

# Dynamic professional boundaries in the healthcare workforce

Susan A. Nancarrow<sup>1</sup> and Alan M. Borthwick<sup>2</sup>

<sup>1</sup>*Institute of General Practice and Primary care, University of Sheffield*

<sup>2</sup>*School of Health Professions and Rehabilitation Sciences, University of Southampton*

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**Abstract** The healthcare professions have never been static in terms of their own disciplinary boundaries, nor in their role or status in society. Healthcare provision has been defined by changing societal expectations and beliefs, new ways of perceiving health and illness, the introduction of a range of technologies and, more recently, the formal recognition of particular groups through the introduction of education and regulation. It has also been shaped by both inter-professional and profession-state relationships forged over time. A number of factors have converged that place new pressures on workforce boundaries, including an unmet demand for some healthcare services; neo-liberal management philosophies and a greater emphasis on consumer preferences than professional-led services. To date, however, there has been little analysis of the evolution of the workforce as a whole. The discussion of workforce change that has taken place has largely been from the perspective of individual disciplines. Yet the dynamic boundaries of each discipline mean that there is an interrelationship between the components of the workforce that cannot be ignored. The purpose of this paper is to describe four directions in which the existing workforce can change: diversification; specialisation and vertical and horizontal substitution, and to discuss the implications of these changes for the workforce.

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**Keywords:** workforce flexibility, substitution, diversification, horizontal and vertical substitution

## Introduction

The healthcare workforce accounts for the greatest proportion of spending, and holds the key to the quality of healthcare delivery (WHO 2000, JCAHO

2001). Yet despite the importance of the workforce, there is a lack of a coherent theory to underpin workforce development. This paper aims to contribute to the current understanding of workforce development in Anglo/North American countries by describing ways that the healthcare workforce can evolve as a result of the pressures on interprofessional boundaries.

*Why is the workforce changing?*

The past century has seen the growth and transformation of existing professions and the introduction of new workers (Larkin 1983, Willis 1989, Johnson 1972). These changes are believed to be the result of developments in technology, education, research evidence and new systems of purchasing, organising and regulating the workforce (Cooper 1998, 2001, Salsberg 2002). Recently, disciplinary boundaries have come under new pressures as a result of staffing shortages in medicine, nursing and the allied health professions (Richards *et al.* 2000, Department of Health 2000c, Appel and Malcolm 2002). Additionally, neo-liberal managerial principles have led to a redistribution of resources on the basis of professional accomplishment rather than the historical workforce hierarchies and roles (Hughes 1994, Stone 1995, Barrados *et al.* 2000, Exworthy *et al.* 2003, Borthwick 2000). Neo-liberalism has been reinforced by the strength of the consumer movement. For instance, the growth of patient-centred care emphasises the needs of the service user, rather than the needs of professional groups, and has created a need for flexibility in both working practices and service organisation which presents significant challenges to professional power (Hurst 1996, Department of Health 2000c, Nancarrow 2003, Freidson 2001).

These changes have a number of implications for traditional workforce boundaries. Unskilled workers such as healthcare assistants and support workers are taking on tasks previously only performed by professionals (Cooper 2001, Richardson 1999, Buchan and Dal Poz 2002, Heckman 1998). Professionals are delegating tasks to other disciplinary groups, such as the prescribing of medication by practice nurses (Appel and Malcolm 2002, Weiss and Fitzpatrick 1997, Britten 2001). Increasingly, healthcare providers are working within inter-professional teams and receiving training in programmes that promote inter-professional education (Barr 2000). Service users are becoming more empowered through the consumerism of health which has resulted in better access to information and user consultation in service development and delivery (Germov 1998). Each of these factors has the potential to influence the roles of existing professional groups, and presents a challenge to workforce planners.

Orthopaedic surgeons in the United States are a good illustration of the dynamic nature of professional boundaries. There are approximately 20,000 orthopaedic surgeons in the United States. Some claim that this number represents an over-supply of between 20 and 50 per cent (Anonymous 1998). The vice-president of the American Academy of Orthopaedic Surgeons stated:

a decade or two ago, when we were fat and sassy, we decided to limit our practices to those aspects that were fun and well remunerated. We chose not to counsel little old ladies about the prevention and treatment of osteoporosis; we chose not to provide foot care services in our offices (Heckman 1998: 6).

