establishment (with a current focus on the oral biofilm)
5. big data studies with collaborators at Lancashire NHS Trusts on (i) endocarditis and sepsis (Blackpool Teaching Hospitals) and (ii) on microbiota, pancreatitis and pancreatic cancer (ELHT)

Multidisciplinary collaborations between scientists and clinicians are paramount, and in my experience professionally and personally rewarding.

3) Prof Gershan K Davis (Uclan): Do heart failure apps have a role in helping heart-failure patients?

Heart Failure is a serious chronic cardiovascular condition with a high mortality and its prevalence is increasing in the UK population. The NHS states that "If you have heart failure, it's important to look after your own health and wellbeing, with support from those involved in your care." Can App technology help patients do this?

Workshop 3: Frailty: community-based interventions
(Facilitator: Dr Sunil Nedungayil)

Current demographics suggest and project that by 2033 the present age of the population over 65 will rise by approximately 50% to become 22% of the total population and over 4% of the total population will be over the age of 85.

The old age dependency ratio will rise and the impact of the ageing population has to be addressed as a challenge with innovative techniques. Frailty is a long-term condition characterised by loss of biological reserves across multiple systems and vulnerability to compensation after a stressor event. In fact, in academic circles, it is described as "the most problematical expression of human ageing facing the NHS today" (Clegg).

14% of the population over the age of 60 and 65% of the population over the age of 90 falls within the frailty phenotype. In England 1.8 million people over the age of 60 and another 0.8 million over the age of 80, live with frailty with almost 93% of frail people having mobility problems and needing the use of walking aids.

The project will involve the implementation of component exercise programme that will combine a number of exercises, combining endurance, strength, coordination, balance and flexibility that have the potential to impact a variety of functional performance measures. The programme will also focus on appropriate nutritional assessment and the nutritional needs, medication reviews and psychological needs, recognising the link between all areas and frailty and the need to address all issues integrally and together.

The programme will deliver a combination of exercises and a regime focused on proprioception and balance, aerobic and strength training, in line with the nationally and internationally recognised and validated data practised in European centres, especially in other centres in Europe under development.

This programme with a focus on proprioception, aerobic and strength training needs, nutritional assessments and replacements, is not currently being delivered in any major centre in the UK.

Workshop 4 Reversing Type 2 Diabetes
(Facilitator: Dr Rahul Thakur)

Reversing diabetes is a term that usually refers to a significant long-term improvement in insulin sensitivity in people with type 2 diabetes. People with type 2 diabetes that are able to get their HbA1c below 42 mmol/mol (6%) without taking diabetes medication are said to have reversed or resolved their diabetes. This is also known as putting diabetes into remission. Loss of body weight can be particularly beneficial in helping to reverse the progression of diabetes.
The most common cause of type 2 diabetes is obesity-related, which generally follows a vicious cycle pattern:

- Diet high in calories, particularly if high in refined carbohydrates.
- Insulin levels in the bloodstream rise to cope with the high- and quick-acting carb intake.
- Weight is gained around the belly (central or truncal obesity).
- Consistently high insulin levels lead to the body's cells becoming resistant to insulin and commonly lead to weight gain.
- High insulin levels also increase weight gain.
- Insulin resistance leads to an increase in blood sugar levels, particularly after meals.
- The pancreas produces more insulin to cope wit**h** rising blood sugar levels.
- High sugar levels lead to feelings of lethargy and high insulin levels lead to increased hunger.
- Hunger often leads to overeating and lethargy, with less physical activity being taken.
- Overeating, less activity and high insulin levels all lead to further weight gain and more insulin resistance.

- Consistently high demand on the pancreas to produce extra insulin leads to damage of the pancreas' insulin-producing beta cells.
- Beta cell damage results in the body struggling to produce enough insulin, and steeper rises in blood sugar levels leads to more recognisable symptoms of diabetes, symptoms of diabetes, such as thirst and a frequent need to urinate

To reverse diabetes, the cycle needs to be broken. Research indicates that effective ways to reverse diabetes include: Low-carbohydrate diets; Very low-calorie diets; and exercise.

A longitudinal analysis will be summarised which captures not only the quantitative % changes in clinical markers but also the qualitative impact on individual patients in terms of their personal experiences, challenges and goal-setting. The latter aspect is crucial given this is a key driver for achieving the clinical outcomes. The model could be scaled up across practices/organisations depending on the outcomes. This may require additional investment initially but this may be offset with additional costs of unnecessary drugs and/or hospital admissions/referrals. This aspect may require statistical modelling given the numbers recruited are likely to be relatively small.

