The demise of the firm – What is happening to apprenticeship learning?

Report on a medical education research project conducted in 2009

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Karen Nugent was the Final Year Coordinator for the Final Year of the undergraduate medical programme. Her initial comments started off this project; she was also central to the recruitment of the clinical teachers who participated.

Sarah Bignold, an independent education research consultant conducted 15 interviews (of 34 interviews) and undertook the open coding of these interviews and wrote a preliminary report.

The photograph on the front cover was kindly made available by Nick Dunn. It shows "The Green Firm of Bartholomew Hospital, October – December 1935", which included members of Nick's family.

Local background

This project originated in mid-2008 with comments made by the Final Year Coordinator during an initial consultation with the newly appointed medical education researcher about issues and problems arising within and for the final year cohort of students. The coordinator noted that:

a. Students reported difficulties in accessing clinical staff in the hospital setting and complained about 'not getting taught' – at the same time –
b. Clinicians were refusing to sign off individual students as these were either unknown to them, or thought to have been absent from the workplace setting.

The Final Year Coordinator attributed much of this mismatch to the "demise of the firm". An initial literature followed and it appeared that not much had been written about 'the firm'. As an initial response, a small scale study was designed to capture the perspective of clinical teachers. It was envisaged from the outset that this should be followed by another study to explore the students' perspective and the current situation on the wards (yet to be undertaken).

Introduction

'The firm' is ubiquitous within clinical teaching – it is the key mechanism and organisational unit for apprenticeship style learning. Despite its centrality within medical education, it has rarely attracted sociological (or historical) scrutiny. Senior medical staff, in particular, tends to take 'the firm' for granted, for they themselves have undergone training within it. The term and its usage, however, effectively hide historical, speciality and local variations of the 'firm' concept and masks the way in which the concept and its real life organisational practices have changed over time.

This project sought to define 'the firm' and make commonly held assumptions explicit. Through interviews it investigated what 'the firm' was and what the firm is – as an organisational unit with varied membership and tasks and, most importantly, as a site and mechanism for clinical teaching of undergraduate medical students.

Wider background / literature / developments

Within the medical education literature, clinical attachments have received relatively little scrutiny (Bleakley, 2002). Bleakley attributes this to the prevalence of "the psychological model of pedagogy that focuses upon transmission of knowledge and skills from one individual to another" (ibid, 9). Social scientist have highlighted the social and contextual dimensions of learning (Hafferty, 1991) and the importance of informal and implicit aspects of the 'hidden curriculum' that are oftentimes more powerful than the 'manifest' or official curriculum (Becker, 1961; Sinclair, 1997). More recently, the hidden curriculum has been explored in terms of how it might contradict or 'impair' overt attempts to teach 'professionalism' (Hafferty, 2000; Aultman, 2005).

Historically, the term 'firm' denoted a form of medical teaching that predates the institutionalisation of medical training and the foundation of medical schools in the early nineteenth century. Under 'the firm' system students paid surgeons directly for their apprenticeships on hospital wards (Sinclair, 2002:54). In turn, "junior doctors were delegated responsibility for their consultant's patients, in an extension of the 'firm' system of teaching" (ibid. 63). When the NHS was introduced in the late forties, it was recommended that a named consultant (and their 'firm') should be in charge of all in-patients and out-patient sessions (ibid.69).

In terms of medical education 'the firm' denotes a form of inter-generational cooperation and learning, which brought together novices who were being inducted and taught on the ward not only by consultants, but also by nurses and junior doctors who took on much of the day to day training of students.

What is important to note is that this apprenticeship model (in medicine and elsewhere) does not solely or primarily depend on explicit instruction. Rather, knowledge is (also) transmitted through informal learning that relies on time spent together (context, shared language and experiences, observation, implicit rather than direct communication) and the formation of relationships of trust (that allows for mutual dependability and support) which in turn facilitate – or hinder – the transmission of how things are done in a particular context, including short cuts, etc. The hierarchical nature of the firm is also likely to have given rise to some forms of exploitation. As noted above, the nature of 'the firm' remains under-researched – historically and in its current (and relatively recent) form.

Over the past two decades, the clinical context has undergone major structural and organisational changes in line with policy shifts and reorganisations within the health service that continue to influence working patterns and inter-professional cooperation: One key change was brought about through the implementation of the European Working Time Directive (EWTD), which was enacted in the UK as a law (the Working Time Regulations) in 1998. The EWTD limits the hours that junior doctors spend on the ward. Currently an interim 56-hour maximum working week is in force, but over the coming year working hours will be reduced to 48 hours; by August 2009 (Department of Health explanations of the EWTD is available at: http://www.dh.gov.uk/en/Managingyourorganisation/Humanresourcesandtraining/Modernisingworkforceplanninghome/Europeanworkingtimedirective/DH_077304, accessed on 07/10/08). The effects of the EWTD have been studied in a variety of contexts. Researchers were particularly concerned with how it would influence continuity of care and what organisational changes were necessary to prevent deterioration of health service provision and care for patients. Within the medical education literature the EWTD's influence on the training of junior doctors has been explored at length, i.e. whether shorter working hours would potentially result in less well trained clinicians; it gave rise to the DoH sponsored *Hospital at Night* project.

