NIHR | National Institute for Health Research

The NIHR Manchester Biomedical Research Centre (BRC) supported by Health Innovation Manchester are investing in the next generation of researchers, providing an exciting opportunity for nurses, midwives, pharmacists and allied health professionals to gain the knowledge and skills needed to undertake high quality experimental medicine and translational research.

Working in collaboration with the NIHR Manchester Clinical Research Facility (CRF) and supported by Health Innovation Manchester, the Manchester BRC are offering short, flexible experimental medicine placements for new and aspiring researchers from a range of backgrounds, including nurses, midwives, pharmacists and allied health professionals.

The placements are designed to give hands-on experience of experimental medicine within an active clinical research setting. Bespoke training will include: core clinical research skills, participant care, consent and research governance. No previous background of research is required to apply. **The next placement call is due to be issued in May 2020, to be notified once the call is live please contact brcplacements@manchester.ac.uk to be added to the mailing list.**

This is an innovative opportunity to gain an insight into experimental medicine through expert supervision and interaction.

Supported by: Health Innovation Manchester

NIHR | National Institute for Health Research

What is the NIHR Manchester BRC?

The Manchester BRC is a group of expert clinical academics who conduct translational research across seven research themes to transform scientific breakthroughs into life-saving treatments and diagnostics for patients.

The BRC drives forward pioneering research in the areas of: musculoskeletal disease, hearing health, respiratory disease, dermatology and three cancer themes (prevention and early detection, radiotherapy and precision medicine).

The Rapid Translational Incubator, Biomarker Platforms and Informatics and Data Sciences cross cutting themes enable the Manchester BRC to rapidly translate scientific discoveries into new tests, treatments, devices and preventative measures that benefit patients.

For more information visit www.manchesterbrc.nihr.ac.uk

What is the NIHR Manchester Clinical Research Facility?

The Manchester CRF provides facilities for early phase clinical research studies in adults and children. Manchester CRF provides a safe, quality assured environment for delivering clinical research studies across three sites in Greater Manchester.

The Manchester CRF provides operational support services to assist investigators undertaking high-quality early phase research across a diverse range of clinical areas. Manchester CRF can support placement participants to gain experience in good clinical practice, informed consent, observing a trial and experience of working with a multidisciplinary research team. The Education and Training co-ordinators have links with the CRF and can help facilitate access and put you in touch with contacts at the Oxford Road, the Christie and Wythenshawe sites.

For more information visit https://research.cmft.nhs.uk/facilities-services/clinical-research-facility

Supported by: Health Innovation Manchester

NIHR | National Institute for Health Research

What is Health Innovation Manchester?

Health Innovation Manchester is an Academic Health Science System (AHSS) established to drive proven innovation into health and social care services at pace.

Leveraging the exceptional academic and clinical assets of the city region, we bring together basic research, translational research, clinical demand, and industry know-how and investment under a single umbrella; focused wholly on the needs of a population of 2.8m people.

Our role is to seek out and bring forward a constant flow of (industry led) innovations, accelerating them through the evaluation process and supporting them through our devolved decision-making structures so they are accepted at pace system-wide.

Operating within a devolved health and social care system enables us to create a unique infrastructure and environment for industry innovators to flourish - with a single gateway and innovation pathway, world-class informatics infrastructure, clear view of system needs, and processes that enable speedier and more accurate decisions.

For more information visit www.healthinnovationmanchester.com

Supported by: Health Innovation Manchester

NIHR | National Institute for Health Research

Information on the Manchester BRC Research Themes

Advanced Radiotherapy

Predicting the effectiveness of different types of radiation and drug-radiation combinations, as well as minimising the risk of long-term side effects.

Cancer Prevention and Early Detection

Improving prevention and early detection strategies by developing the early markers needed to diagnose cancer sooner and rapidly identify whether a treatment is having the desired response.

Cancer Precision Medicine

Developing liquid biopsy techniques (simple blood tests) to match patients to treatments most likely to work for them.

Dermatology

Addressing unmet clinical needs for complex wounds, psoriasis, hair loss and light-sensitive conditions by identifying markers and tools to personalise treatment plans.

Hearing Health

Exploring ways to deliver effective and efficient hearing health, across the lifespan, from preventing potentially devastating inherited deafness through to age-related deafness.

Musculoskeletal

Focusing on the prevention of arthritis, as well as developing new treatment approaches to musculoskeletal diseases in adults and children and new tests to improve personalisation of treatment.

Respiratory

Working towards earlier diagnosis and a more targeted approach, matching individuals with respiratory diseases to the most effective treatment for them.