Workshop 5: Global mental health: research across cultures
(Facilitator: Dr Nadeem Gir and Dr Aaron Poppleton)

NICE guidance (2011) states that UK ethnic minorities should have equal access to health services and that such services should be culturally sensitive. The UN Disability Committee (2017) raised significant concerns about the care of ethnic minorities in its first review of the UK. Understanding of culturally related needs, risks, and protective factors is essential within mental health care (Colucci & Lester, 2013). The Global Mental Health and Cultural Psychiatry Research Group has conducted a number of events amongst Black and Ethnic Minority (BME) communities within East Lancashire.

Objectives
The workshop intends to inform and equip researchers in their understanding of:
- Culturally relevant health and research methodologies;
- Strategies for BME service-user engagement;
- Methods of codesign in the development of evidence-based BME mental health interventions.

Content
A range of topics relating to cross-cultural participant engagement in mental health research will be delivered in an engaging and interactive format, incorporating practical 'lessons learned' within the British South Asian and Eastern European communities. Topics include:
- The relationship between culture and mental health;
- Barriers to engagement faced by BME groups in mental health care and research;
- Steps to achieve cultural adaptation of research methodology;
- Use of different language outcome measures (back translation method);
- Engagement with diverse populations (Cultural Competency/Humility);
- Patient and Public Involvement strategies.

Main message
Promotion of BME service-user engagement and co-design within mental health research within East Lancashire can be achieved through cultural adaptation of research methodologies, allowing the development of evidence-based mental health interventions.

Workshop 6: Developing and evaluating a clinical educational model

TBC

Posters:

1. Dr Sunil Nedungayil and Phil Greenwood: Reducing falls and fractures in elderly: validation of digital app-based self-management exercise.

A minimum of two hours of strength and balance exercise per week for six months is recommended as best practice dosage to prevent falls in older adults.[1] The Moves4Me app, a digital platform that helps deliver a structured exercise and education programme to those people who are unable to access exercise by traditional methods, aims to provide self-management and educational support to reduce the risk of falls and fractures. It is designed for easy use and has various 'levels' for beginners to advanced users, with 'rewards' to motivate and promote behaviour change. The proposal is for the Moves4Me app to be rolled out in a pilot programme in East Lancashire to enable academic research to validate its effectiveness. This evidence base would support the app to be incorporated into musculoskeletal and falls pathways supporting a consistent approach and shared decision making between patients and clinicians. The proposal aligns with the use of digital technology to address the health impact of long-term conditions, early intervention and self-care in line with the Healthier Lancashire & South Cumbria Sustainability and Transformation Plan 2016/17-2020/21 and the Digital Strategy.[2] The project is being supported by Innovation Agency North-West Coast**.** We are looking for academic partners to co-design the study and help with quantitative and qualitative analysis.

2. Dr Katja Vogt: Professional Phagocytes in Health and Disease.

Neutrophils are the body's first line of defence against pathogens and play a crucial role in inflammation. The activation status of neutrophils can cycle from basal through primed to fully activated ('green-amber-red'). My research focuses on how neutrophils are primed and how different priming agents influence their function, for instance regarding their ingestion and killing of bacteria or fungi. I am exploring the consequences of neutrophil priming in clinical settings, as ample pathophysiological conditions result in the priming of neutrophils. Acute pathologies like trauma or sepsis to chronic conditions like rheumatoid arthritis or COPD can either increase neutrophil priming or desensitise neutrophils, leading to an accelerated inflammatory response or a failure to clear infection and/or inflammation, respectively. My preliminary data from epithelial and cancer cells also prompts my interest in the cytoskeleton, specifically the interaction of proteins of the cytoskeletal machinery (Dynamin and Actin) influencing cellular functions, namely cell migration or phagocytosis. These functions are crucial for innate immune cells to fulfil their role *in vivo*. I am in the process of translating my findings from tissue culture cells into primary cells (neutrophils and macrophages). I am looking forward to establishing new collaborations and starting fruitful interactions with members of the East Lancashire Trust.

3. Sarah Aghahowa: The clinical application of Neuromuscular Electrical Stimulation for oropharyngeal Dysphagia in stroke.

Speech and Language Therapists on the stroke rehabilitation ward within ELHT have begun using neuromuscular stimulation for the rehabilitation of oro-phgaryngeal dysphagia. The poster uses a case study to demonstrate the clinical application of this new treatment and report on its effectiveness with this individual patient.

