

Reconfiguring or reproducing intra-professional boundaries? Specialist expertise, generalist knowledge and the ‘modernization’ of the medical workforce

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Efforts to ‘modernize’ the clinical workforce of the English National Health Service have sought to reconfigure the responsibilities of professional groups in pursuit of more effective, joined-up service provision. Such efforts have met resistance from professions eager to protect their jurisdictions, deploying legitimacy claims familiar from the insights of the sociology of professions. Yet to date few studies of professional boundaries have grounded these insights in the specific context of policy challenges to the inter- and intra-professional division of labour, in relation the medical profession and other health-related occupations.

In this paper we address this gap by considering the experience of newly instituted general practitioners (family physicians) with a special interest (GPSIs) in genetics, introduced to improve genetics knowledge and practice in primary care. Using qualitative data from four comparative case studies, we discuss how an established intra-professional division of labour within medicine—between clinical geneticists and GPs—was opened, negotiated and reclosed in these sites. We discuss the contrasting attitudes towards the nature of genetics knowledge and its application of GPSIs and geneticists, and how these were used to advance conflicting visions of what the nascent GPSI role should involve. In particular, we show how the claims to knowledge of geneticists and GPSIs interacted with wider policy pressures to produce a rather more conservative redistribution of power and responsibility across the intra-professional boundary than the rhetoric of modernization might suggest.

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Introduction

Traditional ways of organizing health care and other public services are coming under pressure from governments globally, who see them as increasingly ill-suited to contemporary economic and social exigencies. Strategies to reform health-service organization include the introduction of markets, attempts to improve collaboration between providers, and efforts at workforce reconfiguration. Alongside wider organizational changes, Labour governments in the United Kingdom (UK) since 1997 have sought to ‘modernize’ the workforce of National Health Service (NHS) in this way. A constant theme of policy has been the expansion of the clinical workforce and the reconfiguration of responsibilities, epitomized in the subtitle of the Department of

Health's *HR in the NHS Plan: More Staff Working Differently* (Department of Health, 2002). New grades and roles have been introduced, and policymakers have been keen to promote a focus on staff 'competencies' over traditional professional cleavages in the division of clinical responsibilities.

In a system where shifts in the responsibilities of one profession inevitably impact on those of others (Nancarrow & Borthwick, 2005), these reforms have had a mixed response from professional bodies (see, e.g., Lancet, 2007). The sociological literature teaches us that professions tend to defend their jurisdictions fiercely, and respond to incursions by reasserting the legitimacy of existing boundaries (Abbott, 1988). With exceptions, however, the literature on the health professions concentrates on potential, rather than actual, shifts in professional boundaries: it considers legitimacy claims in isolation, rather than in relation to specific challenges to the professional division of labour. In this paper, we examine the negotiation of professional jurisdiction at the micro-level, in the specific context of pilot genetics services introduced to create more joined-up provision for patients by bridging the boundary between specialist genetics and primary care. Our findings thus relate not only to the legitimacy strategies deployed by those involved—the mainstay of the sociology of the medical profession—but also to the interaction of these with wider power structures in the modernizing NHS to create new (or reproduce existing) professional boundaries. Our study, then, is as much about the renegotiation of professional boundaries as the legitimation of existing jurisdictions. Furthermore, we address another lacuna in the sociology of the medical profession, by focusing on an *intra*-professional division within medicine—between newly appointed general practitioners (family physicians) with a special interest (GPSIs) in genetics and existing specialist genetics consultants—rather than the boundary between physicians and other professions. Given the ubiquity of the division between primary care-based family physicians and hospital-based specialists globally (e.g. Shortell, Gillies, Anderson, Erickson & Mitchell, 2000), and efforts in the UK and elsewhere to move knowledge and power towards primary-care practitioners, the outcome of this negotiation is of wide interest.

In the next section we review the literature on the health professions, noting the potential for reconfiguration of inter- and intra-professional boundaries in the face of external and internal pressures. Following this, we consider the efforts of recent British governments to 'modernize' the NHS—which reflect internationally prevalent aspirations to promote knowledge sharing and mitigate boundaries in public-service delivery—and the barriers faced by such attempts. After grounding these generalities in the specifics of our research, we present our findings and discuss their implications. Considering the legitimacy discourses deployed by GPSIs and geneticists, and highlighting the institutional forces which influence the effectiveness of these in practice, we show how a new division of labour and knowledge is established—albeit a rather more conservative one than the rhetoric of NHS modernization might suggest.

Professional boundaries, health and medicine

The development and maintenance of the system of professions is well documented in the sociological literature. Abbott (1988) describes the construction of jurisdictions over which professions claim exclusive authority and defend from competing claims from neighbouring professions. Though these may result in change, established professions tend to cede their core work only reluctantly, using an armoury of techniques to defend their territory. By making claims to scientific or specialist expertise, for example, dominant professions are able to set the terms of reference of such territorial battles, so that challengers are immediately weakened by the need to appeal to the discursive norms of the dominant professions (Larson, 1990). Monopoly over the techniques and competences needed to practise in a given domain, and carefully guarded entry to a profession, assist the endurance of professional power (Freidson, 1970). The accrual of status by a profession, then, is a process "in which power and persuasive rhetoric are of greater importance than the objective character of knowledge, training, and work" (Freidson, 1970, p.79).

