



# Docere means “to teach” - Why aren't we teaching medical students how?

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# What I hope to cover

- ▶ **Rationale for the project**
- ▶ **What the project encompassed**
- ▶ **How the findings can inform pedagogical practice in the context of undergraduate *Medical Education***

# Why I developed this project

- ▶ **GMC 'Outcomes for graduates'[1] states doctors must 'reflect learn and teach others' & 'function effectively as a mentor and teacher' [2]**
- ▶ **Teaching professionally in the UK requires specialised qualifications [3] implying subject knowledge alone is insufficient to proficiently teach**
- ▶ **No UK Medical schools (n=33) explicitly stated their degree formally teaches students / assesses the specialist skill of pedagogy**

# Gathering the evidence

- ▶ **Step 1 – Review the Literature**
- ▶ **Step 2 – Determine if reality is in keeping with the literature**
- ▶ **Step 3 – Explore the needs of target population**



# 'Quality indicators against which all studies were assessed' (Buckley et al, 2009).

Quality Indicator	Detail
Research question	Is the research question(s) or hypothesis clearly stated?
Study subjects	Is the subject group appropriate for the study being carried out (number, characteristics, selection, and homogeneity)?
'Data' collection methods	Are the methods used (qualitative or quantitative) reliable and valid for the research question and context?
Completeness of 'data'	Have subjects dropped out? Is the attrition rate less than 50%? For questionnaire-based studies, is the response rate acceptable (60% or above)?
Control for confounding	Have multiple factors/variables been removed or accounted for where possible?
Analysis of results	Are the statistical or other methods of results analysis used appropriate?
Conclusions	Is it clear that the data justify the conclusions drawn?
Reproducibility	Could the study be repeated by other researchers?
Prospective	Does the study look forwards in time (prospective) rather than backwards (retrospective)?
Ethical issues	Were all relevant ethical issues addressed?
Triangulation	Were results supported by data from more than one source?

# Literature Review - Results

## ▶ Teaching on how to teach

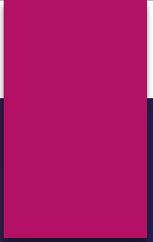
- Ranged from a few hours [5] to 240 hours over a 6 week period [6].
- Practical delivery of teaching, facilitation & feedback skills most commonly featured

## ▶ Participants

- Primarily senior students; Only 5 papers suggested junior students alone were trained
- Majority <50 students >>> formal instruction on how to teach not universally available
- Only 2 papers delivered entirely mandatory training [7,8]
- Instances where teaching on 'how to teach' only delivered to the proficient /keen [9]

# Literature Review - Conclusions

- ▶ **Medical students being taught how to teach tends to be an elective pursuit offered to interested, academic or competent students**
- ▶ **The majority of medical students globally are not receiving such training**
- ▶ **Less proficient, less academic students may be most in need of training!**



**Step 2 – Determine if reality is in keeping with the literature**

# Method

## ▶ Questionnaire distributed via staff email to UK F2's cohort at single Trust

- Medical school course structure
- Undergraduate experiences (being formally taught 'how to teach' / teaching)

