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Hearing Health

Project Title: Career enhancing taster session in hearing health research
Supervisor: Kevin Munro will be the lead supervisor in addition to other researchers from the Manchester Centre for Audiology and Deafness (ManCAD) depending on the specific project
BRC Theme: Hearing Health

Background and Project details

We are seeking motivated audiologists, practitioners and healthcare scientists, employed in the Northwest, who are interested in developing research skills in audiology. The specific project to be undertaken in this short duration taster session will be established according to the background, interests and learning development needs of the applicant.
On-going areas of research at ManCAD that the applicant could be potentially involved with include adult hearing screening, hearing protection, genetics of new born screening, cochlear synaptopathy, ototoxicity, NF2 biomarkers, listening effort, intervention decision making, paediatric assessment, engineering solutions and technology, device uptake and deaf patient's experiences.

Potential outcomes/impact

The placement will enable you to gain hands-on experience of experimental medicine within an active clinical research setting. Bespoke training could include core clinical research skills, participant care, consent and research governance.
Outcomes of the placement include promotion of inter-professional learning and building and supporting a skilled workforce capable of advancing high quality research with the aim of maintaining and improving hearing health within a knowledge-based, patient-centred health service.
You may go on to lead independent research projects or undertake postgraduate research training. Any candidate interested in pursuing this experience further will be supported to do so by the project team.

Links with NIHR Manchester Clinical Research Facility

The applicant will have access to research mentoring and research skills development through peer-based learning and interaction. The NIHR Manchester Clinical Research Facility facilitates access to research seminars, interactive lectures, discussion groups such as case studies and weekly journal clubs to critically appraise published original articles.

Candidate

The placement would be suitable for clinical audiologists and hearing health practitioners and scientists who are interested in further exploring clinical research opportunities. The placements are suitable for those staff members without any prior research experience. These placements will complement existing schemes that have successfully led to Allied Health Professionals accessing NIHR funded programmes.

Time-frame: Between 4 to 12 weeks or equivalent number of days at 1 or 2 days per week.

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Advanced Radiotherapy

Project Title: Audit of lymphedema clinic referral practices for women undergoing radiotherapy for breast cancer
Supervisor: Marianne Aznar/Cynthia Eccles
BRC Theme/Cross-Cutting Theme: Advanced Radiotherapy/Personalised Care

Background and Project details

Regional nodal irradiation for women with breast cancer is an important risk factor for upper extremity lymphedema. Breast cancer radiotherapy accounts for approximately 25% of all radiotherapy treatments at the Christie. The most recent NICE guidance suggests that due to the unpredictable nature of lymphedema development further research into the appropriate treatment which may or may not include exercise or massage therapy.

We propose to audit current lymphedema referral practices for women treated for breast cancers with radiotherapy at the Christie. This audit will include a comparison of changes in lymphedema referrals for 6 months prior to and 6 months from the start of the covid pandemic.

The results of the audit will be presented to the breast MDT to determine if any changes in practice are warranted.

Potential outcomes/impact
-determine the frequency of lymphedema amongst patients treated for breast cancer at the Christie.
-determine need for lymphedema treatment
-determine the need for improved treatment techniques to reduce lymphedema
-compare referral practice in 6 months prior to and post –COVID `19 lockdown measures
-improve supportive care and/or radiotherapy techniques for patients under

Links with NIHR Manchester Clinical Research Facility
The placement would be based in radiotherapy at the Christie and may include visits to observe the facilities and activity of the Clinical Research Facility to gain a broader experience of EM research.

Candidate
Preferably a therapeutic radiographer. Keen interest in research and supportive care of patients undergoing radiotherapy treatments.
Timeframe:

6 to 12-weeks or number of days equivalent to

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Advanced Radiotherapy

Project Title: **Investigating MR-guided adaptive radiotherapy for cervical cancer patients using a dual isocentre planning technique**
Supervisor: Dr Alan McWilliam, Dr Robert Chuter
BRC Theme: Advanced radiotherapy – precision radiotherapy

Background and Project details
The Christie NHS Foundation Trust is one of 7 sites in the Elekta MR-linac research consortium. We have a MR-linac on site and have been treating patients since 2019. The MR-linac provides online MR guidance, allowing the superior soft tissue contrast of MR to be utilised in targeting the radiation delivery. This improved soft tissue contrast is particularly desirable for treatment of cervical cancer patients who show large daily variations in position.