Medicine represents the quintessential profession for authors on this subject, within the field of health and beyond (see, e.g., Freidson, 1970; Harrison, Hunter, Marnoch & Pollitt, 1992; Coburn & Willis, 2000). Despite recurrent predictions of medicine's imminent deprofessionalization or proletarianization, its standing has remained assured, and in the UK, 60 years of employment by the state has little diminished the status of hospital doctors. However, as commentators either side of the Atlantic have noted (Freidson, 1984; Harrison & Ahmad, 2000), the development of new technologies and managerial forms has altered the character of the profession, and particularly its internal differentiation. Freidson (1984) notes the emergence of a 'knowledge elite' within the medical profession, deploying its expertise to determine standards of conduct for lower-status strata. McKinlay and Marceau (2008) go as far as to predict the near-future disappearance of the primary-care physician in the United States. In the UK, Harrison and Ahmad (2000) echo Freidson's theme in their description of the rise of 'scientific-bureaucratic medicine', whereby new trends, such as health-technology assessment and evidence-based medicine—as well as managerialization—contribute to stratification within the profession, so that “for the ordinary medical clinician, autonomy has been eroded” (p.138).

Even if the overall status of the profession seems assured, the influence of these shifts does seem to auger some reconfiguration. Fragmentation within the medical profession might lead to increasing competition between its segments (or strata). Changes to the organization of primary care may see GPs seeking to diversify their interests, reorientating their provision to avoid the extinction anticipated by McKinlay and Marceau (2008). The rise of managerialism and the advent of new information technologies, meanwhile, pose a particular threat to medical expertise across specialities, which rests on both the rationalization of knowledge and the claim (crystallized in the notion of 'clinical judgement') that it is irreducible, transcending its constituent parts. For Reed (1996, p.578), the key to defending such expert knowledge from the advance of these challenges to its distinctiveness is

to strike the right—i.e. inevitably shifting—political balance between indeterminacy and formalization of knowledge and skill as a prerequisite to constructing expert power bases and action domains that will stand the test of time.

In other words, to protect medicine from deprofessionalization—and from other professions (and specialities) encroaching upon its territory, assisted by managerial and technological interventions—requires a politically informed defence of the qualities that mark it out as particular.

On the macro-level, there is a considerable literature considering this kind of work in action, exploring the role of, inter alia, professional bodies in defending existing epistemic and jurisdictional boundaries (Coburn, 1993; Evans, 2003; Zetka, 2001; Stevens, Diederiks, Grit & Horst, 2007; Mizrachi & Shuval, 2005). On the micro-level, research is more limited. There is a considerable literature offering rich insights into strategies deployed by professions in legitimating their jurisdictional boundaries (e.g. Norris, 2001; Foley & Faircloth, 2003; Hibbert, Hanratty, May, Mair, Litva & Capewell, 2003; Mizrachi & Shuval, 2005), but relatively little of this studies these legitimacy strategies in relation to specific pressures of technology, policy or managerialism (Lupton, 1997; Sanders & Harrison, 2008). Rarer still are studies examining the reconstruction of professional boundaries by actors on the ground in the face of technological, managerial or policy changes which disrupt the existing division of jurisdictional responsibility (recent exceptions include Mclaughlin & Webster, 1998; Charles-Jones, Latimer & May, 2003; McDonald, Harrison, Checkland, Campbell & Roland, 2007). Analyses like these ground abstract proclamations by individuals about their professions in the practical realities of the renegotiation of disrupted boundaries between actors, and thereby give a picture of how such discourses are drawn upon in seeking substantive, local advances for one professional group over another.

Another relatively underresearched area is the *intra*-, rather than *inter*-, professional boundaries within occupations, despite the potential importance of professional fragmentation noted above (again, there are exceptions: Zetka, 2001; McDonald et al., 2007; Sanders &

Harrison, 2008). Differential status between medical specialities has a long history (Klein, 2006), and the split between GPs and specialists is a particularly entrenched one. Recent policy impetuses in the NHS, though, have led to new tensions at the boundaries between these subprofessions. Policies in the 1990s aimed at empowering GPs as commissioners of care in an internal market represented the beginning of efforts to 'shift the balance of power' away from hospitals, advanced under Labour governments since 1997. Further subsequent changes (e.g. Secretary of State for Health, 2006) have allowed GPs themselves to provide primary-care-based alternatives to hospital admission.

The introduction of GPSIs exemplifies these shifts in NHS provision, which transform not only the relationship between generalists and specialists, but also, potentially, the division of labour, and hence established jurisdictional boundaries. As Sanders and Harrison (2008, p.305) argue, developments such as GPSIs "can be seen as the opening-up of discursive fields related to professional work" where previously jurisdictional closure seemed relatively stable. Our study represents an enquiry into this kind of 'opening up', and also the 'closing down' that must follow, as those involved renegotiate jurisdictions thrown asunder by policy. As we shall see, though, this process of renegotiation is structured not only by discursive deliberations between GPSIs and specialists, but also by various, somewhat conflicting, institutional forces governing the NHS's intra-professional logic. Let us now consider this institutional backdrop, in the context of 'modernizing' ambitions aimed at its reconfiguration.