Other providers, including podiatrists, internists and emergency medicine physicians, filled the void created by the contraction of the services of orthopaedic surgeons. A similar picture has been painted within the orthopaedic community in the UK (Klenerman 1991). The oversupply of clinicians created competition between orthopaedic surgeons and a subsequent need to reduce supply, increase demand or reclaim an area of their traditional scope of practice. Heckman suggested:

Perhaps we should get out of bed at night and come back to the emergency room to treat the patients who are now being managed by others in primary care and emergency medicine. Perhaps we should train our cast technician or office nurse to trim corns, calluses and toenails, and maybe we should take the time personally to instruct our patients in rehabilitation principles following shoulder and knee surgery rather than delegating all of that responsibility to the physical therapists (1998: 8).

This description of discarding unwanted, lower status or less well paid roles during a time of prosperity, and then a desire to reclaim these roles, or at least control certain tasks when circumstances change, illustrates the impact of competitive market forces on health service provision; the possibility of substituting roles from a more highly trained provider to a less specialised, or differently trained workforce; and the willingness of other practitioners to adopt the discarded jobs. It also demonstrates Hughes's (1958) division of labour based on 'dirty work', where those with high professional standing retain the more desirable work, delegating the less pleasant or stigmatising work to others with less standing. It reinforces the model of medical dominance in that it assumes that once professional turf has been 'given away', it can later be reclaimed, either by the medical profession, or by other providers under the control of the medical profession. In other words, professions can gain privilege by successful claims to 'jurisdictions', but can also lose privileges too (Abbott 1988). Recourse to 'powerful elites' in support of these moves are usually necessary, as illustrated in the elimination and re-introduction of dental assistants in the UK, under the watchful eye of dentistry in the mid-1950s (Larkin 1980).

The importance of workforce flexibility is receiving increasing international attention resulting in widespread policy level support for boundary renegotiation. Rural workforce shortages in Australia have resulted in proposals to remove legal and professional barriers to practice so as to promote flexible

service delivery (Office of Rural Health 2001). Recent UK policies actively endorse the notion of workforce flexibility both to address workforce shortages and enhance patient-centred care (Department of Health 1985, 2000a, 2000c, 2002). In the US, the demands of third-party payers have resulted in the rapid growth of new workers and have increased the scope of practice of non-medical providers (Cooper 1998, 2001, Salsberg 2002).

Historically, workforce planning has been uni-disciplinary, ignoring the interrelationship between disciplines (De Geyndt 2000: 33). However, the promotion of workforce flexibilities and inter-disciplinary care demand an increasing interdependence between different types of service providers. How these will be translated in practice remains an interesting conundrum, bearing in mind the competitive, exclusionary basis of modern professionalism (Abbott 1988, Parkin 1979, Freidson 2001). Perhaps a reconfigured form of profession is already emerging, shifting away from exclusivity and autonomy, towards a 'culture of performativity' (Dent and Whitehead 2002). These changes are not unique to the health workforce and are being seen in the legal sector, engineering and the built environment and education (Oxley 2002, Kritzer 1999).

There is not yet a clear theory to describe the current changes to the healthcare workforce. The concepts of proletarianisation (McKinlay and Stoekle 1988), deprofessionalisation (Haug 1973) and post-professionalism (Kritzer 1999) attempt to describe and explain the challenges to traditional professional power. Proletarianisation predicts the decline of medical power as a result of deskilling and the salaried employment of medical practitioners (McKinlay and Stoekle 1988). Deprofessionalisation describes 'a loss of professional occupations of their unique qualities, particularly their monopoly over knowledge, public belief in their service ethos and expectations of work autonomy and authority over clients' (Haug 1973: 197). Post-professionalism is the loss of exclusivity over knowledge that is experienced by existing professions. Post-professionalism arises because of the growth of technology and access to information and differences in the way that knowledge is applied through increasing specialisation (Kritzer 1999).