However, the field length of the MR linac is limited to 22cm in the superior / inferior direction. The majority of cervical cancer patients will not fit on the machine as their lymph nodes are also included in the target volume making the required treatment field longer than 22cm. We propose splitting the target into two sets of treatment fields (1) treating the primary disease in the cervix / uterus and (2) treating the lymph nodes. Treatment fields will be blended together to reduce potential under and over-dosage due to intra-fraction movement. By splitting the fields in this way, we can also potentially adapt treatment for each set of fields individually accounting for any differences in motion.

We have developed a proof-of-principle planning solution for this process and shown that it is possible to follow the adaptive workflow. This project would build on this initial work to expand the cohort across more patients allowing an understanding of the benefits, particularly in reduction of dose to nearby normal tissues. Additionally, we need to develop a better understanding of the potential adaptive workflows required for this process to minimise the treatment time.

The student would be embedded in the advanced radiotherapy group in the radiotherapy related research group and based in The Christie. The project will use infrastructure and analysis pipelines already in place and established. As part of the placement the student will be expected to perform the work under guidance of the supervisors. There will be opportunities to learn about other projects ongoing within the group and participate in group meetings and seminars.

Some knowledge of medical physics and radiotherapy is beneficial. The student will be taught how to use the treatment planning software.

Potential outcomes/impact

This project will form part of our clinical implementation of the MR-linac. The main outcome of this work will be a proof of concept of MR-guided dual isocentre technique for the MR-linac. If successful it was start to establish this technique for future clinical implementation.

Links with NIHR Manchester Clinical Research Facility

In addition to the project-specific experience in the advanced radiotherapy group, the candidate would also be able to visit the Manchester Clinical Research Facility part of this project, facilitating a broader experience of EM research. This would encompass the clinical review of a patient, how clinical research data is collected and recorded, and will cover any relevant regulatory issues associated with EM studies (such as consent, protocol design and ethical approval).

Candidate

The project would be well suited to a medical physicist currently in training or an early career radiographer. It would complement their clinical experience, informing them in the growing field of MR-guidance in radiotherapy. All necessary training would be provided and would benefit such an individual in their future career. This experience would also be suitable for future funding applications if the candidate wish to apply for a studentship.

Time-frame: 6 weeks or equivalent number of days.

Advanced Radiotherapy

Project Title: A pilot study to explore the use of PROMS (patient reported outcomes measurement) in supporting patients with lung cancer treated with concurrent chemoradiotherapy (cCTRT).

Supervisor: Professor Faivre-Finn

BRC Theme: Advanced Radiotherapy – precision radiotherapy

Background and Project details

Patients with lung cancer receiving curative-intent concurrent chemoradiotherapy (cCTRT) often experience more severe side effects to treatment due to the combined nature of the treatment. The Christie lung team has over 15 years of experience using this combined modality treatment and understand that early reporting of treatment side effects and toxicity is a crucial part of effective management of these patients to help get through the treatment. One of the aims of the BRC precision radiotherapy theme is to develop advanced techniques that will lead to the reduction in the risk of acute and late treatment-related toxicity. The accurate assessment of toxicity is crucial to the understanding of the impact of such techniques.

Patient Reported Outcomes Measurement (PROMS) is a great tool for bringing the patient voice into cancer care and of empowering the patient to self-manage their symptoms and accurately report their toxicity to treatment to the clinicians involved in their care. More experience of using the PROMS tool in patient management is now needed. PROMS is an excellent and effective way of measuring symptoms, health status, distress and unmet needs of the patients in our care undergoing treatment. The Christie lung team has developed a validated PROMS tool and has shown that patients report toxicities as being more severe than clinicians when using this tool (Christodoulou, 2014).
Furthermore recent evidence shows that patients followed up with PROMS tools have a better survival and quality of life compared to others (Denis JNCI 2017 and Basch JCO 2016). Such tools are not yet implemented in the routine setting at the Christie.