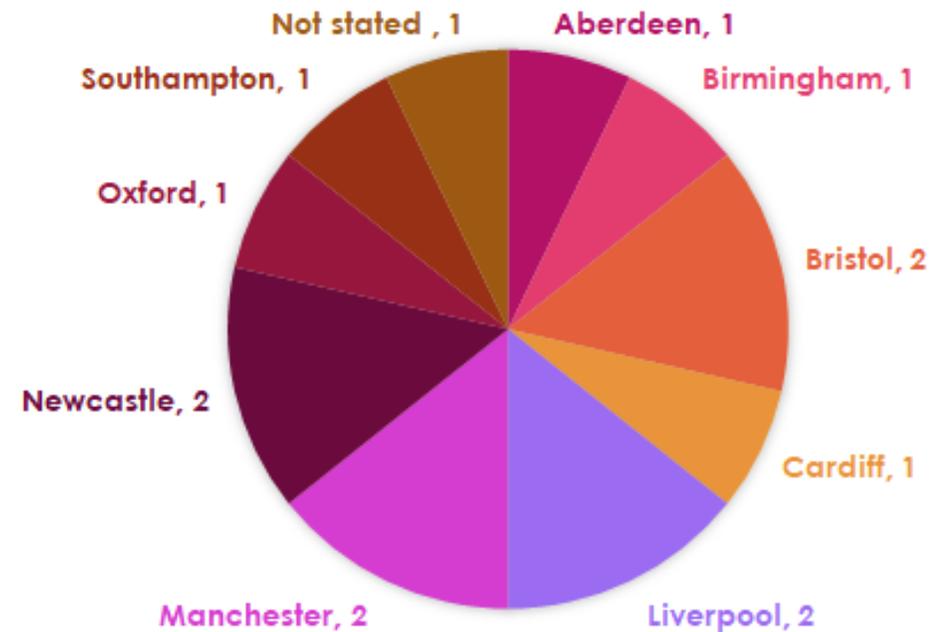
## ▶ Why Junior doctors?

>>> medical students may not yet have received planned teacher training from their medical schools (could falsely suggest no training received)

>>> senior clinicians may be subject to recall bias or may not remember what 'teacher training' they received as undergraduates

# Results

- ▶ 29% response rate (n=14/48)
- ▶ 57% received no teaching on 'how to teach' (n=8)
- ▶ Only 25% of those trained stated instruction was available to entire cohort of students (n=2)
- ▶ Primarily delivered to senior students - only 25% taught in 1<sup>st</sup> 2 years of degree (n=2)
- ▶ 93% received no more than 8 hours of 'teacher training' throughout their entire degree (n=13)
- ▶ Content of teacher training included:
  - educational theory, preparing resources, giving feedback & tips to engage an audience
- ▶ 100% engage in informal teaching of peers



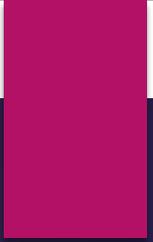
# Conclusions from Questionnaires

## ▶ **Results in keeping with findings of literature search**

- undergraduate medical students in the UK may not be being adequately trained in teaching to fulfil their postgraduate teaching responsibilities mandated by the GMC

## ▶ **Medical students engage in peer teaching**

- Opportunities to experientially learn
- Willingness to teach does not necessarily equate to proficient & effective teaching
- ??? Quality assurance issue



# Step 3 – Explore the needs of the target population

(to inform development of a strategy to meet those needs)

# Aim

1. Ascertain junior doctors' views on how best to prepare medical students for their postgraduate teaching responsibilities
2. Develop a set of recommendations for UK Medical schools & Foundation Schools regarding how to optimize 'teacher training' to ensure graduates are able to fulfil the GMC postgraduate requirement to teach



# Method

- ▶ **Primary data were collected from 2 homogenous focus groups (FGs) of 6-8 junior doctors at a UK Hospital.**
- ▶ **Purposive sampling captured the maximal breadth of variation in undergraduate 'teacher training'**
- ▶ **FG's were audio-recorded >>> transcribed >>> thematically analysed**

# Rationale

## ► Why Focus Groups?

- Enable a 'multivocality' of perspectives to be obtained [10] - discussion >>> additional data generated = better understanding
- 'Particularly useful for exploring people's knowledge and experiences and can be used to examine not only what people think but how they think and why they think that way' [11]
- FG's successfully used in Medical Education research to explore opinions of junior doctors [12, 13]
- Effective in 'exploring the attitudes and needs of staff' [11]
- Cost-effective

# Recruitment

- ▶ Invitation email via Trust email accounts containing participant information sheets, consent forms & pre-focus group questionnaires
- ▶ All F2 doctors (n=48)
- ▶ Data & documentation collected, stored, processed & written up in line with General Data Protection Regulation 2018 [14] & its' core principles were upheld throughout
- ▶ Participants informed they were free to withdraw at any time