The purpose of this paper is not to debate these theories, but to examine and describe the directions in which the healthcare workforce can change in an attempt to develop a taxonomy around these concepts to enhance future debate. The terms 'diversification', 'specialisation' and 'substitution' are widely used in health workforce planning, but their significance for the changing boundaries of the health workforce have not been systematically examined. Additionally, this paper aims to clarify the interrelationship between different types of healthcare provider boundaries, and the potential for changing roles and career development opportunities arising from these changes.

#### *Professional 'fusion and fission'*

Several phases in the emergence and transition of professions have been described. The phenomenon of occupational transition is receiving increasing

attention. Freidson (1978) developed a model that considered the differing features of the social and economic organisation of occupations, acknowledging the existence of both formal and informal work, and the means by which occupations might pass from one form to the other. 'Informal work' is taken to encompass work which exists outside the official labour force, and which might, as a consequence of social or technological change, enter (or vanish from) official labour markets. For Freidson, it is the social rules that determine the formal or informal status of occupations, rather than the nature of the work itself. Freidson also draws on a more abstract distinction in defining subjective and objective occupations; the former constituting work which is productive but does not involve economic exchange (such as volunteer work), or where a surrogate occupation (which provides economic gain) renders invisible the subjective occupation for which the worker 'labour[s] for love or glory' (Freidson 1978: 5).

Dingwall (1983) provides further insights into the processes involved in the steps leading from the creation of an occupation to its formal recognition. Using health visiting as a case study, Dingwall highlights the stages through which an occupation may form, become formalised, or assume alternative modes of development. In the case of health visiting, both gender and class are considered relevant in the transition of informal, voluntary 'sanitary mission' workers into more formalised, credentialised, health visitors. Here the actual work tasks also assume importance in ensuring the transition, where an expanded role would include tasks which were 'more "properly" the sphere of a domestic servant than a lady' (1983: 613). Yet the trend is noticeably reversed when the emphasis is shifted in favour of credentialising tactics, a move that, in the care of health visiting, was facilitated by further segmentalisation and the incorporation of subordinate grades, comprising lower social class women to whom the 'dirty work' could be delegated (Dingwall 1983).

The notion of occupational 'fission' however, is augmented by further concepts that acknowledge the possibility of alternative outcomes for occupations in transition. Occupational 'fusion' and 'capture' offer a more comprehensive appreciation of the possibilities for developing fields of work; the former expressing a merger of disparate local organisational forms into a recognisably uniform occupational structure, the latter a gradual subsumption of one group by a more powerful neighbour (Dingwall 1983). Thus, the transition from subjective tasks, first to informal, then formal occupational structures, is mapped in a way which acknowledges the differing and dynamic trajectories possible in the life-cycle of occupations (Dingwall 1983). For established or aspiring professions, occupational strategies often centre on the protection and maintenance of boundaries, coupled with an ongoing campaign to expand areas of control (Macdonald 1995, Larson 1977). This is perhaps best understood in terms of Weber's concept of social closure, which acknowledges the way in which social collectivities act to ensure their status and position in society. This is usually achieved by the creation and maintenance

of exclusive rights to key privileges whilst simultaneously engaging in further exclusionary or usurpatory strategies aimed at acquiring greater privileges, at the expense of other, competing groups (Macdonald 1995, Parkin 1979). The pursuit of a 'professional project' may thus include strategies that involve advancing the goals of professionalisation through legislative and regulatory control, and which are dependent upon access to relevant external power resources (Larkin 1983, 1993, 2002, Larson 1977). Also relevant are Kronus' (1976) and Larkin's (1983) formulation of 'occupational imperialism', which illuminates the competitive stratagems and tactics adopted by professions in advancing their aims through the acquisition of high status skills and roles ('poaching' from other occupational groups) whilst delegating lower status roles to subordinate groups. These models are useful in that they acknowledge a dynamic capacity of professions to act, enforce and counteract exclusionary or usurpatory closure strategies, and seek to defend and expand role boundaries (Larkin 1983).

