

Centre for Medical Education

Summer Studentship Project Summaries

For studentships commencing on 20th June 2022

Please find below an overview of the summer projects available in the Centre for Medical Education.

There are 11 projects available. Some projects may support more than one student. However, there are only 8 funded places available. Places are allocated competitively.

PROJECT 1: Training OSCE Examiners

Proposer: Dr Michael Williams

Project description:

A key feature of OSCEs is standardisation of examiners' assessments. Ideally, the only variable should be candidates' performance. Thus, training of examiners is important. OSCE examiners should all have the same understanding of the nature and purpose of OSCEs, and attitudes and behaviours should be as consistent as possible between examiners. The medical school at QUB have held OSCE examiner training face to face before COVID 19, and more recently, online. In 2021-22, over 50 examiners attended each session, some attending for the first time, but most revalidating.

Videos are used for two purposes. Firstly, exemplar scenarios are shown when things have not gone to plan, to stimulate discussion about what an examiner should do. Secondly, three mock OSCE stations are shown, of deliberately varying standards, for the attendees to give a global score on. This 'calibrates' examiners, aiding general understanding of the standards. However, these videos are outdated, in terms of the attire, PPE and sanitisation processes. New videos are therefore needed, with updated scripts, to refresh interest. This summer studentship would create a bank of such videos for training OSCE examiners, for QUB and perhaps for wider use.

Benefits to the student(s):

The student would gain an understanding of how OSCEs work; their blueprinting, writing, testing, delivery, analysis and troubleshooting, as they studied entire OSCE Examiner training sessions for context, and discussed with the supervisors. They would gain experience in writing for video, as well as shooting and editing videos. They would learn how to evaluate the product, and learn from feedback. It may be possible to produce scholarly output. Finally, they would see their creation in use for several years to come, contributing to the quality of medical education in QUB and potentially further afield.

Project duration: 6 weeks

PROJECT 2: Safe use of Social Media

Proposers: Dr Vikki O'Neill

Project description:

Social media has become a standard part of everyday life. In addition to personal use, it has become increasingly popular for professional development. Frequently medics will use social media platforms for sharing ideas and information, debating health issues, and learning. As medical professionals, the standards expected whilst using social media are the same as face to face, however there are additional risks and challenges.

This project involves the development of a 'safe use of social media' training session and quick reference toolkit, aimed at undergraduate medical students.

Useful references:

bma.org.uk/advice-and-support/ethics/medical-students/ethics-toolkit-for-medical-students/social-media

gmc-uk.org/ethical-guidance/ethical-guidance-for-doctors/doctors-use-of-social-media

Benefits to the student(s):

The student will gain an understanding of both the risks and benefits of using social media platforms such as Facebook, Instagram, TikTok, Twitter and YouTube. They will learn good communication practice, professionalism, maintaining boundaries, and patient confidentiality.

The student will also benefit from instruction in the design of computer-based learning materials.

Project duration: 8 weeks

PROJECT 3: Development of a Statistics and Epidemiology bank of both MCQs and instructional videos.

Proposers: Dr Vikki O'Neill

Project description:

The medical curriculum requires students to take some lectures and tutorials in statistics (see, the General Medical Council's Outcomes for Graduates¹). Statistics classes introducing basic data analysis, t-tests and chi-squared tests, are often cited as being anxiety-inducing experiences for students. This project will try to reduce the 'stats fear' through the development of video resources, helping student's to engage with the material and make learning statistics more fun. Useful videos, explaining key statistical concepts, such as sampling, confidence intervals and sensitivity/specificity will be developed. Furthermore, videos will be created to explain how to perform basic statistical analysis in SPSS. The second part of the project is to develop a bank of statistical based Multiple Choice Questions (MCQs) on Canvas. This MCQ bank will be used by students to aid in their revision of the statistical content of the course.