GPSIs and NHS modernization: aims and obstacles

The 'modernization' of public services, including the NHS, pursued by successive Labour governments since 1997, is a multifaceted, and to some extent contradictory, process. There are tensions, for example, between its efforts simultaneously to promote conformity to centrally prescribed targets, competition between providers in a quasi-market, and collaboration between those same providers through more networked provision (see, e.g., Currie & Suhomlinova, 2006). The reconfiguration of the NHS workforce is central to 'modernization', and exemplifies these tensions. Seeking to "build jobs round patients, rather than round professions" (Department of Health, 2002, p.7), the NHS Plan (Secretary of State for Health, 2000) and subsequent policy documents introduced new roles and redistributed responsibilities among existing ones. Among the new roles set out were 'specialist GPs' (later rebadged GPSIs), who would take referrals from fellow GPs, offer diagnostic and treatment services, and provide leadership across the primary care community, and in relation to the efforts of primary care trusts (PCTs) (the bodies responsible for providing NHS community services and commissioning most hospital-based services) to reshape provision in their clinical field (Secretary of State for Health, 2000). GPSIs proliferated in various fields, such as ophthalmology, orthopaedics and dermatology. Their value was affirmed in subsequent policies, as a means of providing care closer to home, and improving deficient provision by offering alternatives to conventional referral to consultant-led clinics (see, e.g., Secretary of State for Health, 2006, pp.132-3).

GPSI services thus become, potentially at least, competitors to established, hospital-based services. Yet they are also reliant on specialists within those services for training and, often, accreditation. As such they are at the crux of the tension between collaboration and competition. The limited extant literature on GPSIs suggests a complementary, rather than substituting, role in relation to existing consultant-led services (Boggis & Cornford, 2007; Nocon & Leese, 2004), though even then, hospital-based services may suffer if straightforward cases (which may be beneficial financially and for training) are treated elsewhere.

There is, then, potential conflict in the negotiation of GPSI roles. GPSIs would seem to have the momentum of policy behind them, but specialists retain knowledge and power which they may not wish to share. The organization and management literature highlights potential barriers presented by sectoral interests and subcultures, like those considered here, to effective knowledge sharing (Alvesson & Kärreman, 2001). However, as Kernick and Mannion (2005,

p.909) note, detailed research on how “mechanisms, such as [GPSI] clinics, interact with contextual factors, such as local professional networks, history and culture, to bring about unique outcomes,” has so far been lacking (cf. Jones, Rosen, Tomlin, Cavanagh, & Oxley, 2006). We now seek to address this gap, considering the negotiation of roles in the grounded, empirical context of the introduction of GPSIs in genetics in four pilot sites.

Empirical field and methods

GPSIs in genetics were piloted as part of a wider programme of genetics services outlined in the white paper, *Our Inheritance, Our Future* (Secretary of State for Health, 2003). This set out the government’s ambition to ‘mainstream’ genetics provision into other clinical specialities and primary care. Existing genetics services were generally provided on a regional basis through tertiary-care clinical genetics departments in hospitals, comprising a range of staff including consultant clinical geneticists (medically trained doctors with four years of specialist training in clinical genetics), junior doctors at various stages of specialist training and genetic counsellors (non-medical specialists, often nurses by background, in genetic conditions who diagnose and advise patients at risk of inherited conditions). This set-up, with its organizational separation of clinical genetics from other specialities and from primary care, was seen as increasingly inappropriate given advances in genetics knowledge heralded by the Human Genome project among other developments. The aim of the white paper, and the pilots, was to facilitate collaboration between specialist clinical-genetics departments and the rest of the NHS, ahead of the ‘genetics revolution’. This would equip the latter with the knowledge to deal with the coming rise in genetics-related inquiries and referrals, while specialists could focus on complex cases.

Twenty-eight pilots were funded under the programme, including 10 GPSI in genetics projects. The GPSI in genetics projects provided funding for GPs to take up to two days per week out of their normal practice as primary-care physicians, over a period of up to three years, to gain a degree of specialist knowledge in genetics and use this to provide a community-based, supplementary genetics service to their colleagues in primary care in the local area, including leadership around genetics issues for PCTs, education for GPs and other primary-care-based clinical staff, and, potentially, a low-level clinical service based in the community.