For more information please visit the Manchester BRC website

www.manchesterbrc.nihr.ac.uk

Supported by: Health Innovation Manchester

NIHR | National Institute for Health Research

Why people should get involved?

Highly skilled scientists and clinical researchers across all healthcare professions are essential for the discovery of new ways to advance treatments to improve people's health.

What's in it for participants?

- Gain first-hand experience of how clinical research is undertaken in the NHS
- Explore opportunities for further engagement in:
    - Clinical research
    - Postgraduate degree study at Masters and/or PhD levels Training and vocational courses offered within our partnership
- Collaborate with senior clinical academics in delivering a short research project
- Enhance your knowledge of experimental medicine, especially in a clinical research context

What's in it for employers?

- Receiving backfill for the pay of staff who undertake a placement
- Assisting you in releasing staff to join the initiative through flexible placements:
    - placements can be attended in week blocks
    - on a day release basis
    - negotiable placement start and end dates
- Enhancing the career development of your staff through a unique training opportunity
- Facilitating staff to bring new skillsets and knowledge into their work environment
- Help shape the future of the Manchester BRC Placements scheme through feedback
- Joining collaborative networks involved in healthcare and higher education in Manchester
- Contribute to the Greater Manchester Health and Social Care Partnership strategy of improving patient outcomes through upskilling the workforce
- Play a role in aligning the efforts of healthcare partners and deepening Greater Manchester's health science ecosystem

What's in it for us?

- Inspiring NHS staff from a range of different backgrounds to engage in clinical research
- Provision of an entry route to increase clinical research capacity in the NHS

Supported by: Health Innovation Manchester

- Build collaboration between employers, Manchester BRC, Manchester CRF, The University of Manchester and other Manchester Corridor organisations
- Demonstrate the breadth of career development training on offer through the Manchester BRC
- Improve the standards and understanding of experimental medicine research
- Impact the longer term clinical research landscape in Manchester and beyond

Information for Applicants - How the placements will work

Each placement is personalised to ensure it is relevant and based on the experience and knowledge of the individual undertaking it, as well as their learning and development needs.

Prior to the start of the placement and in consultation with their project supervisor, each successful applicant will be given a personalised induction and learning objective plan. This will form the basis of the placement and act as a benchmark for progress. Your schedule of attendance, in conjunction with your employer, will also be agreed. Rather than running this like a taught degree course, we also want to give you a taster of what research courses are like; working closely with a supervisor to decide what are important aspects to learn more about and where to focus work efforts; rather than prescribing a set menu for everyone.

The placements will consist of two main aspects, the project itself and information designed to help you understand how clinical research works in practice. For applicants applying in Spring 2020, the placement must have begun by 31st March 2021. Networking opportunities will be planned to learn about research opportunities available during and after the placement.

At the end of your placement, you'll have a meeting with your supervisor to go through what you've learnt and discuss other ways you could continue to pursue your interest in research. There will also be opportunities for you to provide feedback on how you've found the placement and feed into our continual improvement. We also encourage participants to work with us to share their experience from their placement. For example, writing a reflective piece, which might be turned into a blog post with help from our communications team.

If you work part time, you are welcome to attend the placement on your day(s) off; this would not require managerial sign off. We would welcome such applications, although there

will be no transfer of payment, except for work days being missed as a result of the placement. It is not possible for us to make payments directly to the people undertaking the placements, the money is an incentive for employers to give people the time they need out of work to attend their placement.

Information for employers - How the placements will work

Once you have given your consent for someone to apply and filled in the employer support form, we will work together to agree the schedule of attendance, which can be flexible in terms of attendance style (day release to weekly attendance). Placements can begin at any time provided the project supervisor agrees, until the 31st March 2021 (for the Spring 2020 application cycle) so you can plan this to avoid potentially busy times or have sufficient time to arrange backfill. Once the placement is due to start, we will arrange for the transfer of backfill funds, into the account you've agreed with us.

Once the placement is concluded, we'll ask if you could please provide us with feedback, and have a discussion with your member of staff (of course we will be doing this as well), and help them reflect on what they have learnt and what further steps they might consider.

Eligibility

To be eligible for this scheme you must meet the following requirements:

- Currently working as a nurse, midwife, pharmacist, or allied health professional
- No previous research experience is required
- For applicants applying in Spring 2020, the placement must have begun by 31st March 2021
- In order for your employer to receive backfill, you must be attending the placement on days you would otherwise be in work
- Not be part of a Scientist Training Programme (STP) or other similar schemes, nor studying a PhD or other research based courses
- Priority will be given to those currently employed by a Greater Manchester NHS trust

Example Projects

Available projects will be confirmed when the next call is published in Spring 2020. Example projects from previous funding calls are shown below, some of these projects may be available in the next application cycle. Details will be confirmed once the call is announced.