The Christie and the Manchester Cancer Research Centre are working with a global software company ‘SAP’ on the electronic collection and integration of PROMS in a number of disease sites, including lung.

This opportunity is ideal for a clinical health professional e.g. nurse clinician or clinical nurse specialist working in lung to lead on a pilot project looking into supporting patients through the concurrent chemo-radiotherapy treatment pathway using a PROMS tool.

Patients treated with cCTRT will be identified over a period of three months. They will be asked to fill in an eight item validated PROMS questionnaire prior to cCTRT, on completion of cCTRT and every three months for 12 months using an electronic platform. The project

would be ideal for a clinical nurse specialist or similar who is responsible for managing the patients undergoing cCTRT treatment with support from the lung team.

The successful candidate will perform short telephone or face to face short interviews with patients to ascertain the acceptability of using the electronic platform and obtain feedback from patients. They will also work with the software company 'SAP' to define ways of alerting the clinical team when patients experience severe toxicity.

Potential outcomes/impact

This project would link with the initial work already undertaken on using the PROMS tool to support lung cancer patients undergoing radiotherapy (Faivre-Finn, 2013-2017).

As described above there is evidence that the collection of PROMS can improve outcomes for patients by early reporting of toxicities and symptoms. It is felt strongly that using these tools by systematically integrating a PROMS tool measurement into pathway management of a cancer patient's treatment will become part of a clinical sustainability strategy as patients with cancer have better outcomes and survival due to improve treatment options.

The challenges faced in implementation of this PROMS data collection into standard practice include:

1. Acceptability of the data collection by patients
2. Optimal frequency of the data collection
3. Role of the specialist nurse in the data collection
4. How to alert the clinician if patients are reporting worsening/severe toxicity

Links with NIHR Manchester Clinical Research Facility

In addition to the project-specific experience in the Advanced Radiotherapy theme, the candidate would also be able to visit the Manchester Clinical Research Facility part of this project, facilitating a broader experience of Experimental Medicine research.

Candidate

The successful candidate will be supervised by Prof Faivre Finn. The project would be well suited to a nurse clinician or clinical nurse specialist with experience of lung cancer and managing patient cohorts on the cCTRT pathway. It would complement their clinical experience and output from this research could influence future pathway management of lung cancer patients at The Christie.

Time-frame

4-6 weeks or equivalent number of days.

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Cancer Prevention and Early Detection

Project Title: Prevention of Breast and Endometrial Cancer with Low Calorie Total Diet Replacements
Supervisor: Dr Michelle Harvie
BRC Theme: Cancer Prevention

Background and Project details

This placement will provide the successful applicant with a unique opportunity to work with within the team of research dietitians in the Prevent Breast Cancer Research Unit at Manchester University Hospital Foundation NHS Trust.
https://preventbreastcancer.org.uk/breast-cancer-research/research-projects/diet-and-lifestyle/

The applicant would be involved with the delivery of a randomised trial which is testing whether a weight loss programme (using low calorie diet replacement drinks) can reduce risk markers for developing breast and endometrial cancer. Also whether the programme can achieve long term weight loss, hence potential maintained risk reduction.

The placement would provide grounding in the running of a dietetic research trial, including assessment of trial patients, analysis of trial data, food diary analysis. Also critical appraisal skills and a grounding in evidence based dietetics through project-based teaching, peer-based learning and interactive discussion. The dietitian would have the opportunity to advise patients on our evidence based intermittent dieting (5:2) approach which was pioneered by Dr Harvie and her colleagues in the unit.

Potential outcomes/impact

This work forms part of a larger programme of breast cancer prevention research and there would be no expectation of publication after this short research placement. Any candidate interested in pursuing this experience further will be supported to do so by the project team.

Links with NIHR Manchester Clinical Research Facility

The placement could include visits to observe the facilities and activity of the Clinical Research Facility to gain a broader experience of EM research.