This article arises from the national evaluation which accompanied the pilot programme. This involved qualitative case-study work comparing 11 of the pilot sites, including four GPSI sites. The evaluation used intra- and inter-case analysis to illuminate key differences of context and mechanism that give rise to differences of outcome, enabling generalization through process analysis (Eisenhardt, 1989). Cases were therefore theoretically sampled, following preliminary interviews with stakeholders in each pilot, on the basis of various factors of context and process seen as likely to influence outcomes (e.g. clinical field in which service was to be provided; anticipated function of service (clinical, educational); degree to which relationships between key actors within the site were already established; demographic characteristics of area served in terms of socio-economic and ethnic profile) to provide a varied sample that covered the breadth of contexts and processes of the pilot programme. In relation to the GPSI sites specifically, as we shall see below, the key criteria were the anticipated function of the service and the degree to which relationships were established. In each GPSI site in-depth interviews were conducted with key stakeholders. In all four sites, these included the GPSIs themselves and clinical geneticists in the relevant regional clinical-genetics departments, who were responsible for providing training, negotiating the division of responsibilities with the GPSIs, and who took on a supervisory, clinical-governance role in relation where GPSIs were engaged in clinical activities. Across the sites, interviewees also variously included managers in primary care, managers of clinical-genetics departments, local service commissioners and clinicians in other areas involved with the GPSI projects. The interviews explored issues around developing the GPSI role, challenges encountered in implementation, and the results of this, in terms of the role carved out for the service and its sustainability. Interviews were transcribed in full, following which each of the

authors undertook, independently, an iterative analysis process, rereading and coding transcripts and generating themes. This was followed by discussions among the authors, during which we refined our analytical themes, ensuring inter-researcher reliability of interpretation.

In addition to the 10 preliminary interviews, across the four sites we conducted 24 interviews, and also interviewed a Department of Health policy lead for GPSIs in genetics. This figure includes follow-up interviews with the GPSIs themselves at the end of the pilot period (around 18 months after initial interviews), at which we discussed progress towards goals, reflected on issues raised in earlier interviews, and considered whether their services would be sustained beyond the pilot period (i.e. with local money from host PCTs). This provided a longitudinal dimension to our understanding of the negotiation of the GPSI role in each site. Additionally, some of the seven non-GPSI case-study sites included geneticists who were involved with other GPSIs in genetics, and we included data derived from these interviews in our analysis. In the results section, we label our four case study sites A to D, denoting interview excerpts from respondents in those sites accordingly; data from respondents from outside these four sites are also identified as such.

Results

We present our findings under three headings. Under ‘Negotiating a role’, we set out the plans of GPSIs in each site, and how these were negotiated with geneticists. ‘Delimiting the GPSI knowledge base’ considers the divergent views of those involved about exactly what kind of knowledge GPSIs could accumulate and put into practice in their ‘sub-specialist’ roles, and the role this implied *vis-à-vis* their specialist peers. ‘Towards jurisdictional closure’ looks at how such divergent discourses were reconciled, as boundaries between the sub-professions were reasserted.

Negotiating a role

In contrast to GPSI initiatives in other clinical fields, the brief prepared for GPs interested in applying for funding to become GPSIs in genetics was open about the role envisaged. With a considerable emphasis on ‘soft’, non-clinical skills such as leadership, negotiation and teaching, the principal role set out was as a conduit for knowledge sharing between specialists and primary-care-based practitioners. The possibility was left open, though, of clinical-service provision, of the intermediate kind commonly provided by GPSIs in other fields. In their initial bids for funding, all but one (Site B) of the GPSIs studied included plans for such provision, either later in the pilot period (Sites A and C) or immediately (Site D). All four had plans for educational work, disseminating genetics knowledge among their primary-care peers.

The role for these first GPSIs in genetics, then, was open to interpretation by the GPSIs themselves, in collaboration with local stakeholders—though in all four cases, it was the GPSIs who led this process. They largely struggled to engage PCT managers, for whom genetics was not a priority: Site A’s PCT’s medical director, for example, candidly admitted that “there probably hasn’t been enough leadership from the PCT.” Specialist geneticists, though, were proactive in engaging with GPSIs, especially those with plans for clinical services. Concerned at the prospect of clinical-genetics services provided on their patch but outside their control, geneticists sought to discuss with GPSIs the question of their clinical role, and how this would fit in with existing provision. In Site D, early consultation was somewhat lacking, as both geneticist and GPSI admitted:

“[After the GPSI was funded] he came to see us and asked how we felt this should happen, and it was really only then that his ambitions for this became clear. There was quite a lot of conflict at that time about what he wanted to do and what we felt it would be appropriate for him to do clinically.” (Geneticist, Site D)

“They felt slightly threatened by what I was trying to do, in terms of might I be competing for patients, trying to create an alternative service, which has never been my intention. [...] As months go by we can see what our different roles are and how we complement each

other.” (GPSI, Site D)

As we shall see, though, the geneticists in Site D retained considerable concerns about this GPSI’s clinical service.