# Results from Focus Groups

- ▶ **Experiences of being taught how to teach varied at different Medical schools**
- ▶ **Teaching preparation only offered to certain groups of students**
  - academically gifted students
  - those with enthusiasm for teaching
  - those intercalating in Medical Education / undertaking SSC's
- ▶ **Participants felt ill-prepared to teach**

**“There was SSC's available in Medical Education. Erm, there were also, sort of, intercalated degrees available - Masters of Medical Education - that sort of thing. All of which, I'm assuming, would have encompassed teaching on 'how to teach' but, I didn't do them so I'm not sure. And it was, there was definitely nothing delivered to the entire group, sort of to encompass everyone.”**

**“most of our experience of learning how to teach is quite, like, like, from taking extra classes or extra opportunities ourselves”**

**“I don't think we had any kind of formal, like, sessions about how to teach but just were teaching”**

# Results – When?

- ▶ Training to teach should occur - undergraduate students should be **aware of their postgraduate teaching responsibilities**
- ▶ **Start training early**
  - skills can be developed throughout medical school
  - multiple opportunities to practise & improve

“we’re lacking the skills to teach, from an early stage. So there's lots of opportunities where - if they [Medical schools] did something earlier on - they could continue to develop on, that's already part of the curriculum but they're, kind of, missing the opportunity”

“we're all teaching and we're all quite happy to and we all wanted to be involved in things, but some of us aren't quite sure how to go about it. And I think, having had some more formal guidance earlier on would have been helpful”

I think, like, an earlier recognition in Medical School that it [teaching] will be an important thing and, like, making that into the curriculum earlier on is important.”

# Results – What?

- ▶ **Educational theory**
- ▶ **Teaching styles**
- ▶ **Pragmatic advice**
  - planning lessons
  - engaging students
  - creating learning objectives
- ▶ **Expectation to engage in peer teaching**



“I don't think I realized, even up until I was actually in F1, that actually part of my, sort of, day job would encompass teaching Medical students. I, I the penny hadn't really dropped.”

“I think the most useful thing, erm, in terms of learning how to teach, was doing it”

“if everyone is taught teaching skills and teaching Styles then it just, sort of, means that everyone gets a bit more out of that [peer teaching]; equipping people with the skills to sort of better direct teaching that's already happening I suppose.”

# Results – How?

- ▶ **Delivery in the form of a dedicated teaching workshop**
- ▶ **Being observed teaching others**
- ▶ **Given explicit feedback by an “expert”**
- ▶ **Debate sparked over the concept of formally assessing students’ teaching**
  - specialised teaching ‘OSCE’s’
  - an educator portfolio to evidence engagement with teaching

# Take Home messages from FG study

- ▶ **Timing of teacher training is imperative – start early!**
- ▶ **Delivery & content should be relevant & engaging**
- ▶ **Consider assessment of teaching skills to motivate students & signify their importance**
- ▶ **Expert feedback is considered invaluable**