Candidate

The project requires a qualified dietitian with at least 12 months of clinical work experience with an enquiring mind and a good attention to detail. A background in research methods would be an advantage, but not essential. The placement could form the basis for a future funding application for an extended period of research. All necessary training will be provided, including training in Good Clinical Practice training for research.

Time-frame:

6-weeks or 12-weeks or equivalent number of days at 1 or 2 days / week

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Dermatology (BRC/ARC GM joint project)

Project Title: Cochrane Wounds: an introduction to evidence synthesis
Supervisors: Dr Gill Norman/Dr Jo Dumville
BRC Theme: **Dermatology**

Background and Project details

The systematic collection and analysis of existing research should be the precursor to any new research as it ensures new primary research is built on firm foundations, avoids the mistakes of the past, and reduces research waste. This placement offers the opportunity to work at the base of Cochrane Wounds; one of more than 50 review groups that form the Cochrane Collaboration. We produce and publish high quality systematic reviews of the effects of wound management interventions, of prognostic factors and prognostic models and of diagnostic test accuracy in the wounds field.

The placement would involve learning about the basics of systematic reviews of different types and the steps involved in their production. The successful applicant(s) would participate in current systematic reviews, typically through peer review of review protocols and reviews, screening literature searches for eligible studies, working with colleagues to agree study inclusion, data extraction and assessment of risk of bias. The placement holder would work closely with Cochrane Wounds staff. No experience of systematic reviews is required however you would be expected to be comfortable with the basics of research design (e.g., the strengths and weaknesses of randomised and non-randomised studies for assessing intervention effects).

Potential outcomes/impact
The successful applicant(s) will acquire knowledge and hands-on experience of systematic reviewing. They will contribute to the production of systematic reviews that may go onto publication and may have the opportunity to meet authorship criteria but certainly be acknowledged in any publications. Anyone highly motivated to continue to contribute to systematic reviews in the field would be supported and encouraged to participate in the future.

Links with NIHR Manchester Clinical Research Facility
N/A

Candidate
The ideal candidate would have familiarity with the design of randomised controlled trials and cohort studies. Some experience of wound care would be a distinct advantage.

Time-frame: 4-6 weeks or number of days equivalent to

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Musculoskeletal

Project Title: Understanding the Safety of a Biosimilar Switching Programme in the UK
Supervisor: Professor Kimme Hyrich
BRC Theme: Musculoskeletal

Background and Project details

This taster session will give the opportunity to understand how drug safety data can be monitored nationally through biologic registers and how it compares to other mechanisms (i.e. through analysis of CPRD, MHRA Yellow Card, etc.).
The taster would involve embedding the AHP with the BSRBR-RA register staff, a large national pharmaco-surveillance study. This would include operational introductions, such as data collection, ethics, data validation and safety monitoring. There would also be the opportunity to analyse, under supervision, data from patients with rheumatoid arthritis switching from originator biologic to biosimilar products. As it would not be expected for the candidate to have experience in statistics this would be done under close supervision of academic staff with time for discussion of results including implications of the results.

Potential outcomes/impact

This work forms part of a larger programme of research on biosimilars and there would be no expectation of publication after such a short research period. Any candidate interested in pursuing this experience further will be supported to do so by the project team.

Links with NIHR Manchester Clinical Research Facility

In addition to the project-specific experience in the University, the candidate would also be able to attend the Manchester Clinical Research Facility part of this project, facilitating a broader experience of EM research. This would encompass the clinical review of a patient, how clinical research data is collected and recorded, and will cover any relevant regulatory issues associated with EM studies (such as consent, protocol design and ethical approval).

Candidate

This project would be well suited to a specialist hospital pharmacist with experience of biologic use for autoimmune diseases but other nursing and allied health professionals are welcome to apply. It could form the basis for a future funding application for an extended period of research. All necessary training will be provided, including training in basic statistical analysis approaches.