Elsewhere, consultations between GPSIs and geneticists were more productive. In designing an educational project for local primary-care practitioners, Site B’s GPSI consulted widely to formulate an intervention that would be useful to geneticists and primary care alike. In Site A, meanwhile, the GPSI and geneticists spent considerable time discussing the question of the appropriate role for the GPSI. She had planned a clinical service providing triage, and dealing with lower-risk patients in certain, relatively common, genetic disorders, but for the local geneticists, there was concern over the value and viability of such a service:

“We didn’t see any great advantage in having [her] as a GP doing lots of genetics clinics. [...] It wouldn’t have fitted in with what we’re doing, and so as we set out through discussion early on, it became clear that the sensible thing was for the first bit of her work to be to establish whether or not there was a need for her, or whether in reality we should simply say, ‘Well that was a nice idea, but thank you and goodbye.’” (Geneticist, Site A)

The GPSI here recognized the importance of negotiating a mutually agreeable role with the geneticists:

“I’ve had a number of sessions with [the geneticist quoted above] and we decided I actually needed to look carefully at whether to set up clinics or not, [and at the question of] a useful and effective way to use my time, because I don’t want to be doing the same work as a genetic counsellor. [...] So with the clinics, I’ve decided to hold off [...] and at the moment, I’m concentrating on education.” (GPSI, Site A)

Despite her plans for a clinical component, the GPSI here acceded to the geneticists’ view that an educational intervention would be more appropriate—perhaps because she was persuaded that this would indeed be a more beneficial package of work, but also because, as she put it, “I want this to be a sustainable service—I didn’t want to jump in and say, ‘Oh yeah, I’ll do this, I’ll do that’. I’ve tried to spend a lot of time networking before committing to too much.” In Site C, meanwhile, the GPSI did provide a clinical service, but following negotiations with the clinical-genetics department, this took place under its auspices, so that cases were triaged by geneticists, and appropriate patients referred to the GPSI, rather than the GPSI acting as an intermediary between referring GPs and the clinical-genetics department.

Negotiations in Sites A and C saw something of a redrawing of the GPSIs’ plans for clinical provision, then, while in Site D, the GPSI set up a clinic despite the trepidation of local geneticists. What precisely was the nature of the geneticists’ concerns? We consider this next.

Delimiting the GPSI knowledge base

A core source of unease common to geneticists across sites was that clinical-genetics knowledge was not amenable to adoption by GPSIs whose involvement was limited to one or two days a week. One geneticist who related to a GPSI in a non-case-study site outlined the difficulty:

“There’s too much in genetics for them to do the work of a consultant because they can never be trained to that level, because they would have to do paediatrics, adult medicine and four years’ training—then they might as well be consultants! So you can only train them to the level of a genetic counsellor, and then they make very expensive genetic counsellors.”

More than this, though, there was a sense that genetics knowledge was not something that could easily be divided into discrete components that might be apprehended by GPSIs to practise. The limited time spent by GPSIs in acquiring knowledge was, for geneticists, insufficient for a proper grounding in such an esoteric epistemic domain. This was less an issue of the science of genetics—indeed, many of the GPSIs had had earlier training in genetics that spurred their interest in the field—than of its *clinical application*. Geneticists saw *clinical genetics* as a field characterized by its breadth *and* its depth; consequently codification of the knowledge inevitably

glazed over its subtleties.

Safe clinical conduct, then, required in-depth understanding of the field; but more than this, it required immersion in the practice of genetics, within the collegiate atmosphere of the genetics department. A geneticist in Site D put it like this:

“There’s a lot of learning by osmosis, and a lot of the clinical meeting isn’t relevant to [the GPSI] because we’re discussing results and stuff, but there are little grains of sand in there that he could pick out, and it’s just being absorbed into the system. [...] It’s terribly difficult. Cancer [genetics] is terribly difficult because there are very few families that you look at and say, ‘That’s easy, this is definitely moderate risk’. There are lots of families where you think, ‘Mm, I wonder’, and so we spend quite a lot of time trying to clarify family histories, getting more information to make a decision one way or the other. There’s a lot of art in there as well as science and I think that just comes from doing it time and time again. I’m sure I get things wrong. I’m absolutely certain I’ve missed things, but that’s why we have the meeting, specifically to discuss people with difficult family histories, where you think, ‘This doesn’t quite conform’.”

In this understanding, good clinical-genetic practice was an intrinsically collective endeavour, with applied genetic knowledge located in the collective wisdom of the full complement of clinical-genetics professionals, from genetic counsellors to consultant geneticists, acquired over many years. This, crucially, excluded almost by definition the possibility of good-quality clinical practice by a GPSI, at least if that GPSI was based outside the clinical-genetics department.

Consequently, the plans of the GPSI in Site D for autonomous clinics, to which GPs would refer patients in lieu of referral to the clinical-genetics department, caused considerable concern to geneticists here. They made it clear that they would audit every decision made by the GPSI, even in apparently innocuous cases, and encouraged the GPSI to become more involved with the day-to-day working of the department:

“There are very specific issues in clinical genetics and we trained for a long time, so it seemed strange for somebody to feel they can leap in and do our job with no extra training. So we sat down and said, ‘We think this is what you need to do. You need to come along to clinics with us, you need to sit in and we need to supervise you, and you also need to be part of our department. You need to be involved in the discussions’.” (Geneticist, Site D)