NIHR | National Institute for Health Research

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.

NIHR | National Institute for Health Research

Advanced Radiotherapy (Precision Radiotherapy)

Project Title: Simple radiographer led MR-guided adaptive workflows for the MR linac
Supervisor: Dr Alan McWilliam, Dr Marianne Aznar, Dr Cynthia Eccles
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 now have a research MR-linac on site and are moving towards treating our first patients early-mid 2019. The MR-linac will provide 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 a number of treatment sites including disease in the pelvis, abdomen and in the head and neck.

The MR linac promises the ability to adapt to the daily anatomy at each treatment fraction. However, the process of adaption is complex, requiring updated contours, a new plan and verification of the patient's position prior to treatment. Each step requires quality assurance and safety checks, all take time as the patient waits on the couch for treatment. To fully enable this new technology, it is essential that workflows are a simple as possible and led by the team of radiographers. Currently, the most time-consuming aspect of the proposed workflow is the daily re-contouring. This project will focus on this aspect, investigating how best to use or update the organs at risk contours for a radiographer led workflow, for online adaptive radiotherapy.

The candidate would be embedded within Advanced Radiotherapy in the Radiotherapy Related Research group and be based in The Christie working closely with the research radiographer team. 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 radiotherapy image guidance workflows is beneficial. The candidate will be taught how to use the treatment planning and MR linac software. Some knowledge of statistics may be beneficial although not essential as this can be supported.

Potential outcomes/impact

This project will form part of our clinical implementation of the MR-linac. The main outcome of this work will be guidance on the best approach on handling contouring of organs at risk for the online adaptive workflow. If this project is successful, it will help establish radiographer led workflows for the MR linac.

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 an early career radiographer with a desire to experience research. 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 (Precision Radiotherapy)

Project Title: Investigating the impact of gadolinium on radiotherapy treatment planning for the MR linac

Supervisor: Dr Cynthia Eccles, Dr Alan McWilliam, Dr Marianne Aznar
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 now have a research MR-linac on site and are moving towards treating our first patients early 2019. The MR-linac will provide online MR guidance, allowing the superior soft tissue contrast of MR to be utilised in targeting the radiation delivery. In addition to improved soft tissue contrast it will be feasible to use functional imaging (fMRI) including dynamic contrast-enhanced MRI (DCE MRI) to assess tumour and normal tissue response to treatment during a course of radiotherapy. However, the impact of gadolinium chelates (the contrast agents used in DCE MRI) on radiotherapy planning and delivery is not well established.

To ensure that there are no unforeseen effects of gadolinium on radiotherapy delivery, treatment planning studies are required that calculate the planned dose delivery with and without gadolinium present. This can be achieved retrospectively using treatment planning datasets from patients who have undergone CT imaging shortly after a contrast-enhanced MRI.

This project will utilise a dataset of previously treated radiotherapy patients having undergone contrast-enhanced MR imaging shortly before their radiotherapy CT scan. Treatment plans will be created on planning CT using a density over-ride to effectively eliminate the presence of gadolinium from the contrast-enhanced MRI. A dosimetric comparison will be made with the original treatment plan in which the contrast would be present.

The candidate would be embedded within Advanced Radiotherapy in the Radiotherapy Related Research group and be based in The Christie working closely with the research radiographer team. The project will use infrastructure and analysis pipelines already in place and established. As part of the placement the candidate 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, human anatomy and radiotherapy is beneficial. The student will be taught how to use the treatment planning software. Some knowledge of statistics would be beneficial although not essential.

Potential outcomes/impact

This project will form part of our clinical implementation of the MR-linac. The main outcome will be to establish a body of work, supporting the safety of radiotherapy delivery to patients undergoing contrast enhanced MRI on the MR-linac.

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 therapy 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 (Precision Radiotherapy)

Project Title: Development of a patient experience questionnaire for comparison of matched cohorts of patients treated with MRIGRT and x-ray bases IGRT

Supervisor: Dr Cynthia Eccles, Dr Alan McWilliam, Dr Marianne Aznar,
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 now have a research MR-linac on site and are moving towards treating our first patients early 2019. The MR-linac will provide online MR guidance, allowing the superior soft tissue contrast of MR to be utilised in targeting the radiation delivery. As members of the Elekta Atlantic consortium, patients treated on the MRLinac will be entered into an international registry study (MOMENTUM) and asked to complete patient experience questionnaires, which will help with the optimisation of patient comfort and compliance when treated on these integrated systems

At the Christie, we are keen to compare the MRL patient experience to the patient experience using x-ray based IGRT systems. Information gained from these patient questionnaires will be used to identify areas in which can improve or optimise the patient experience. A patient experience questionnaire has been developed within the consortium for patients on the MRL. In order to make this suitable for patients being treated on conventional IGRT systems, the survey will need to be modified, validated and reviewed by local PPIE and ethics committees prior to its use.