Time-frame: 6 weeks or 12 weeks or number of days equivalent to

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Musculoskeletal

Project Title: The impact of lupus on cognition and quality of life
Supervisor: Professor Ian Bruce, Dr Ben Parker
BRC Theme: Musculoskeletal

Background and Project details

This taster session will provide the candidate an introduction to experimental medicine in systemic lupus erythematosus (SLE), focussing on how the disease can impact on cognition and quality of life (QoL). This will involve examining QoL cognition and disease activity measures collected in a cohort of active SLE patients.
The candidate will be embedded within the CTD-research team and work on an existing project investigating cognition in active SLE. This would include operational introductions, such as data collection, ethics, and data validation. There would also be the opportunity to analyse, under supervision, data from patients with SLE, including cognitive function and functional MRI data. As it would not be expected for the candidate to have experience in statistics this would be done under close supervision of academic staff with time for discussion of results including implications of the results.

Potential outcomes/impact

This work forms part of a larger programme of research on SLE and there would be no expectation of publication after such a short research period. Any candidate interested in pursuing this experience further will be supported to do so by the project team.

Links with NIHR Manchester Clinical Research Facility

In addition to the project-specific experience in the University, the candidate would also be able to attend the Manchester Clinical Research Facility part of this project, facilitating a broader experience of EM research. This would encompass the clinical review of a patient, how clinical research data is collected and recorded, and will cover any relevant regulatory issues associated with EM studies (such as consent, protocol design and ethical approval).

Candidate

This project is open to a candidate from a nursing, pharmacy or allied health professional background. It could form the basis for a future funding application for an extended period of research. All necessary training will be provided, including training in basic statistical analysis approaches.

Time-frame: 6 weeks

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Musculoskeletal

Project Title: Understanding the impact of musculoskeletal diseases on worker productivity loss
Supervisor: Dr Suzan Verstappen
BRC Theme: Musculoskeletal

Background and Project details

This taster session will give the opportunity to understand what the impact of common musculoskeletal diseases such as inflammatory arthritis (i.e. rheumatoid arthritis, psoriatic arthritis and ankylosing spondylitis) and osteoarthritis are on worker productivity loss including absenteeism (e.g. sick leave) and presenteeism (i.e. problems at work due to ill health).
The taster would involve embedding the AHP within the Centre for Musculoskeletal Research. This would include some introductions into study design, epidemiological research and use of outcome measures related to worker productivity loss in patients with arthritis in clinical studies. The AHP will have the opportunity to join teleconferences with the outcome measures in rheumatology (OMERACT) worker productivity group. There would also be the opportunity to analyse, under supervision, absenteeism and presenteeism data from patients with inflammatory arthritis or osteoarthritis collected as part of our national cohorts or the international cohort EULAR-PRO at-work productivity study. As it would not be expected for the candidate to have experience in statistics this would be done under close supervision of academic staff with time for discussion of results including implications of the results.

Potential outcomes/impact

Within the time-frame of 6 weeks it will not be expected that there will be a publication. However, any analysis performed may be part of a future manuscript and will also inform the OMERACT worker productivity group. For those candidates who pursue a research project in this field and want to apply for funding, we will be happy to provide guidance on writing grant applications.

Links with NIHR Manchester Clinical Research Facility

In addition to the project-specific experience in the University, the candidate would also be able to attend the Manchester Clinical Research Facility part of this project, facilitating a broader experience of EM research. This would encompass the clinical review of a patient, how clinical research data is collected and recorded, and will cover any relevant regulatory issues associated with EM studies (such as consent, protocol design and ethical approval).

Candidate

This project would be well suited to an occupational therapist or physiotherapist with an interest in the impact of rheumatic diseases on employment and outcome measures of presenteeism. It could form the basis for a future funding application for an extended period of research. All necessary training will be provided, including training in basic statistical analysis approaches.