The GPSI agreed that attending clinical meetings and seminars in the department might be beneficial, but felt that other pressures on his time meant that he could not prioritize this. For him, though, the concerns of the genetics department about the suitability of clinical-genetics practice to the GPSI role reflected a cultural difference between hospital-based and community-based practitioners, as he reflected in his second interview:

“They’re used to a hierarchical, centrally planned, centrally controlled service. They have no experience of the concept of primary-care work, where people work on their own and take individual risks. That was a concept they could not grasp: they felt that there had to be total control of the service. [...] It’s just a mindset. As a GP you have to accept a small amount of risk. If you see a patient, you say, ‘You have a 99 per cent chance of this, and there’s a one per cent chance of this, and I’m just going to sit on it and keep an eye on it’. If you’re a hospital consultant, you can say, ‘I’ll investigate that one per cent and I’ll do that extra test and if I’ve got the facilities, I’ll do that. So I don’t have to take that risk’. GPs have to learn to work with uncertainty and risk assessment. Half their daily lives they do it.”

Geneticists here accepted that this cultural difference was important, but considered that their own way of working provided a gold standard that GPSIs should not compromise: “GPs are on their own and they make a decision and stand by that decision, whereas we will often say, ‘Don’t know, I’ll get back to you’, and I think it’s probably a bit of a learning curve to accept that” (Geneticist, Site D).

Consequently in this site, there was overt conflict between the genetics department and the

GPSI. In Site C, geneticists were happier with the clinical work of the GPSI, provided under the auspices of the genetics department. Elsewhere, geneticists made it clear that they would be happier with a non-clinical role for GPSIs. This involved, for example, an educational function, with GPSIs providing seminars for their primary-care colleagues to introduce them to emergent clinical issues, or offering more basic information, such as referral criteria. Some geneticists were concerned that to provide education without a clinical grounding represented a poor pedagogical model, but overall, most preferred this to a clinical alternative.

This model of work represented a rather different construction of what constituted legitimate GPSI knowledge. Rather than involving the ‘upward’ extension of knowledge into the realm of esoteric clinical genetics, the key to the viability of an educational role—and more importantly, to its acceptability to geneticists—was that it drew upon a central component of the GP identity. Rather than encroaching on genetics expertise, the knowledge base to be exploited was the GPSI’s knowledge of the pressures of everyday primary-care practice. As one geneticist from outside the four GPSI case-study sites put it, this was not something that was accessible to specialists:

“The gap between primary and tertiary care is enormous. It’s difficult for me to go and speak to an audience of GPs. They speak a different language, GPs are different types of doctors and what they want to know isn’t always apparent [to us].”

Consequently, the educational work of GPSIs was largely welcomed by specialists. The regional screening co-ordinator in Site A explained how for primary-care practitioners, “there’s a preconception that genetics is difficult and it’s a specialised, rarefied subject, and it’s not. Part of what [the GPSI has] done is demystify, simplify and she’s provided access into genetics for people.” Even in Site D, geneticists stated that they were happy with the educational aspect of the GPSI’s work. GPSIs’ commonality with their primary-care peers, then, was valued as a resource by geneticists, in a way that clinical interventions that impinged on the realm of clinical genetics were not.

However, even here there were certain caveats for respondents from clinical-genetics departments. Interventions to raise the knowledge of primary-care referrers were valued, but there were concerns that this should not lead to GPSIs themselves taking genetics inquiries from other GPs. Once again, a key concern for geneticists was that GPSIs should not disrupt the established relationship between referrer and specialist by becoming an informal triaging mechanism. The line between education and practice here was thin and unstable, and it was difficult for GPSIs to manage the boundary between acting as knowledge ‘conduits’ without emerging as an authoritative *source* of that knowledge themselves. The more politically sensitive GPSIs, though, recognized the importance of making this distinction as clear as possible:

“I’ve been quite careful in trying to set up a clinical-governance structure, so that things with guidelines, I’m happy to sort. [...] But I don’t want to be in the position of giving people advice, so I’ve been checking, probably even more than I need to. Any queries I’ll pass on to the consultant. I’d still receive a copy, but even if it was something very simple, I might give some advice first off, but anything I’m not so sure of, I always discuss with the consultant.” (GPSI, Site A)

Towards jurisdictional closure

GPSI contributions valued by geneticists thus seemed to be those which drew on a knowledge base that derived from GPSIs’ status as generalists, rather than from their specialist interest. In Site C, where the GPSI did carry out clinical work, this was under the supervision of the clinical-genetics department, which triaged potential GPSI patients as well as incorporating the GPSI within its clinical-governance framework:

“One of my sessions I go over and see the geneticist, run through the clinic, have a general chat with him, and then another session I’m doing it and often he’s happy for me to do it on my own. But everything is run through and sorted and if I have any questions I bring

them up when I see him in between.” (GPSI, Site C)

In Site C, this arrangement seemed mutually acceptable. At the end of the pilot period, geneticists were willing to support the GPSI on an ongoing basis. In Site B, the educational intervention designed by the GPSI was always intended as a one-off, and so the question of continued funding never arose. In Site A, the genetics service supported the GPSI in her successful bid to the PCT for continued funding. The tensions in Site D between the geneticists and the GPSI over his independent approach to clinical work, however, were never resolved, and when pilot funding ceased here, the geneticists refused to support the GPSI’s bid to the PCT, effectively scuppering any chance of ongoing funding.