This project will involve facilitating expert workshops and/or a Delphi process to modify the MRL questionnaire to be suitable for patients being treated on conventional IGRT systems, followed by content validation and finally interaction with PPIE and patient groups to review and input into the questionnaire. The fully developed and validated questionnaire will then need to put forth to local ethics for approval of use within the identified patient population.

The candidate would be embedded within Advanced Radiotherapy in the Radiotherapy Related Research group and be based in The Christie working closely with the research radiographer team. The project will use infrastructure and analysis pipelines already in place and established. As part of the placement the candidate 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 radiotherapy, and survey development methodology would be beneficial. Some knowledge of statistics would be beneficial although not essential.

Potential outcomes/impact

This project will form part of our clinical implementation of the MR-linac, and general radiotherapy service delivery optimisation. The main outcome of this work will be to establish a body best practices within the radiotherapy MRL patient pathway and ensure all radiotherapy patients receive the Christie experience.

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 therapy radiographer with a keen interest in patient-centred care. 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.

NIHR | National Institute for Health Research

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

NIHR | National Institute for Health Research

Dermatology

Project Title: Cochrane Wounds: an introduction to evidence synthesis
Supervisors: Prof Dame Nicky Cullum/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 day's equivalent to.

NIHR | National Institute for Health Research

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

NIHR | National Institute for Health Research

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

NIHR | National Institute for Health Research

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

NIHR | National Institute for Health Research

wRespiratory

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.
Supervisor: Prof Jørgen Vestbo and 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: 6 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 and 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. The candidate 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, the candidate 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, the candidate will have the opportunity to get acquainted with up-to-date research on COPD and respiratory viruses. The candidate 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: 6 weeks.

NIHR | National Institute for Health Research

BRC Placement Application Form (Listed Project)

This should be completed and emailed with your current CV and your employer support form (completed by your authorising manager) to brcplacements@manchester.ac.uk by DATE TBC
Please complete electronically and read the declaration at the bottom of the form, the table should expand as you type.

Personal/Employer Details:	
Title (Mr, Miss, Mrs, Dr etc.)	
Registered Body (HCPC/GPhC etc.) & Registration number	
First Name (s)	
Surname	
Date of Birth (dd/mm/yy)	
Home Address (or alternative mailing address e.g. work)	
Contact Telephone Number	
Email (for all communication)	
Current Occupation	
NHS Pay Grade	
Name of Authorising Manager	
Authorising Manager email address	
Proposed number of work days that would be missed to attend	
Proposed number of days for attendance not part of paid employment	

Supported by: Health Innovation Manchester

If unsuccessful, I wish to be contacted in the future when this scheme is again open for applications (Please tick this box and we will retain your email for future opportunities, if you do not tick this box, you will not receive this email)	☐
Previous Research Experience (if any)	
Please detail any experience you have previously had of research, note this isn't a requirement, we expect most people will not have any	
Choice of Project (150 words maximum per answer)	
Which project are you most Interested in?	
What aspects of this project interest you?	
What makes you a suitable candidate for this project?	
What would you expect to learn from this placement?	
Future Aims and Objectives (150 words maximum per answer)	
How would you look to apply the experience gained through the	

placement?	
Are you considering any further research related training/study in the next five years?	
If we cannot offer you the project you are interested in, we may be able to offer an alternative, so if there are other projects you may be interested in, please write the titles in this box.	

CONFIDENTIALITY AND THE SHARING OF INFORMATION

The information contained in this application will be used for the purpose of processing your application and, if you are admitted, will be held by The University of Manchester and NIHR. All data is held and processed in accordance with the requirements of the Data Protection Act 1998.

Before you start the placement, it is important that you are aware that there are certain circumstances in which confidential information about you may need to be shared between the placement team and your employer. This may be, for example:

- Where there are significant concerns about your conduct whilst undertaking the placement.
- Upon completion of the placement

If you have any objections to the sharing of confidential information, between the placement team and your employer, this need to be resolved before the application is submitted; **submission of the application is explicit acceptance of the above statement.**

By submitting this form to brcplacements@manchester.ac.uk, you confirm you have read and agreed to the below statement:

I certify that the information given in this application and in the supporting documents is accurate and complete. I understand that the submission of false, misleading, or inaccurate information may be sufficient cause for refusal of admission or termination of registration.