4. Ciaran Grafton-Clarke: Potential use of PCSK9 inhibitors as a secondary preventative measure for cardiovascular disease following acute myocardial infarction; a North of England real-world study (by Ahmed Elamin, Kai Wen Chen, Toba Obafemi, Ahai Luvai, Ravish Katira, Gershan Davis)

[1] Sherrington C, Tiedemann A, Fairhall N, Close JCT and Lord SR: Exercise to prevent falls in older adults: an updated meta-analysis and best practice recommendations. NWS Public Health Bulletin 2011; 22 3-4
[2] https://www.healthierlsc.co.uk/digitalfuture

Proprotein convertase subtilisin/kexin type 9 (PCSK9) inhibitors are a major development in the prevention of cardiovascular disease (CVD). Administration of two human monoclonal antibodies to PCSK9 (alirocumab and evolocumab) can significantly reduce LDL-c concentrations. This study aimed to estimate the proportion of patients treated for an acute myocardial infarction (MI) (in a real-world setting), who could be considered for PCSK9 inhibitors under current NICE lipid targets criteria. PCSK9 inhibitors are expensive and so their use must be highly selective. At present, only ~2% of patients are eligible and a further 30% are deprived of benefit and improved outcomes by lack of optimisation and/or potential use of pcsk9 inhibitors.

5. Dr Aaron Poppleton: Well-being after stroke: how General Practice Can Help?
(Poppleton A., Chauhan U., Watkins C., Lightbody)

Difficulties with well-being after stroke/TIA are common yet underdiagnosed. Given frequency of contact, General Practitioners are well placed to identify emotional and psychological needs. The current study explored individuals' experiences of GP care after stroke/TIA to identify: 1) facilitators and barriers to emotional and mental health care, and 2) perceptions of the Patient Concerns Inventory (PCI) to identify concerns and health/social needs.

6. Cathie Melvin. Collaborating with clinical research teams to determine, design, deliver and disseminate research for patient benefit.

The poster relates to the experiences of collaborating with all stakeholders to design and deliver clinical trials within ELHT Maternity Services.

7. Samatha Hanock: Attendance at a specialised exercise class in the early phase of stroke rehabilitation influences attitudes to ongoing activity.

Stroke is a major cause of disability and as survival rates increase, the population of stroke survivors living with disability increases. The risk factors for stroke are well documented and evidence supports the positive effect of exercise in secondary prevention and in rehabilitation following stroke. However, participation in physical activity following stroke if often poor. The poster describes a mixed methods cohort study to explore whether attendance at a specialised exercise class in the sub-acute phase of recovery after stroke impacts on attitudes towards ongoing physical activity. Participants improved in balance and confidence and felt that this impacted on their function and ability to participate in activity. The support of therapists in tailoring ongoing physical activity to an individual's needs was identified as being important and the class was seen by some as a stepping stone to ongoing physical activity.

8. Rebecca Townsend (Smith TDH, Chauhan U.): Vitamin D guidelines: general practitioners' attitudes and awareness.

One in five people within the UK are deficient in vitamin D, with those in the north of England particularly being at high risk due to reduced synthesis from the sun. During July-August 2018, a cross-sectional questionnaire was conducted among GPs in East Lancashire CCG and Blackburn with Darwen CCG. Findings demonstrated GPs within this area regularly consulted patients at risk of vitamin D deficiency. Local guidelines were seen as the most important source of information when managing these patients and provided increased confidence for those who read them. GPs' awareness and knowledge has increased compared to earlier studies within similar populations predating NICE guidelines, although time pressures still remain a major barrier to full guideline implementation.

9. Dr Marwan Al-Dawoud: Achilles tendinopathy – why does it happen and how is the best way to treat it?

Achilles tendon problems affect a large proportion of the population and can interfere with people's livelihood and work. There is current debate on why people develop it and how it is best managed. The current evidence is based on small study numbers of a largely sporting population. We would like to investigate the prevalence, epidemiology and management options and outcomes on a large scale of the general population. Specifically, we aim to introduce a new

tendon loading model which is reproducible across NHS services nationally. We also wish to investigate the relationship between metabolic health and inflammatory conditions and the risk of developing tendinopathy. Our proposal is to compare traditional exercise treatments with newer ones at large scale to make better conclusions on what should be the 'gold standard'. We are looking for academic partners to co-design and help with quantitative and qualitative analysis.