Academic FY2 in General Practice

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August – November 2012
Overview

• Background
• Aims of the Placement
• Research projects
• Teaching experience
• Experience of academia
• Learning points
• Future career plans
Background

Clinical Background

• MBChB (Hons) & BSc (Hons) – Bristol University
• FY1 – Central Middlesex & Northwick Park Hospital

Research Experience

• Dissertation project looking at the distribution of the potassium channel TREK2 in rat DRG neurones in chronic pain states
• International & national poster presentation

Teaching Experience

• Design an e-tutorial for the medical curriculum
• Final Year Tutor Imperial College & PACES revision tutor
• Organising 3rd yr bedside teaching
• Examiner of 3rd year OSCE
• Attended x2 teacher development courses
Placement Aims

- Experience the process of medical education research and qualitative
- Develop scientific writing skills
- Develop teaching skills and experience
- Experience GP (? Possible career)
- Present & publish work
Research projects

1. Guidelines for the Ethical approval of Medical Education research projects – Imperial College

2. Which areas of biomedical science teaching in an undergraduate medical curriculum are most important to practising clinicians?

3. What do students want from the first few weeks of medical school? Qualitative study using nominal group technique and questionnaire
Guidelines for the Ethical approval of Medical Education research projects – Imperial College

• Aim - to develop a practical and useful application form to guide applicants in applying to the medical education ethics committee (MEEC)

Research Questions

• What can we learn from education research ethics forms at other institutions?

• What information, and in what format, would members and applicants of the MEEC find helpful or important to include in an application form?
Methods: Action Research

- Literature search
- Semi-structured interviews
- Other Institutions

Methods
Semi-structured Interviews

- 6 interviews – key stakeholders within the ethical approval process
- Semi-structured process
- Consent gained and fully recorded
- Professional transcription service
- Analysed using Nvivo software using thematic analysis
Semi-structured Interviews (analysis)

Well the things that tend to come up in looking at the applications are things like, obviously issues to do with consent, issues to do with data handling. So what happens to the data, how is it stored, how is the data protected.

Reference 3 - 0.70% Coverage
to the power balance between the students and the investigators.

Reference 4 - 1.27% Coverage
Semi-structured Interviews

- Study design
- Recruitment
- Consent
- Power balance
- Data handling, protection & storage
- Efficiency
- Appropriate Structure
- Form justification
- Depth of consideration of study
- Tick box answers
- White box questions
- Ethics committee assessment areas
- Format of application form
Semi-structured Interviews

“One of the key roles of the ethics application is to give a structure, particularly for relatively novice researchers, by following the structure on the form; you guide them as to best practice in thinking about their own research.”
Respondent 5

“Some people don’t use any form at all, particularly when you get stuff from students, and they tend to just sort of shove in a random assortment of bits and pieces and kind of hope for the best. So there’s no single way that people are presenting their applications.”
Respondent 6

“Obviously ethics approval serves a number of purposes but one of the purposes is really getting people to think about the study and how they’re conducting it and all of these issues that you want people to address”
Respondent 3

“You need to have a range of information that shows that the applicants have thought about their research and explicitly have thought about the ethical considerations of their research”
Respondent 5
Other institutions

Ethics Application Form

Please read each question carefully, taking note of instructions and completing all parts. If a question is not applicable please indicate so. The superscripted numbers refer to sections of the guidance notes, available at www.leeds.ac.uk/ethics. Where a question asks for information which you have previously provided in answer to another question, please just refer to your earlier answer rather than repeating information.
## Analysis

<table>
<thead>
<tr>
<th>Form</th>
<th>Length / educational specific?</th>
<th>Specific ethical issues asked about?</th>
<th>Format / Style of form</th>
<th>Guidance provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form 1</td>
<td>4 pages 9 sections Educational specific</td>
<td>Very broad including:  * Consent  * Data  * Anonymity  * Confidentiality  * Reporting &amp; dissemination</td>
<td>Tick box &amp; binary questions used for certain information.  Large “white box” free text questions for detailed topics.</td>
<td>Detailed guidance provided in separate file. Each question has guidance within the form</td>
</tr>
<tr>
<td>Form 2</td>
<td>3 pages 6 main sections Educational specific</td>
<td>* Participant safety &amp; well-being  * “Other ethical issues?”</td>
<td>White box questions only</td>
<td>No additional guidance.</td>
</tr>
</tbody>
</table>
Imperial draft form...

Medical Education Ethics Committee (MEEC) Application Form

The MEEC reviews the following types of projects:

1. Educational Projects that fall outside the remit of ICREC (Imperial College Research Ethics Committee) or NRES (National Research Ethics Service)
2. Approval for the participation of Imperial College medical students in a research project.
3. Approval of laboratory-based practicals/demonstrations which involve human subjects
4. Provide Head of Department equivalent approval for ICREC projects that fall within the stated parameters.

This form will generally be used for projects which fall into category 1 above

Section 1 – Project Details

<table>
<thead>
<tr>
<th>Project title:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact e-mail:</td>
</tr>
</tbody>
</table>
Currently...
Which areas of biomedical science teaching in an undergraduate medical curriculum are most important to practising clinicians?