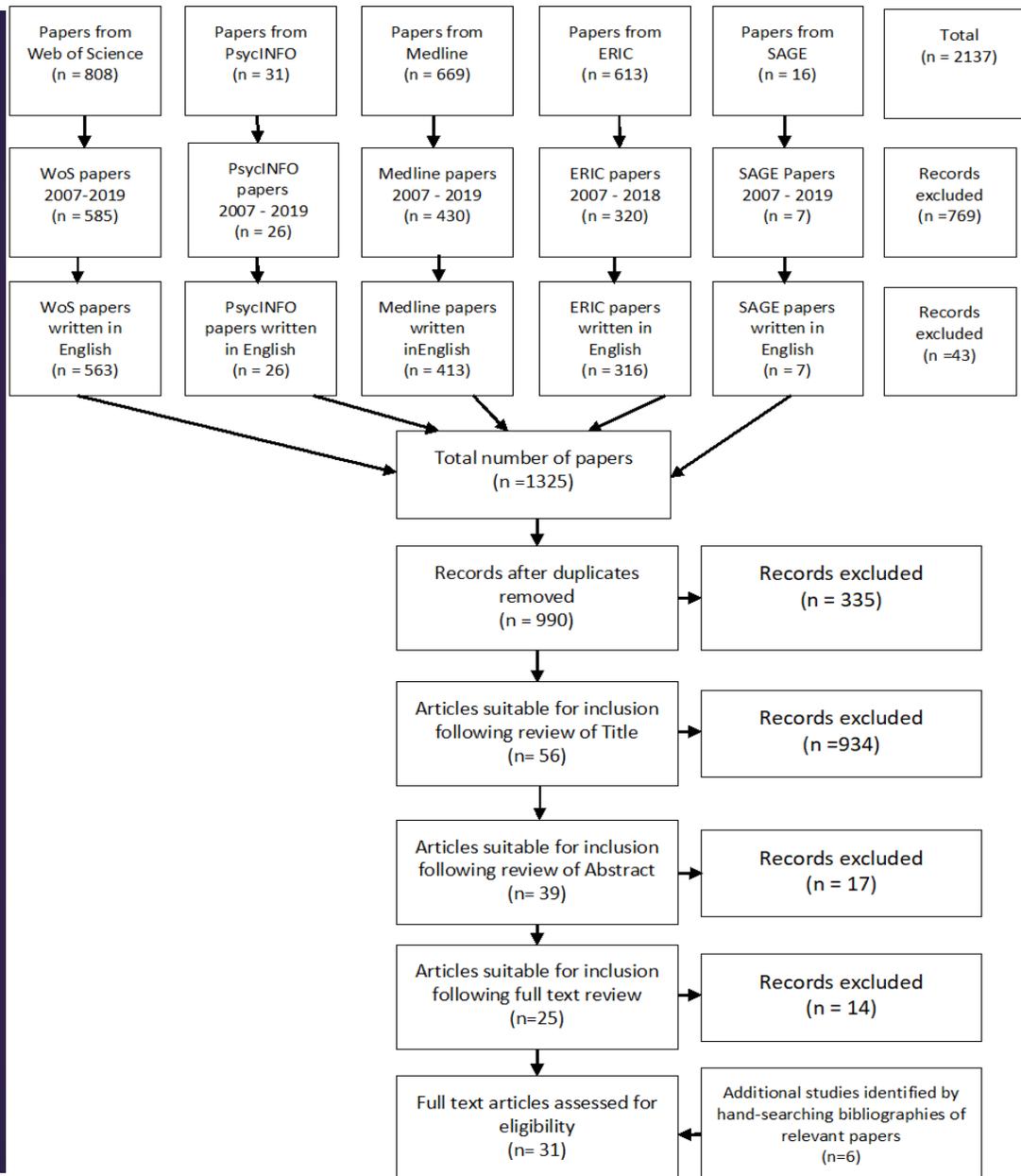
# Step 1 – Literature Review

(Jan 2019)

## ► MEDLINE, Scopus, PsycINFO, SAGE & Education Resource Information Centre (ERIC)

Criteria	Inclusion	Exclusion
Language	Articles written in English	Articles not written in English
Publication Date	Within last 10 years (2007-2017)	Published prior to 2007
Type of article	Peer-reviewed	Not peer reviewed, conference papers/posters, scholarly articles, book chapters
Type of study	Qualitative, quantitative, review article	"Letters the editor", book reviews, editorials, meeting reports, product review, brief reports
Study focus	Teaching medical students how to teach	Medical students being taught scientific or clinical knowledge, Peer teaching without evidence of formal training taking place
Population	Medical students Medical education	Qualified doctors, other health professionals (i.e. nurses, pharmacists) Not medical education-related
Accessibility	Free/open/Full text	Associated Fee/Restricted/Not full text

[4]



- further paper removed due to a sub-threshold score for quality

Pie chart showing geographical origins of high quality papers