Benefits to the student(s):

The student will have the opportunity to build upon their existing statistical knowledge though the development of teaching resources. The student will develop knowledge of best practise MCQ writing. The student will also gain knowledge of the SPSS software. The student will develop IT and AV skills.

Project duration: 8 weeks

¹ Outcome 26: Newly qualified doctors must be able to apply scientific method and approaches to medical research and integrate these with a range of sources of information used to make decisions for care.

PROJECT 4: A literature review of clinician/patient preferences and trade-offs in deciding to proceed to epilepsy surgery.

Proposers: Dr Michael Kinney, Dr Vikki O'Neill & Dr Marco Boeri

Project description:

70 million people in the world have epilepsy. Where medication treatment is available, it fails to treat seizures in 30%. This is termed drug resistant epilepsy and it is a major source of morbidity and mortality. Epilepsy surgery can be used for these refractory scenarios; it can have excellent cure rates. However, it is a dramatically underutilized therapy. The reasons for this are multiple and many barriers exist.

Few studies have evaluated patients' preferences with respect to clinical outcomes and safety risks associated with surgery. Patient/clinician preferences can be elicited using discrete choice experiments (DCEs). DCE surveys provide information about willingness to accept trade-offs among treatment attributes². Participants complete a survey in which they choose between pairs of hypothetical treatments with different attributes, such as efficacy, safety, tolerability, and mode of administration, and likely other variables. The attractiveness of each treatment depends on their relative preferences for these attributes. Clinicians could be compared to patients also.

Benefits to the student(s):

The student will:

- Learn the skills of literature review, which will act as the basis of setting up the DCM project.
- Depending on the progress made, a focus group could occur during the placement, to set up the discrete choice experiment (to be run online).
- Be given the opportunity to participate in manuscript writing for publication and preparation for ethics submission.

Project duration: 8 weeks

² <https://doi.org/10.1111/epi.17137>

PROJECT 5: Developing & Improving Clinical Experience virtual resources within C25

Proposers: Dr Diane Wilson, Dr Alyson McVeigh & Dr Janet Rogers

Project description:

The traditional delivery of Clinical skills teaching has changed since 2020 due to the Covid pandemic as well as the implementation of the new C25 medical curriculum. Many aspects of the online course delivery have been deemed very effective especially for history taking skills and, for this reason, aspects of virtual teaching for Clinical skills will remain in place. This project will allow the student to analyse relevant student evaluations and use quality improvement methods to review and develop this new online aspect of the year 1&2 Clinical Skills course.

Whilst second year students will continue to have face to face Clinical Experience on the ward or in GP consulting rooms, this will be in smaller groups so the other students who are not timetabled to attend will have online learning experiences to engage with. These teaching resources are in place for the current academic year but require careful review and development. It is hoped that content development work will engage with local charities such as Chest, Heart and Stroke so that more real patient stories can be shared with the students even though their contact time with real patients face to face has reduced.

Benefits to the student(s):

- Student will gain experience in feedback analysis.
- Student will develop IT skills in preparing new course material and editing existing material.
- Student will gain insight in to quality improvement work.
- Preparation of creating a presentation in the form of a poster and/or oral.

Project duration: 4 weeks

PROJECT 6: The thinking doctor: clinical reasoning in case-based learning

Proposers: Dr Michael Trimble, Prof Mark Harbinson & Dr Grainne Kearney

Project description:

This project aims to build on the successful work of previous Summer Studentships, which produced case-based learning materials for the Year 3 Internal Medicine module.³ This current project will further develop the theme of clinical reasoning by producing materials to support case-based learning.

It has been suggested that the encounter between doctor and patient requires answers to three questions:

- What is the problem?
- What are the possible solutions?
- What is the best solution for this patient?⁴

To answer the first question requires skill in diagnostic reasoning; the second, knowledge of therapeutic options; answering the third involves clinical ethics.