Time-frame: 6 weeks

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Musculoskeletal

Project Title: Integration of clinical and research deliverables within a UK tertiary neuromuscular service
Supervisor: Dr Hector Chinoy
BRC Theme: MSK

Background and Project details
This taster session will provide the opportunity to understand how a clinical neuromuscular service operates and provides integration for research opportunities. The taster would involve embedding the AHP with the neuromuscular service based at SRFT bridging between Rheumatology and Neurology. This would include the following:

1. Introductions around ethics, data collection and participant recruitment to clinical trials
2. To observe and practice muscle-based measurements to measure strength and endurance including manual muscle testing, dynamometry, and the functional index, as well as rehab/physio advice/intervention
3. Weekly Neuromuscular Multi-disciplinary biopsy meetings, and time spent alongside the Histopathology department learning about immunohistochemical techniques
4. Experience would be gained in the Clinical Trials Unit to observe muscle-based commercial trial work with interventional agents, and observational studies
5. Observe muscle biopsies and how these are processed in the laboratory
6. Observe inflammatory/non-inflammatory-based neuromuscular clinics
7. Observation of DNA extraction and facilities used in immunogenetic studies
8. Opportunity to analyse, under supervision, data from existing metrics data accrued from clinic. Such work would be undertaken under the close supervision of academic staff with time for discussion of results including implications of the results
9. There may also be the opportunity to partake in observation of the facilities at Manchester Metropolitan University where muscle-based research is also undertaken (e.g. DXA/single fibre EMG/exercise testing)

Potential outcomes/impact

The candidate would gain valuable experience and insight into the workings of a tertiary-level clinical/academic integrated muscle service.

Links with NIHR Manchester Clinical Research Facility

The candidate would be provided with the opportunity to attend the Manchester Clinical Research Facility to observe myositis participants being recruited into the MYOPROSP prospective study. There would be the chance to observe the workings of the CRF, mechanisms of how clinical data is collected, and would encompass regulatory issues associated with experimental medicin studies (e.g. consent, protocol design and ethical approval).

Candidate

This project would be targeted at physiotherapists/rehabilitation-based practitioners, although other nursing and allied health professionals with an interest in neuromuscular

disease would be welcome to apply. It could form the basis for a future funding application for an extended period of research.

Time-frame: 6 weeks

Musculoskeletal

Title: Does perceived quality of clinician provided information affect patients' confidence to self-administer biologics for rheumatoid arthritis?
Supervisors: Prof Anne Barton, Dr Lis Cordingley, Dr Darren Plant
BRC Theme: MSK

Background and project details

Rheumatoid arthritis (RA) is a chronic condition characterised by joint inflammation. Treatment has been transformed in recent years due to the introduction of biologic drugs that target inflammatory pathways. These drugs are expensive (£5-10,000 per patient per year) but each drug only works well in ~30% of treated patients. A number of research groups, including ours, are working to identify genes that predict which patients will or won't respond to a particular treatment, however, we know that adherence to biologics is not 100%, and little attention has been given to patients' experiences of self-administration of biologic therapies. We have previously shown that patients do not always fully adhere to treatments, however, we do not know about what factors affect adherence. It is possible that confidence (or self-efficacy) in self-administration (injection) of biologics is low in some individuals. The aims of the project are to: a) investigate the levels of confidence in patients taking a biologic for the first time, and b) investigate which factors affect confidence, including factors relating to the consultation such as patients' perceptions of the quality of the information given.

This project involves data analysis and interpretation. We have collected detailed clinical and psychological information using a prospective longitudinal cohort (n = 1500 subjects) called the 'Biologics in Rheumatoid Arthritis Genetics and Genomics Study Syndicate (BRAGGSS)', from patients about to start treatment with biologic drugs and at 3, 6 and 12 months post-treatment.

Potential outcomes/impact

This work will potentially identify factors that predict unmet patient needs which would enable support to be targeted at those with greatest need, influence clinical practice and inform the development of improved support in RA. This work forms part of a larger programme of research and there would be no expectation of publication after such a short research period. Any candidate interested in pursuing this experience further will be supported to do so by the project team.

Links with NIHR Manchester Clinical Research Facility

In addition to the project-specific experience in the University, the candidate would also be able to attend the Manchester Clinical Research Facility for part of this project, facilitating a broader experience of EM research. This would encompass the clinical review of a patient, how clinical research data is collected and recorded, and will cover any relevant regulatory issues associated with EM studies (such as consent, protocol design and ethical approval).

Candidate

This project would be ideal for any nursing, pharmacy or allied health professional with an interest in psychological influences on self-management in patients with a long-term inflammatory disease. All necessary training will be provided, including training in basic statistical analysis approaches.