Research questions:

1. What is the relative importance of learning outcomes for biomedical science teaching in a year 1 undergraduate medical course, as rated by specialist registrar and GP/consultant grade doctors currently active in clinical practice?

2. Is doctor rating of the relative importance of biomedical science teaching related to their level of training or clinical speciality?
Methods...

Relevance of biochemical science in undergraduate medicine?

Primary Care

Hospital medicine

Nominal Group Exercise

Larger group questionnaire
Nominal Group Exercise

- 8 participants – GP and GP trainees

- Each person ranks all the learning outcomes for the proposed Introduction to Biochemical Science at the Lee Kong Chian School of Medicine in Singapore

- Ranks as:
  - *Essential knowledge for foundation doctors*
  - *Additional knowledge for foundation doctors*
  - *Knowledge only required for postgraduate specialist training*
  - *Not relevant to clinical practice*

- Assumption: one of the most important aims of medical school is to train students to become competent FY1 doctors (as stated by GMC)
Nominal Group Exercise

Having ranked each of these items the following methods were used to formulate the questionnaire for the larger group:

- An outcome which all participants rank as “essential” NOT included in questionnaire
- An outcome which <6 people rank as essential IS included in questionnaire
- An outcome which 6-7 people have ranked as essential is debated as a group and re-voted on (2nd round vote 7 is threshold)

Modified from Dobbiet et al, 2004
NGT... why?

- Can allow face to face discussion within the group
- Allows us to reduce the size of questionnaire to larger groups
- Increase participation rates for the larger questionnaire
- Concentrate questionnaire on the outcomes deemed “controversial”
## NGT results

<table>
<thead>
<tr>
<th></th>
<th>Round 1</th>
<th>Round 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total no of LO</td>
<td>272</td>
<td>14</td>
</tr>
<tr>
<td>8 deemed Essential</td>
<td>58</td>
<td>0</td>
</tr>
<tr>
<td>6/7 deemed essential</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>&lt;6 deemed essential</td>
<td>200</td>
<td>12</td>
</tr>
<tr>
<td>7 deemed essential</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>&lt;7 deemed essential</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Questionnaire...

Which areas of biomedical science teaching in an undergraduate medical curriculum are most important to practising clinicians?

#### 6. Revision of numeracy skills, Questions and Answers session

<table>
<thead>
<tr>
<th>Essential knowledge for foundation doctors</th>
<th>Additional for foundation doctors</th>
<th>Only required for membership level</th>
<th>Not relevant to clinical practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will know how to solve simultaneous equations, the significance of logarithms and exponents and will be able to interpret and graph quadratic equations and exponentials.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Students will master basic statistical concepts: The mean, the median, the range, the mode, normal distribution, probabilities, linear regression, null hypothesis, statistical tests, significance and variance and best fit</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

#### 7. Physics and chemistry

<table>
<thead>
<tr>
<th>Essential knowledge for foundation doctors</th>
<th>Additional for foundation doctors</th>
<th>Only required for membership level</th>
<th>Not relevant to clinical practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will understand density, molecular weights, concentration, pH and be able to calculate these from first principles.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Students will understand the concept of diffusion, and of Brownian motion.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Students will understand concepts of chemical reactions such as rates, Lechatelier's principle, Michaelis-Menten kinetics, energetics, entropy, enthalpy.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Students will understand the significance of semi-permeable membranes, and the concepts of surface tension, capillarity and osmosis, and the principles of the counter-current mechanism.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Currently...

- Ethics approval gained
- Questionnaire designed
- Approval gained from deanery and NHS London
- Incentive also gained
- Collecting data....
Teaching experiences

• Year 3 Clinical Methods Teaching tutor
• Year 2, GE &DE Personal Professional Development tutor – also including peer observation
• Year 3 Clinical Skills Examiner
• Bedside Teaching
• Year 6 GP communication skills tutor
• Year 5 Microteaching skills tutor
• Roger Neighbour Feedback session
Experience of Academia

- BMJ Endgame published
- Royal Society of Medicine: Short Reports – case accepted in process of publication
- Editorial published with Prof Majeed for Primary Care Respiratory Journal
- Paper review with Prof Majeed and Ed Green for BJGP
- Working with Ed Green for the community pneumonia paper
What I learnt?

- Experience of the academic world
- Deeper understanding of educational research & qualitative research
- The ups and downs of research – ethics approval!
- Balancing time between 3 separate research projects & teaching commitments
- Juggling time and energy between clinical and academic commitments
- Developed as a teacher & learnt new teaching styles & techniques
Career Plans...

- Presenting both projects at SAPC and applying for Early Career Prize
- Aim to submit both projects for publication
- Applying for GP Academic Clinical Fellowship job to continue medical education interest and career

Thank you...

- Dr Graham Easton
- Dr James Stratford-Martin
- Prof Majeed
- Dr Elizabeth Muir
- Dr Ed Green
- Professor Sue Smith
Any Questions?