NIHR | National Institute for Health Research

BRC Placement Application Form (Project Proposal)

This should be completed and emailed with your current CV and your employer support form (completed by your authorising manager) to brcplacements@manchester.ac.uk by DATE TBC
Please complete electronically and read the declaration at the bottom of the form, the table should expand as you type.

Personal/Employer Details:	
Title (Mr, Miss, Mrs, Dr etc.)	
Registered Body (HCPC/GPhC etc.) & Registration number	
First Name (s)	
Surname	
Date of Birth (dd/mm/yy)	
Home Address (or alternative mailing address e.g. work)	
Contact Telephone Number	
Email (for all communication)	
Current Occupation	
NHS Pay Grade	
Name of Authorising Manager	
Authorising Manager email address	
Proposed number of work days that would be missed to attend	
Proposed number of days for attendance not part of paid employment	
If unsuccessful, I wish to be contacted in the future when this scheme is again open for applications (Please tick this box and we will retain your email for future opportunities, if you do not tick this box, you will	☐

not receive this email)	
Previous Research Experience (if any)	
Please detail any experience you have previously had of research, note this isn't a requirement, we expect most people will not have any	
Project Proposal details	
Proposed Project supervisor name:	
BRC Theme:	
Title of project:	
Research Question:	
What would you like to achievement within the placement?	
Future Aims and Objectives (150 words maximum per answer)	
How would you look to apply the experience gained through the placement?	
Are you considering any further research related training/study in the next five years?	
If we cannot offer	

you the project you are interested in, we may be able to offer an alternative, so if there are other projects you may be interested in, please write the titles in this box.	

CONFIDENTIALITY AND THE SHARING OF INFORMATION

The information contained in this application will be used for the purpose of processing your application and, if you are admitted, will be held by The University of Manchester and NIHR. All data is held and processed in accordance with the requirements of the Data Protection Act 1998.

Before you start the placement, it is important that you are aware that there are certain circumstances in which confidential information about you may need to be shared between the placement team and your employer. This may be, for example:

- Where there are significant concerns about your conduct whilst undertaking the placement.
- Upon completion of the placement

If you have any objections to the sharing of confidential information, between the placement team and your employer, this need to be resolved before the application is submitted; **submission of the application is explicit acceptance of the above statement.**

By submitting this form to brcplacements@manchester.ac.uk, you confirm you have read and agreed to the below statement:

I certify that the information given in this application and in the supporting documents is accurate and complete. I understand that the submission of false, misleading, or inaccurate information may be sufficient cause for refusal of admission or termination of registration.

NIHR | National Institute for Health Research

BRC Placement Employer Support Form

This form should be completed by a manager with sufficient authority to release the candidate. Forms will be checked for authenticity, should an applicant be approached and offered a placement. Please note the backfill offered for this placement must be used specifically for this purpose.

Applicant Details:	
Full Name	
Project Applied for	
Total backfill required (given specific salary of applicant) if known *See Note Below*	£
Required number of days for applicant to be absent from regular work if successful	
Would you want to release them in a block (i.e. four weeks continuous) or day release (i.e. 2 days a week for 10 weeks/1 day a week for 20 weeks)	
Authorising Manager's Supporting Statement for Application:	
Why would this candidate be suitable for undertaking this placement?	
How would you like to see the applicant apply the experience gained through the placement	
Authorising Manager Details:	
First name	
Surname	
Contact Telephone Number	

Supported by: Health Innovation Manchester

(work)	
Email (for all communication)	
Current Occupation	
Authorising Manager Confirmation of support:	
I confirm permission for the above named applicant to be absent from their usual work during the period specified and have the required authority to release them	☐
Signature **(Electronic is acceptable)**	

*** Special note around Backfill:**

Exactly what is written on the employer support form will be used for the backfill calculation. Please ensure this is correct, it should be calculated as the exact amount as per the **employee's specific band**, and **be inclusive of any pension contributions, income tax & employer NI contributions**, i.e. the exact amount the employer would pay, opposed to what the employee would receive.

In order for backfill to be paid, an employee must be leaving their regular job to attend the placement, i.e. no money will be paid if a candidate works part time and someone attends the placement on a day they would not usually be in work.

NIHR | National Institute for Health Research

Supported by:

Health Innovation Manchester