Time-frame: 6 weeks

Respiratory

Project Title: *Characterisation and targeted **TR**eatment of **AC**ute **E**xacerbations of **C**hronic **O**bstructive **P**ulmonary **D**isease. The TRACE-COPD randomised controlled trial.*

Supervisors:
Prof Jørgen Vestbo
Dr. Alexander Mathioudakis
BRC Theme: Respiratory Theme

Background and Project details
This taster session will give the opportunity to a health professional to gain experience in the conduct of clinical trials.

COPD morbidity, mortality, progression and costs are largely driven by acute exacerbations, which are heterogeneous and require targeted treatments. Only 50% are induced by bacteria and require antibiotics and only 30-50% that are triggered by enhanced airway eosinophilic inflammation respond to systemic steroids. In the absence of accurate therapeutic biomarkers, antibiotics and systemic steroids are overused, posing unnecessary risks to patients and the society. These include side effects, such as infections, the development of antibiotic resistance and an increased polypharmacy burden. Procalcitonin and blood eosinophil count (EOS) are promising biomarkers that could guide the administration of antibiotics and systemic steroids, respectively. The combination of these biomarkers could revolutionise AECOPD management and needs to be evaluated in a pragmatic randomised *controlled trial (RCT).*

The TRACE-COPD is an ongoing preliminary randomised controlled trial aiming to assess the safety and efficacy of the combination of procalcitonin and blood eosinophil count to guide the administration of antibiotics and systemic steroids for COPD exacerbations.
The successful candidate will receive training in clinical research and will be involved in the recruitment and follow-up of patients, processing of samples of blood, sputum and exhaled air for research purposes.

Potential outcomes/impact

The successful candidate will receive training in the design and conduct of clinical research and -specifically- randomised controlled trial. It is anticipated that he/she will be actively involved in the TRACE-COPD trial and will get hands-on experience on important research procedures and techniques. There would be no expectation of publication after such a short research period, but this could form the basis of a future funding application for an extended period of research.

We will be delighted to support candidates who are passionate about clinical research in COPD beyond this placement. Our group conducts observational and interventional studies focusing on the understanding of the phenotypes and early origins of COPD and the development of personalised treatment strategies for COPD and exacerbations. We are

always keen to involve hard-working people who are passionate about COPD research as members of our research team or post-graduate students.

Links with NIHR Manchester Clinical Research Facility

In addition to the project-specific experience, the candidate would also be able to attend the Manchester Clinical Research Facility in Wythenshawe Hospital, facilitating a broader research experience. This would encompass the clinical review of patients, how clinical research data is collected and recorded, and will cover relevant regulatory issues associated with clinical research (such as consent, protocol design and ethical approval).

Candidate

This placement would be well-suited to a health professional with an interest in clinical trials/ clinical research in respiratory medicine. Previous exposure to respiratory medicine and/or clinical research would be desirable but not compulsory.

Time-frame: 12 weeks.

Respiratory

Project Title: The role of respiratory viruses in stable chronic obstructive pulmonary disease (COPD) and exacerbations: A series of systematic reviews and meta-analyses.

Supervisors:
Prof Jørgen Vestbo
Dr. Alexander Mathioudakis
BRC Theme: Respiratory Theme

Background and Project details
This taster session will give the opportunity to gain an insight into evidence based medicine and the conduct of systematic reviews and meta-analyses.

There is an astonishing imbalance between the ample published studies evaluating the prevalence, loads and the burdensome clinical implications of respiratory viruses among patients with stable chronic obstructive pulmonary disease (COPD) or acute exacerbations and the lack of insight on how to approach and manage such presentations in clinical practice. The aim of this project is to conduct systematic reviews of the literature to evaluate (i) the burden of respiratory viruses in stable COPD and exacerbations; (ii) diagnostic biomarkers; and the association between the presence of respiratory viruses and clinical outcomes of stable COPD and exacerbations. These systematic reviews could pump-prime clinical and translational research projects and lead to changes in clinical practice and improvement of the care that these patients receive.
Our group has already started conducting these systematic reviews and the successful candidate will be linked to our team and contribute to parts of these systematic reviews. He/she will receive training on the conduct of systematic reviews and meta-analysis and will gain a good understanding of the concept of evidence-based medicine. In addition, he/she will have the opportunity to get acquainted with up-to-date research on COPD and respiratory viruses.