Asked about the potential long-term utility of GPSIs, geneticists tended to question the sustainability of a clinical role, for the reasons detailed above, and also on account of the relative expense of a medical practitioner compared to the greater skill mix of a clinical-genetics department.¹ Despite their concerns about the relationship between practice and pedagogy, most were willing to countenance an educational role for GPSIs. Two other roles for GPSIs, though, were suggested most enthusiastically by respondents from clinical-genetics departments. Firstly, GPSIs were seen to have value as primary-care representatives who might attend committees pertaining to genetic issues and provide the perspective of working GPs. This kind of role had been performed by the GPSIs in Sites A, B and C, filling vacant places on such committees to which it had been hard to attract GPs. Secondly, geneticists advocated a role for GPSIs in the ongoing management of adult chronic diseases with genetic causation in the community, an area in which geneticists perceived existing clinical genetics provision as deficient. As a geneticist who related to a GPSI in a non-case-study site described, these two roles offered clear “added value” deriving from GPSIs’ status as GPs, allowing them to wield influence (in collaboration with geneticists) to improve protocols and pathways:

“To begin with, I wasn’t convinced that [GPSI] was a good model because I thought, ‘It’s an expensive counsellor’. But having worked with the patient pathways and worked through the education, I think that’s where the power of the GPs with special interest is: that we can change the patient pathways, we can change the flow of patients, we can get into the GP mindset, in a way that secondary and tertiary care can’t.”

For geneticists, then, the long-term value of the GPSI was as an ally in influencing the strategic organization of the health service, providing a perspective that had the legitimacy and authenticity of coming from primary care, but which would complement geneticists’ own efforts to wield influence (note the use of the first-person plural in the excerpt above). For geneticists, this was where a truly valuable and legitimate contribution lay.

Discussion

We see above two rather different perspectives on the proper role for a GPSI in genetics. GPSIs themselves largely wished to extend their expertise ‘upwards’ into the realm of clinical genetics, with a view to practice. Geneticists were less keen on this idea, seeing clinical genetics as a field ill-suited to the autonomous practice of GPSIs, preferring instead roles which drew upon GPSIs’ status and knowledge as GPs, and their commonality with other GPs. Across the four case-study sites, it was the geneticists’ interpretation of the legitimate role that won the day, through negotiation (as in Sites A and to some extent C), or coercion (as in Site D).

Implicit in the discussions of the nature of clinical-genetic knowledge and practice was a contestation that echoes much recent literature on the sociology of the medical profession. GPSIs saw the role as an opportunity to practise in a field from which they had previously been

¹ Similar concerns have been raised about the financial viability of GPSIs in other clinical fields (Coast, Noble, Noble, Horrocks, Asim, Peters et al., 2005).

excluded, and thus made claims to their ‘competence’ (Sanders & Harrison, 2008) to do this work. Geneticists’ counter-arguments highlighted the indeterminacy of their knowledge (cf. Hibbert et al., 2003; McLaughlin & Webster, 1998), and the need for immersion in day-to-day clinical-genetics work to achieve sufficient expertise to practise safely. In this way, geneticists’ conceptions of the legitimacy of the existing jurisdictional boundary went to the very heart of their professional project, by locating expertise in lengthy professional training and ongoing interaction with other experts—defined *relationally* (Foley & Faircloth, 2003) through comparison with the ‘go-it-alone’ model of general practice. This arose less from the esoteric nature of theoretical genetics knowledge than from the indeterminacy of applied clinical judgement, which relied in part on accumulated collective knowledge and learning by “osmosis,” as the geneticist in Site D put it. It was this relationship of practice to science, rather than the science itself, that defined the expertise of the (sub)profession. Such expertise could not be formalized into routine guidelines and protocols, and it could not be detached from the collective wisdom of the clinical-genetics department. GPSIs’ ambitions to practise clinical genetics independently thus ran against the grain of geneticists’ professional identity, and so in contrast to, for example, the willingness found among GPs to transfer what they consider to be routinizable work to practice nurses over whom they retain considerable control (Charles-Jones *et al.*, 2003), clinical geneticists were loath to accede to such ambitions. This construction of genetics knowledge reflects certain phenomenological accounts of the nature of expertise (e.g. Dreyfus & Dreyfus, 1986; Sandberg, 2000).

For GPSIs, meanwhile, this was more a matter of cultural differences than a quality intrinsic to clinical-genetics knowledge. Again, GPSIs defined their legitimacy relationally. A degree of managed risk was inherent in general practice, and this was no obstacle to the competent practice of certain aspects of clinical genetics. In the three cases where the GPSIs had wished to carry out some clinical-genetics work, it was clear that a keenness to extend their clinical competence was central to their motivation. Geneticists’ view, that the foundation of the GPSI role should be the knowledge and commonality derived from generalism, implied a rather different construction of the appropriate division of labour within the health service, reflecting their own socialization and the indeterminate knowledge it brought (Alvesson & Kärreman, 2001), as well as their beliefs about the irreducible and collective nature of their expertise. It should be noted that an educational/leadership/liaison role was what the Department of Health had primarily envisaged for genetics, too, though it left open the option of a clinical component to their work. There was thus no strong pressure from policymakers for geneticists to cede more control to GPSIs.