Abbott (1988) re-focused attention upon the importance of the acquisition and control of tasks in the workplace. For Abbott, professions engage constantly in jurisdictional disputes, in which occupational vacancies are created and occupied in a competitive, dynamic and inter-related system. Such a system allows for change in a non-linear way, where occupational ascendancy is not necessarily guaranteed or beyond effective challenge. Changes in the occupational domain of one profession have an impact on neighbouring professions, or in the genesis of new professions. Inter-professional conflict is, then, at the heart of Abbott's thesis, enabling an analysis that extends beyond the progressive acquisition of statutory and regulatory forms of legitimation (Abbott 1988). Abbott's 'system' has been criticised, however, for its failure to consider the motives and intentions of the actors involved (Macdonald 1995), an approach which is taken up by Burrage and Torstendahl (1990). Here, four 'actors' are identified who play a role in shaping the destiny of aspirant professional occupations: the 'practising members' (as distinguished from professional academics), the users, the universities and the state (Burrage and Torstendahl 1990). Viewed from an international, comparative perspective, the influence of each actor is examined for its impact upon the outcome of professional goals. Intra-professional conflict is also viewed as an inevitable outcome of the way professional organisations operate, in representing multiple interest groups, such as 'generalists' and 'specialists', or city versus rural based practitioners (Burrage and Torstendahl 1990). However, coupled with a common ideological stance, which 'inspires practice and constrains practitioners', professions also display the features of 'persistence' and 'proximity', enabling the professionals to share common aspirations consistently over time, and largely retain control over the regulation of professional behaviour (Burrage and Torstendahl 1990). Negotiations with the state vary not only over time, but also in different cultural and national contexts, although state interests tend to be similar in relation to professional occupations, where they may serve the state in a variety of ways (Burrage

and Torstendahl 1990). It is the political process which is ultimately afforded the greatest importance in shaping professional development and change (Burrage and Torstendahl 1990); a conclusion which resonates with Larson's professional project, the 'regulative bargain' with the state which is integral to it, and the political culture upon which it depends (Macdonald 1995).

More recently, the literature has focused upon an increasing challenge to the authority and autonomy of the professions, most notably from the influences of managerialism and marketisation (Fournier 2000, Cox 1991, Boyce *et al.* 2000). For Fournier (2000) the construction and maintenance of boundaries is crucial to professional development, and demands constant 'boundary work' to preserve or expand them. The constitution of the professional field within a discipline into an 'independent, autonomous and self-contained area of knowledge' is instrumental in forging professions, and is achieved by constructing boundaries in three distinct arenas that separates the profession from other professions, clients and markets (Fournier 2000: 69). By constructing a field of expertise surrounded by an ideological cover that asserts a 'natural' basis for professional boundaries, the field is self-producing and therefore expandable and capable of re-definition (Fournier 2000). In her analysis of the impact of the challenge of the market, Fournier concludes that it may yet be premature to predict the demise of the professions, stressing the capacity of professions to reconstitute their knowledge and redefine their boundaries as they adapt to new realities. Malin (2000) however, does identify significant problems for the establishment of legitimate boundaries of care within community and social care, in an environment of state intervention centred on demands for employer-led training and the codification of knowledge through an imposed competence-based approach. In this arena, there is little possibility of self-determination when the development of knowledge is constrained by a managerialist agenda (Malin 2000).

Witz's (1992) elaboration of closure theory identifies 'demarcationary strategies' as those concerned with the creation and control of inter-professional occupational boundaries. In particular, she draws a distinction between her own interpretation and that of Kreckel (1980), who considered demarcation to represent a consensual or 'horizontal' shift in boundaries, based on mutual negotiation. In contrast, Witz (1992) regards demarcationary strategies to be more akin to the competitive, conflictual processes of occupational imperialism (Larkin 1983).

## The context

The healthcare workforce in Anglo/North American countries during the 20<sup>th</sup> century has been defined by a number of features. Whilst the key commentators disagree about some of the detail, two points are of particular importance for this argument.

