RESEARCH AND INNOVATION IN UNDERGRADUATE MEDICAL EDUCATION: THE UNIVERSITY OF LIVERPOOL SCHOLAR PROGRAMME

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Association of Palliative Medicine – Special Interest Forum

13th September 2017
Undergraduate Medical Students and Clinical Research

“Outcomes for Graduates” identifies that medical students should understand the value of research, and be able to:

“Formulate simple relevant research questions… ...and design appropriate studies or experiments to address the questions” (Section 12b)

Being involved in research at an early stage in their career has been shown to enhance critical thinking skills and efficiency in aggregating relevant subject information from current research (Gonzales. Family Medicine 1998).
Access to Research Skills

• As Core Curricula, students learn how research established evidence base guides clinical practice.

• However, many are unsure as to how they can get involved in clinical research.

• As a consequence, many medical graduates are “underprepared for doing postgraduate research”(2) and “few go on to further academic training”(Burgoyne - Med Edu 2010; Kasivisvanathan - BMJ, 2015).
The Scholar Programme at the University of Liverpool.

• The Scholar Programme aims to:
  – accelerate the development of research skills by embedding medical students within an active clinical research department at early stage in their education.
• This gives “scholars” first-hand experience in the development and application of clinical research.
• The programme also provides opportunities for scholars to develop their own research study, participate in peer mentoring and bridges the gap between research and clinical practice.
Scholar Programme Options

- Musculoskeletal Biology and Medicine
- Infection and Global Health NIHR CLARHR NWC
- Complex obstetrics
- Reducing mortality and morbidity from postpartum haemorrhage in Uganda
- Haemato-oncology
- Head and Neck Oncology Research
- Neurodevelopmental Paediatrics
- Paediatric Respiratory Medicine
- Specialist Palliative Medicine
- Translational Gastroenterology
So why apply? What are the opportunities?

- To make connections with experts and healthcare professionals in your fields of interest
- To explore academic medicine as a potential career
- To improve CV – i.e. abstracts and publications
- Develop extended knowledge of one area of practice
- Extra work experience placements
## Programme outline

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<th>Training Year</th>
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| **2nd Year**  | **Protocol development**: Study protocol design; RD/ Ethical approvals  
**Formative Assessment**: Submission of Study Protocol; Oral |
| **3rd Year**  | **Study**: Data Collection, Data Analysis; Study Report |
| **4th Year**  | **Outputs**: Submission of study to Conference and Publication |
| **5th Year**  | **Selective in Advanced Medical Practice**: A seven week attachment programme to enhance clinical practice. |
Examples of outputs from the programme


- Harrison B, Ogara C, Gladstone M, Carrol ED, Dusabe-Richards J, Medina-Lara A, Ditai J, Weeks A. “*We have to clean ourselves to ensure that our children are healthy and beautiful*: a qualitative assessment of a new educational poster on Newborn Moments for Hand Hygiene in the Home.” BMC Public Health (in development)

- Robinson T. *An Audit of the Medical Examination and Investigation for Children with Autism Spectrum Disorder (ASD) in Merseyside* - BACCH Annual Scientific Meeting, London 2017

- Pieri B, Taylor DCM. *Stress and anxiety in second and third year medical students during a period of curriculum change*. AMEE 2017

- Cassidy D, Mayland C, Mason S. *Dignity for the dying: evaluating the feasibility of engaging the “Patient Dignity Question” within an Academic Palliative Care Unit*. APM, Belfast 2017

Students’ experience of the programme

“Since joining the programme I have been afforded some superb opportunities taking part in cutting-edge medical research. This includes carrying out joint research in Uganda and the option to visit and partake in work experience” - BW, 3rd Year Medical Student

“I joined the Scholar Programme in its inaugural year. My research has been focused on the comorbidities associated with Chronic Lymphocytic Leukaemia and the ways in which comorbid factors impact upon treatment decisions and outcomes for patients. I am now in the process of taking this work forward with a view to publishing my findings into the BMJ” - AB, 4th Year Medical Student

“The Scholar Programme has aided my sense of curiosity and understanding of medical research. I have been able to collaborate on topical research subjects, allowing me to observe how major organisations such as World Health Organisation (WHO) operate on health and disease management. The programme has also widened my understanding of the arduous process requiring great teamwork, collaboration and effort to synthesise a single scientific research paper” - PR, 3rd Year Medical Student
• David Cassidy - 4th Year
  • Promoting dignity and patient-centred care within an Academic Palliative Care Unit: a feasibility study.

• Sumandeep Baines - 3rd Year
  • The association of reduced oral fluid intake with clinical variables in advanced cancer: a secondary analysis of observational data.

• Amrita Rai - 3rd Year
  • The development and evaluation of an electronic assessment tool to examine the impact of undergraduate training in palliative medicine.
Conclusion

1. Scholars have found they have benefitted tremendously from participating in the Scholar Programme, citing the opportunity to observe and understand the development and complexity of the research process, and through their own project, apply their learning.

2. The Scholar Programme has not only increased Scholar students understanding of how research is conducted, but has also given students more opportunities in specialised areas – such as palliative care.

3. The scholarship programme provides key skills which are translatable across medicine, as well as accelerating knowledge, opportunities and connections in the chosen field of research.