Wider institutional pressures were also implicated in the re-establishment of a relatively conservative division of labour in these cases. Whilst the prevailing momentum of British policy is towards the creation of primary-care-based services, to offer a ‘patient-centred’ alternative ‘closer to home’ than traditional hospital provision (e.g. Secretary of State for Health, 2006), genetics is not a high-priority area for this kind of shift. Indeed, the focus on moving provision in other fields may have contributed to the lack of impetus from PCTs in our four sites, where respondents frequently mentioned the disengagement of primary-care managers from the field of genetics. There was, therefore, no strong ‘pull’ from primary care in relation to these posts, and as we saw in Site D, geneticists’ privileged professional position meant that they retained power of veto over any moves to redistribute responsibilities. The ‘push’ from clinical genetics departments was limited, in the case of GPSIs, to educational and liaison activities that might promote genetics within primary care without undermining specialists’ roles. This analysis points to the need to remain cognisant of institutional forces in any account of professional-jurisdictional disputes. Mizrachi and Shual (2005, p.1658) state, quite correctly, that “knowledge and professional conduct are reflected and refracted by the agent’s daily practice, and the contours of boundaries are shaped by local forces.” Nevertheless, it is important not to write out the role of structural forces in accounts of such agency, including, for example, the somewhat

capricious influence of policy in this field.

From this study, the intra-professional boundary seems every bit as entrenched as inter-professional boundaries, between medicine and related professions, studied elsewhere (Norris, 2001; Foley & Faircloth, 2003; Hibbert et al., 2003; Mizrachi & Shuval, 2005). Indeed, geneticists tended to include a different profession—genetic counsellors—within their epistemic community where they explicitly excluded GPSIs. Undoubtedly, this was partly because of the focus of our study (on an intra-professional boundary) and the nature of the challenge presented by policy, but it is also worth noting that the gap between primary-care-based generalists and hospital-based specialists is a profound one in many countries (e.g. Shortell et al., 2000). In contrast to the boundaries between hospital-based medical specialities, then, what distinguishes general practice from genetics is not only specialism, but also organization, status, relationship to the NHS (as contractor rather than employee) and gatekeeping function. NHS ‘modernization’ efforts have included attempts to raise the status of GPs relative to specialists, but our study reminds us that the power over knowledge and jurisdiction retained by specialists means that fundamental reforms to the division of labour are likely to be achieved only consensually. From micro-level data such as these it would be unwise to generalize about the consequences for the profession of medicine itself, but certainly these findings do not contradict the notion that it may be fragmenting as a consequence of this kind of stratification.

Finally, it should be noted that geneticists’ reluctance to cede power should not be seen in purely instrumental terms. Conflict-based accounts of professional-jurisdictional disputes tend to stress the role of power and money in such turf wars, and indeed there was a financial dimension to geneticists’ protectiveness, with the financing of genetics services set to move from block contracts to ‘payment by results’ in the near future.² This does not, however, preclude an account which sees geneticists’ self-interest as aligned with the interests of patients, and their claims to exclusive knowledge as sincere (Scott, 2008). It is not for us to make this judgement. In general terms, though, we would suggest that any presumption that professional resistance of this sort represents an awkward and obstinate medical speciality flexing its muscles to block the progressive reforms of the state’s ‘modernization’ agenda is not necessarily justified.

Conclusion

By looking at the way in which a threat to established divisions of knowledge and labour between subprofessions played out, and closure was achieved, our analysis has sought to link the discursive strategies used by professions in defence of their jurisdictions to the substantive challenges presented by health-service reforms of the kind precipitated by ‘modernization’ in the UK and similar policies elsewhere. This highlights how such legitimacy discourses are bolstered or diminished by wider institutional forces, and gives some feel for the parameters that will govern the success or failure of policymakers’ efforts to reconfigure the professional division of labour, and of professionals’ own attempts to enact or resist such agenda. On a theoretical level, we signal how (sub)professional claims to a legitimate monopoly on knowledge and jurisdiction, premised on an understanding of the collective manner in which scientific knowledge is translated into clinical expertise, interacts with resilient institutionalized power differentials to facilitate resistance to policy- and individual-level challenges to the professional division of labour, and ensure that the reforms of modernization reproduce, rather than reconfigure, existing structures of professional control. As such, our analysis is likely transferable to other settings in which such knowledge and power differentials exist, though caution is

² This shift will mean that income to clinical-genetics departments will be on a per capita basis, rather than a fixed sum, potentially creating an incentive to retain lower-risk patients as a source of revenue.

required given the relative narrowness of our empirical data, and the esoteric nature of clinical genetics as a field of study.

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