What has been missing from the literature, however, is an examination of how the gradual changes to 'the firm' and in particular the implementation of the EWTD have impacted on undergraduate medical students on clinical attachments. In the past, junior doctors worked extremely long hours on the wards and provided an important focal point for the medical students; their role was central to 'the firm'. As junior doctors are increasingly absent from the wards (due to new kinds of shift patterns that accommodate the EWTD) – who do the students attach to and learn from? Thus, the model of 'the firm' as a site and mechanism for clinical teaching today has to be investigated.

This project was conceptualised as a precursor to such a larger study. Researching clinical teaching practices first hand will require ethics clearance from the NHS – as by definition, such a study would take place on actual hospital wards. It also requires external funding. The initial study reported here was restricted to probing the concept of 'the firm' through the recollection of current teachers who can compare the way in which they learned on the ward to the way in which they teach during clinical attachments today.

Methodology

This was a small-scale study involving clinical teachers (n=34) who work in different specialities – surgery, medicine, psychiatry, paediatrics, geriatrics, obstetrics and gynaecology etc. and in a range of settings (including university hospitals and district general hospitals). At the time of the interviews all clinical teachers had progressed to consultant level; they were interviewed individually.

Ethics approval was awarded by the School of Medicine Ethics Committee in January 2009 (SOMESEC 028.09). Interviews were conducted throughout 2009 with clinicians who teach undergraduate medical students from Southampton University. Interviews took place at a location chosen for the convenience of the interviewees. Interviews lasted between 20 minutes and 2,5 hours. All interviews were transcribed in full; this was followed by a thematic analysis. The study involved two researchers (AT and SB).

Research questions:

1. What was 'the firm'? (exploring variation across specialties, across time and across teaching sites)
2. What is 'the firm' today?
3. How has it changed?
4. What factors have contributed to its current state (and how)?
5. What are the effects of the European working hour directive for the teaching of undergraduate medical students?

Findings

The study provides insights into the perspectives of clinical teachers. Their recollections of the time when they studied medicine as well as their follow on training were shared during the interviews and are grouped thematically below.

What was 'the firm'?

- The term 'the firm' refers to a unit of doctors working together. It was described by interviewees as essentially uni-professional; whilst some clinicians considered other professions part of the 'clinical team', nurses and others were generally not seen as part of the firm.
- The unit generally consisted of one permanent member – one (or occasionally two) consultant(s) after whom it was named. It also included other grades of doctors who joined it on a temporary basis and for varying length of time.
- Interviewees described a clear hierarchy and distribution of roles, several invoked a military model.
- Interviewees disagreed as to whether medical students were ever considered to be members of 'the firm', although they worked as part of it for the duration of their attachment. Rather than relying primarily on the consultant, students were following around / assisting / learning from the other doctors in the firm.

The salience of the firm seems to be stronger in some specialties than others. Strong in surgery and medicine, for example and relatively weak within specialties such as paediatrics and psychiatry. Specialties within which there is a large degree of cooperation with (or dependence on) other

professions appear to have switched to inter-professional teams instead. Also, working patterns and how healthcare is delivered clearly matter (ratio of in-patient / outpatients, responsibility for acute admissions).

There were differences in opinion as to whether the firm was indeed "dead". Since there is no one definition of what the firm 'was', some participants argued that it was in fact, still alive.

The role of 'the firm' in the teaching of undergraduate medical students

- Members of the firm clearly cooperated in the provision of service – the role modelling for students was one of joint purpose and dedication from the unit as a whole.
- Continuity of care for patients was largely provided by junior doctors, which placed a huge emphasis on accountability, but also included extremely long hours. For students, this meant that there was always someone there to whom they were known and connected.
- Doctors of all grades were continually interacting with one another – not only in the workplace, but also in the mess (canteen) and in the staff accommodation (in the pre-MMC period junior doctors/HOs/SHOs moved around and were often reliant on staff accommodation). This close contact facilitated sustained supervision and on-going support not only for junior doctors. It meant that students could witness (and potentially participate) in non-service / non-urgent activities also.
- For undergraduate students – irrespective of whether they were considered formally part of the firm or not – the unit of cooperating doctors provided a stable and steady access point, not only into the ward, but also into the profession. There was always someone there (i.e. a representative of the consultant) to whom they 'belonged'.
- Whilst they could see that junior doctors were shouldering a disproportionate burden in terms of care delivery, interviewees also emphasised that the intense training served well in terms of the preparation for progression.
- Interviewees also described a much larger scope for medical students assisting junior doctors and being able to work locum jobs, even prior to qualifying.