The first point is the influence of the medical profession in shaping the current approach to healthcare delivery (Freidson 1974, 1988, 2001, Larkin 1983, Willis 1989). The medical profession first attained its dominance in the healthcare market during the 19<sup>th</sup> century. A number of factors converged to support this position. University training for doctors limited access to the wealthy elite. The subsequent development of professional associations for medical practitioners provided a powerful political voice for the profession. The introduction of licensure and regulation of medical practitioners, buoyed by powerful lobbying ability, placed medicine in a strategic position to embrace and own the powerful technologies such as anaesthesia, asepsis, and later, antibiotics (Stevens 1966). In some countries, state support strengthened the monopoly position of medicine by granting privileges to the medical profession that were not available to other groups (Larkin 1983). The monopoly and power of the medical profession gave it jurisdiction to control the evolution of other health practitioners by giving them explicit control over their scope of practice and limiting access to particular technologies (Larkin 1983). The clear hierarchy of occupations established through the growth of hospital medicine is attributed as a major contributor to the dominance of medicine in the division of labour (Freidson 1988).

The second point stems directly from the first and relates to the negotiation of professional boundaries. Despite the impact of market forces, healthcare provision is not a free market commodity. It is subject to explicit and implicit controls and regulations which is why healthcare disciplines are not free to change their boundaries or scope of practice at will. Health practitioner boundaries are influenced by the dominance of other disciplines, regulatory and legislative frameworks and the ability of the profession to convince funders and the public to purchase their services (Freidson 1974). Even the notion of professional credibility is influenced by the professional alliances of particular disciplines (Freidson 1970). As a result, professional evolution in the health sphere cannot be examined in isolation of the surrounding disciplines that define those boundaries.

There is substantial debate about the nature of a 'profession' (Freidson 1974, 1988, Kritzer 1999). For the purpose of this paper, the authors have adopted Freidson's (1988) social organisation approach in which a profession is a special status in the division of labour that is supported by an official and sometimes public belief that it is worthy of that status. The important components of social organisation that pertain to professions are first, their division of labour, interdependence of the various occupations and authority of some over others; second, their adoption of an official spokesperson and a legal identity, which is used to negotiate the boundaries of the profession; third, professions can work from a variety of settings in which they establish a 'stable pattern' of relationships.

This discussion is restricted to the Anglo/North American context largely, because the concepts of professionalism have been constructed from within these settings and within Anglophone sociology (Macdonald 1995, Johnson



*et al.* 1995, Saks 1995). Collins (1990) distinguishes the Anglo-American professions from those in Europe where the former 'stress the freedom of self-employed practitioners to control working conditions' and the latter 'elite administrators possessing their offices by virtue of academic credentials'. We are not attempting to cross cultural and national boundaries where these would be inappropriate or not meaningful.

### **The changing boundaries of the health workforce**

Health providers have the ability to change their disciplinary boundaries by identifying new areas of work, or by adopting roles normally undertaken by other providers, either as demarcationary tactics of encroachment or by consensual delegation (see Witz 1992). This allows movement of the workforce in four directions: diversification, specialisation, horizontal substitution and vertical substitution.

Diversification and specialisation involve the expansion of professional boundaries within a single discipline, or intra-disciplinary change. Vertical and horizontal substitution involve the movement of a discipline outside its traditional boundaries to take on tasks that are normally performed by other health-service providers, or inter-disciplinary change. Substitution is also called 'encroachment' (Germov 1998), drawing more clearly on the Neo-Weberian concept of social closure in acknowledging the exclusionary and usurpatory nature of strategies aimed at boundary encroachment or maintenance (Eaton and Webb 1979). In many cases, (and well illustrated in the example of the orthopaedic surgeons) substitution may also arise from the active discarding of unwanted tasks to another provider, rather than being retained within the profession through delegation to subordinate grades, as in the internal closure strategy of 'ditching the dirty work' illustrated by Hugman (1991). For this reason the term substitution is considered appropriate for the purposes of this paper.