The new curriculum places a major emphasis on case-based learning. As above, all clinical decisions have some ethical component and in many, there are clear ethical challenges. Facilitators who may not have personal expertise in all aspects of the case will lead the case-based learning. It is therefore necessary to provide appropriate scaffolding and resources to support the students as they work through the cases.

Benefits to the student(s):

In devising the supporting materials for the case-based scenarios, the student(s) will have the opportunity to refine and develop their own understanding of clinical reasoning and clinical ethics. Previous students have been able to present their work at local and national meetings.⁵

Project duration: 8 weeks

³ https://www.med.qub.ac.uk/Portal/year3/Clinical/medicine/reasoning/fever/index.html#/?_k=2jsn02

⁴ Pellegrino ED and Thomasma DC, A Philosophical Basis of Medical Practice: Toward a Philosophy and Ethic of the Healing Profession, Oxford University Press, Oxford, 1981, page 125

⁵ Ditedu TG; Callaghan J; Trimble M; Harbinson M; Thompson C. Developing integrated, online, case-based resources for QUB third year medical students on their general medicine placement. Developing Excellence in Medical Education conference. Manchester, 2nd -3rd December 2019

PROJECT 7: Global perspectives on Status epilepticus

Proposers: Dr Michael Kinney

Project description:

Last year our group published a paper with a student collaborator who led on designing a survey of health care perceptions on status epilepticus management in Low- and Middle- Income nations across Sub-Saharan Africa⁶. We identified a significant treatment gap across the world in Low- and Middle Income nations. Further to this, we have conducted a second survey with approximately 300 respondents from >40 countries and have further confirmed this observation (unpublished data). There is no satisfactory scoping review of the literature in this area. We would propose the successful student collaborator would lead on a literature review and guided by our expert international group through several introductory meetings (mainly supported by Dr Kinney) would develop a research protocol to interrogate and assess the global literature from Low- and Middle Income nations. We are keen to identify gaps in the literature and propose solutions.

We would use a scoping review methodology, and would aim to run a focus group with international collaborators to assess perceptions to the results. There is also opportunity to attend epilepsy clinics on some of these dates and understand more of how healthcare for people with epilepsy is provided in Northern Ireland.

Benefits to the student(s):

- The motivated student will learn the skills to conduct a scoping review in the area of status epilepticus in Low- and Middle- income countries. This will be collaborative and will be a significant opportunity for publication as there is a major gap in the literature in this area.
- They will also develop skills in basic data analysis and preparation of a manuscript for publication.
- Deepen understanding about Global Health issues in neurology.

Project duration: 6-8 weeks

⁶ <https://pubmed.ncbi.nlm.nih.gov/34839239/>

PROJECT 8: Levetiracetam prescribing in epilepsy during Pregnancy- is it still safe?

Proposers: Dr Michael Kinney & Ms Beth Irwin

Project description:

Antiseizure medications are essential for women with epilepsy even during pregnancy. All drugs potentially carry risks in pregnancy and for that purpose; large international registries were set up. The UK and Ireland epilepsy and pregnancy was set up in 1996 and is one of the most respected data registers in the world. Research from this registry consistently wins national and international awards, in recognition of its impact changing lives of people with epilepsy in preventing malformations to the offspring of people with epilepsy.

We have published two papers on this drug in top peer review neurology journals. The most recent was in 2013 when we had outcome data for 671 pregnancies. 304 of these as a single agent⁷. In view of these results levetiracetam became one of the most popular agents prescribed and given we now have approximately three times this number of cases registered, it is time to reassess the data to ensure there is no signals this drug has malformation potential.

The objective is to review the monotherapy data for approx. 900 cases for levetiracetam, to determine the major congenital malformation rate associated with this drug. We will also review polytherapy data. The goal is then to assist with development of a manuscript once the data collection has been complete.