Even if / where students were not considered to be actual members of 'the firm', its existence nevertheless appears to have provided students with a sense of belonging. There was always at least one person there who they knew and who knew them. One of the firm's representatives could be expected to supervise /explain, or they might require the student's assistance.

Members of the firm also had a stake in the student's progress – for they would be able to assist more competently or more quickly in future. Members of the team might also have to account for their knowledge of individual students' understanding and competence as the consultant might request feedback to include in teaching reports. Several interviewees mentioned the notion of students 'earning' their teaching, i.e. having assisted to the best of their ability; members of the firm would then spend time teaching 'in return' or would facilitate opportunities for the students to observe / participate in care more fully.

There appear to have been a whole range of different opportunities for getting to know the different doctors of 'the firm'; for example, through co-location of students and junior doctors in staff accommodation and through shared meals in the mess. In turn, these encounters might make it more likely for students to be included in social activities. These circumstances afforded students the

opportunity to absorb information and observe role-modelling without necessarily being taught explicitly.

Problematic aspects of 'the firm' structure

Interviewees were also critical of 'firms'. For example, they noted that these entailed:

- Routine exploitation of junior doctor grades: up to 100h per week.
- A focus on the establishment and maintenance of the hierarchy and career progression (i.e. marking, references, etc.) – possibly at the expense of patient welfare(?)
- Competitiveness between firms – a potential hindrance to healthcare delivery(?)
- Lack of credit to other healthcare professions
- "Dysfunctional" firms
- Ubiquity of 'teaching by humiliation'
- Little or no structure or consistency to the teaching. 'See one – do one – teach one' was fairly prevalent.
- Student-centredness was clearly not a priority. Instead: students sometimes represented cheap labour (?).
- Teaching often involved considerable repetitiveness of observations (lack of variety); it was also – forever – secondary to emergencies, etc.

What factors influenced the demise of the firm?

All interviewees agreed that the European Working Time Directive was an important aspect that contributed to the demise of the firm – but it was not considered to be the only one. At the time of the interviews it seems that adherence / compliance with the regulations was not well understood. Modernising Medical Careers (MMC) has fundamentally changed the training of doctors in terms of their progression and in terms of their dependence on consultants. However, both of these factors are hugely significant nationally and have led to a relative absence of junior doctors on the wards, and an associated lack of continuity for patients and medical students. It is the latter aspect that seems to have received little attention.

Compounding factors

Interviewees identified a whole range of other issues that might be affecting undergraduate education (although they did not necessarily affect 'the firm'). These include:

- Decreasing availability of patients for teaching (those that are in hospital are there for shorter periods of time in which they tend to be more acutely sick)
- Increase in undergraduate student numbers and shorter clinical placements
- Sub-specialisation may further shorten the length of placements (as students move around to experience all specialities they spend shorter periods with each team)
- The changing division of labour makes it harder for students to contribute (e.g. taking bloods is now often done by phlebotomists.
- Students' supernumerary status can be seen as a hindrance to their learning.
- Outsourcing of patient care to private providers means that students are potentially less welcome (getting in the way of routine health care / slowing things down) and in any case, have to make sense of yet another context that may or may not be teaching friendly.

How does apprenticeship learning after 'the firm' work?

Here are two quotes from the interviews conducted with clinical teachers:

"*You did your deliveries … and you were very much 'on the rota'; you were working nights and weekends and had quite an important role to play; you would do the bloods and you would do the clerking and you would help the doctor quite a lot and shadow the [house officers], very similar to what an FY1 does now really. Hence I do feel .. medical students have been demoted, for want of a better word, not part of the team...*" (clinical teacher, O&G, autumn 2009)

"*It's very easy for a Final Year student to sort of drift and just be here, but not actually contributing. And I don't know how you get round that. Consultants … will rarely have the time and energy to create a really exciting learning environment for Final Year students, within… the changing shift patterns and the changing working practices that mean you really have to organise quite hard to get the best out of Final Year attachment. Most of us are struggling just to …err… cope with what we've got to do for ourselves.*" (clinical teacher, surgery, autumn 2009)

Based on the research it seems that undergraduate students are no longer 'attached' to a person or unit – i.e. the consultant *and* their representatives. Rather, nowadays, it seems undergraduate students tend to be faced with (or placed in) a series of clinical environments and they move between these more frequently.

Without a stable access point (and any continuity) undergraduate students are much less likely to be able to make sense of each of these settings. From the research it seems that in the past students would tag along and assist and there were ample opportunities to improve technique and get feedback informally from a range of individuals who were tied into undergraduate teaching via the consultant.