Potential outcomes/impact

As described, the successful candidate will receive training on the conduct of systematic reviews and meta-analyses and will gain a good understanding of the concept of evidence-based medicine. In addition, he/she will have the opportunity to get acquainted with up-to-date research on COPD and respiratory viruses. He/she will mainly work on the identification of relevant research studies, extraction of the data that is needed for the systematic review/meta-analysis and synthesizing the data.

There will be no expectation of publication after such a short research period but the candidate may have the opportunity to present their work locally or nationally. Moreover, this could form the basis of a future funding application for an extended period of research.

We will be delighted to support the candidate beyond this placement, to continue conducting systematic reviews and meta-analyses or to be involved in clinical research in COPD. Our work focuses on the understanding of the phenotypes and early origins of COPD and the development of personalised treatment strategies for COPD and exacerbations. We are always keen to involve hard-working people who are passionate about COPD research as members of our research teams or post-graduate students.

Links with NIHR Manchester Clinical Research Facility

In addition to the project-specific experience, the candidate would also be able to attend the Manchester Clinical Research Facility in Wythenshawe Hospital, facilitating a broader research experience. This would encompass the clinical review of patients, how clinical research data is collected and recorded, and will cover relevant regulatory issues associated with clinical research (such as consent, protocol design and ethical approval).

Candidate

This placement will be well-suited to a health professional with interest in respiratory medicine and/or evidence-based medicine. Previous exposure to respiratory medicine and/or systematic reviews would be desirable but not compulsory.

Time-frame: 12 weeks.

Respiratory / Biomarkers

BRC Placement Proposal

Project Title: RADicA (Rapid Access Diagnostics for Asthma)
Supervisor: Dr Stephen Fowler, and the RADicA team
BRC Theme/Cross-Cutting Theme: Respiratory / Biomarkers

Background and Project details

The RADicA study takes place at Wythenshawe Hospital. It is a rapid access outpatient research clinic run by the asthma research team. The aim of the project is to find out the best way to diagnose asthma.

Unfortunately, there is no single test to diagnose asthma. Many breathing tests are available, but it is unclear which one of these is best. Because it can be difficult to diagnose asthma, some people may be given long-term treatment they do not need, whilst others are not given treatment that they do need. We want to improve the way asthma is diagnosed, by

understanding how to use the routine breathing tests in a better way. We also hope to develop new/better breathing tests to diagnose asthma.

The RADicA study investigates people with asthma-like symptoms (such as cough, wheeze, breathlessness or chest tightness). Breathing tests (both routine and new) are carried out on patients and some are started on an inhaler to help with the symptoms. The results of the study will be used to improve the way doctors diagnose asthma.

The successful applicant would be able to gain experience in all aspects of the conduct of this clinical trial. Most of this would be patient-facing, gaining experience in administering questionnaires and pulmonary function tests, and assessing response to treatment, under the direct supervision of the research team.

The candidate does not need any specific research experience.

Potential outcomes/impact

The successful applicant will get experience in all aspects of clinical trials, but in particular the day-to-day conduct of a project such as this. They will receive training in administering questionnaires, performing lung function tests and data collection. They will learn about asthma diagnostic and treatment pathways. They will have the opportunity to perform data analysis and writeup of a particular aspect of this project, depending on the applicant's experience and interest. We will be happy to provide support if they wish to pursue further opportunities / funding in this area to develop their research interests and career.

Links with NIHR Manchester Clinical Research Facility

The placement would include visits to observe the facilities and activity of the Clinical Research Facility to gain a broader experience of EM research.

Candidate

This placement will be well-suited to a health professional of any background, but especially with an interest in respiratory medicine (particularly asthma).

Timeframe:

6 or 12-weeks (12 preferable)