Benefits to the student(s):

- Understanding the process of monitoring teratogenic risk in pregnant women with epilepsy.
- For motivated student possibility to attend clinics to see first-hand, how these issues are discussed.
- Data collection skills with Microsoft Excel, data analysis, and literature review (for background on levetiracetam).
- Understanding the process of putting together a manuscript for publication and authorship position on paper arising from this work.

Project duration: 6-8 weeks

⁷ <https://n.neurology.org/content/80/4/400>

PROJECT 9: Tackling Racism & Microaggressions on Clinical Placement

Proposer: Dr Mairead Corrigan

Project description:

BAME medical students experience microaggressions and racism from patients, staff and other students. The BMA Charter against Racism, to which Queen's medical school is a signatory, recommends that medical schools provide guidance and training on how to challenge these type of behaviours. This includes how to interact with patients who are racist or abusive and how to report an incident of racial harassment while on placement.

The workshop aims to improve BAME students' confidence in dealing with racism and microaggressions. The student will develop role-plays, informed by Forum Theatre. They will also develop guidance for the workshop using the principles of conflict management and assertiveness training. They will evaluate the workshop through a pre- and post-evaluation survey, focus groups and a longitudinal survey.

The workshop will be targeted at third year BAME medical students, to prepare them for clinical placement. It will act as a template for similar workshops targeting discriminatory behaviours, languages and microaggressions directed at students from other protected characteristics.

Benefits to the student(s):

The student will be able to use their creative skills to develop a workshop and role-plays. They will learn about Forum Theatre and they will receive training and resources on conflict management and assertiveness skills. They will gain experience in preparing an application for ethical approval; survey development; focus group research methods; data analysis and potential publication at the end of the 22/23 academic year.

Project duration: 8 weeks

PROJECT 10: Developing a training resource for clinical teachers

Proposer: Ms Mairead Boohan & Professor Neil Kennedy

Project description:

During clinical attachments students are taught by a large number of clinicians from the 5 hospital trusts. Opportunities for faculty development and training varies depending on location and the career stage of the doctors. This project will develop a range of brief podcasts (10 minutes duration) for clinical teachers delivering the Longitudinal Integrated Clerkship (LIC) for year 3 students. Podcasts will include:

- Making the transition to the clinical environment
- What is an LIC?
- Bedside teaching
- Feedback
- Teaching when time is limited

Benefits to the student(s):

Students will learn about aspects of faculty development for clinical teachers and some of the educational principles underpinning medical education. The student will contribute to the training of educators. Students will be able to cite this studentship as evidence of commitment to medical education in future job applications.

Project duration: 8 weeks

PROJECT 11: The role and impact of a regional Neuroncology seizure clinic service

Proposer: Dr Michael Kinney & Mr Tom Flannery

Project description:

Brain tumours are a common cause of epilepsy and seizures. High-grade brain tumours tend to have a poor prognosis and rapidly progress and patients may not be able to wait for conventional waiting times for current NHS clinics. Seizures and brain tumours both have huge impacts on quality of life.

Three years ago, a regional high-grade brain tumour epilepsy clinic was set up. This is quite an innovative approach which requires an evaluation through retrospective audit, to assess various aspects of governance around the clinic. Development of a user satisfaction survey and deployment of the survey will also be one of the key measures we will use to assess satisfaction.

We are keen to allow the student to experience the service also to understand the processes, and attending some clinical opportunities can be facilitated and would be encouraged.

Benefits to the student(s):

- The student will gain an insight into the workings of the interface between neurology, neurosurgery, neuroradiology, and neuropathology. Depending on their interest, clinical shadowing can be facilitated.
- Attendance at the Friday afternoon MDT (11:30am-1pm), and fortnightly neuroncology seizure clinic/neurosurgical clinic. Theatre/EEG attendance can also be considered.
- Learn the process of audit and the role of clinical governance and how cases are advanced to promote the development of a service.
- Opportunity for publication (short communication style) also possible after audit is finalised. This will be achievable during the time of the placement.

Project duration: 6-8 weeks