Without the wider teams' involvement it appears that for undergraduate students a whole range of learning opportunities may well be lost. Thus, their expectations may be focused on contact time with the consultant – which, it seems, was always limited. But in this context, it is not surprising to find that some students feel that they "don't get any teaching".

Conclusions

a. Implications for medical education

It appears that apprenticeship learning in final year is no longer something that can be taken for granted for it requires – in the words of Lave and Wenger – 'legitimate peripheral participation' on the part of the students. Within the descriptions of the clinical teachers in this study such opportunities are increasingly under pressure.

Clearly, many changes have taken place within clinical settings and it would be surprising if these did not in any way affect the teaching and learning opportunities of medical students. The major changes to postgraduate training – especially the demise of the firm, which has been hastened by the introduction of MMC and the implementation of the EWTD – require closer inspection, not just at a local level, but at a national one. To date, these have been evaluated (and criticised) primarily in their own right (Tooke, 2009) or in terms of the crisis in 'preparedness' of junior doctors (Skills for Health, 2009). Watt, Nettleton & Burrows raise the issue of decreasing support mechanisms within

the profession and caution about the loss of tacit and experiential knowledge in doctors more generally (2008). A closer inspection of the relative absence of junior doctors from the ward and its impact on undergraduate education is overdue.

b. Scope for future work

The most obvious follow up from this project should be an investigation of undergraduate final year students' activities on the wards, especially during final year when teaching is not timetabled. Can this still be described as apprenticeship learning – even without 'the firm'?

Time use diaries might be one way to investigate what / where, with and from whom students learn. However, students' abilities to make sense of the hospital setting and to operate within it are unlikely to be captured in this way (learning is a social and socially situated activity – not individually based). Ethnographic methods are more likely to provide a richer picture of the possibilities for (and limits of) apprenticeship learning in 21st century hospitals.

Recommendations*

1. Conduct further research into the possibilities / limits of apprenticeship learning in final year – find out what the students actually do now.
2. Re-consider lengths of placements in a particular setting and with specific teams as this is more likely to allow them to develop relationships with their seniors, which are essential to learning (cf communities of practice). Students moving around to attend to each subspecialty may well harm their competency development / socialisation / preparedness. The better students are known individually, the safer it is for them to participate and to assist in patient care, which in turn fosters their learning.
3. Monitor students' participation in full shifts, weekend and night working as this facilitates closer working with junior doctors.
4. Review students' earlier experiences of ward settings, i.e. during Y3, within early patient contact and prior to starting medical school. The more prepared undergraduates are for final year, the more likely they are to hit the ground running.

*The research (conducted throughout 2009) and analysis was followed by several internal dissemination events (undertaken throughout 2010, see below) . At the time of the release of this report, most of the recommendations have been followed up already.

Dissemination

Internally, this research has been disseminated at:

- the Final Year Away Day in early 2010 (as a workshop)
- as part of the medical education research forum series in November 2010
- at the Programme Director's meeting in 2011 (as part of a presentation)
- the ASME Annual Scientific Meeting in Cambridge in July 2010
- the AMEE conference in Glasgow in September 2010

The findings of the Demise of the Firm project also fed into the proposal for the Beyond Competence project which was externally funded by the Higher Education Academy (£200k) and ran from 2010 to

2012. The Beyond Competence project investigated the student experience of initial clinical placements.

This project also helped to define the focus of two long student projects – one on students' preparations for the transition into clinical placements (Chidi Onyeforo, 2010/11) and another on the student experience of early patient contact (Eleanor Clark, 2012/13).

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Appendix: Interview schedule (version 2, dated 11/03/09)

Demographics (understanding chronology)

1. What is your specialty?
2. Where did you train – and when?
3. Apart from x (current post), where else have you worked?
4. How long have you been involved in medical teaching?
5. What is your current role (more generally and as a clinical teacher)?

Own training during clinical attachments

6. Let's talk a bit about how you were trained on clinical attachments – when you were a student… (prompt for: different professional groups / different stages of training, etc.)
7. A term that is often used to describe clinical attachments is 'the firm'. Is that the term you would use? Please define 'the firm'?
8. In your experience of studying under 'the firm' – are there any variations? (prompt for between medical schools / specialties / over time)

The firm today

9. How does your own training differ from that of today's medical students? (prompt for phases of development)
10. What do you consider to be the most important factors that have brought about these changes? (prompt for internal changes – within the medical profession / university recruitment patterns / hospital as well as inter-professional ones (nursing?) and policy ones (NHS, local trust, etc.).
11. What has been the impact of the European working time directive (EWTD)?
12. Which aspects have remained similar – if any?

The future of the firm

13. What future changes do you foresee for clinical attachments?
14. What impact do you expect from the full implementation of the EWTD (in late 2009)?

It is expected that the interview framework for this project will evolve over time as the project progresses.