### **Intra-disciplinary change**

#### *Diversification*

Diversification is defined as the identification of a novel approach to practice (Watts *et al.* 2001) that has previously not been 'owned' by a particular disciplinary group, resulting in the expansion of the role for that discipline. It may involve the creation of a new task, or simply a new way of performing an existing task, but the result is the addition of a task to the occupational repertory. Diversification becomes legitimised and in many cases, owned, by a professional group through the regulation of the technology used to undertake a new task and through the language used to define a particular task or role. Diversification can take a number of forms, including:

- The identification of new markets or new settings for the delivery of certain services;
- New ways of providing existing services;
- The introduction of new types of technology such as medication or new therapies;
- The adoption of new language to describe existing treatment; and
- New philosophies of care.

The ownership of powerful technologies such as antibiotics and anaesthetic by doctors are an early example of their diversification, which contributed to their strength and autonomy as a profession (Willis 1983). Computer technology has facilitated the expansion of the roles of surgeons, through, for instance, the use of video laparoscopy (Klapan *et al.* 2002, Zetka 2003). Podiatrists have developed the concept of podiatric biomechanics (Borthwick 1999). Podiatrists are not the only practitioners who treat lower-limb biomechanical function. They have, however, created a unique discourse around this function and developed a technology around 'foot orthotics' based on the philosophy of managing foot and lower limb complications by altering the mechanical function of the foot relative to the ground (Borthwick 1999). The growth of complementary medicine suggests a willingness to embrace philosophies of care that are differentiated from those of conventional medicine (Saks 1995, 1999).

Healthcare disciplines differ in their capacity to diversify. The medical profession, as the oldest formal profession in the health field, has historically had the greatest control over its scope of practice of all the health disciplines (Larkin 1983). Indeed, the ability of other disciplines to diversify has been controlled by the dominance of the medical profession over the past century (Kenny and Adamson 1992, Johnson 1972, Larkin 1983).

Larkin (1983) describes the historical struggle of a range of allied health providers against the medical profession in the UK to define and defend their scope of practice. Indeed, the ability of the medical profession to monitor the scope of practice of other providers still has legislative support in some areas (Montana Medical Association 2002).

Other factors that may influence the ability of a discipline to diversify include their access to new research knowledge; their ability to control or regulate the new technology (Larkin 1983); gender dominance within a particular discipline (Witz 1992, Goerg *et al.* 1999, Davies 1995); the willingness of third-party payers and funders to purchase services from particular types of worker; and the indemnity risks posed by a discipline undertaking a particular type of task.

### *Specialisation*

The ability of health professions to specialise is key to the division of labour. Despite this, the concept of specialisation remains poorly defined, and surprisingly under-debated in the literature. *Dorland's Medical Dictionary*

defines a specialist as 'a physician whose practice is limited to a particular branch of medicine or surgery, especially one who, by virtue of advanced training, is certified by a specialty board as being qualified to so limit his practice' (1989: 550). In contrast, Gritzer and Arluke (1985) include the creation of new workers at the assistant or technician level within their discussion of specialisation.

For the purpose of this discussion, specialisation is defined as the adoption of an increasing level of expertise in a specific disciplinary area that is adopted by a select group of the profession and legitimised through use of a specific title, membership to a closed-subgroup of the profession, and generally involves specific training. In contrast, tasks developed through diversification are accessible to the whole profession. There is some debate about what is meant by 'expertise' (Roskell 1998), and whether expertise and specialisation are synonymous (Donaghy and Gosling 1999).

Specialisation is best recognised and documented at the post-registration level where a profession recognises a specialist technology or skill in health-care delivery that extends beyond the core, pre-registration training for that discipline. Post-registration specialisation is well recognised and legitimised in medicine through membership of professional colleges that have restrictive entry criteria, require rigorous and extensive training and bestow a title on the member of that college.

The Chartered Society of Physiotherapy defines a specialist as 'a physiotherapist who possesses a body of knowledge and skill above that expected of an average practitioner' (Chartered Society of Physiotherapy 1995). Although a more recent document argues that definitions of speciality are restricting to the practitioner and the patient (Chartered Society of Physiotherapy 2001).

In medicine, specialisation has traditionally been associated with greater professional autonomy, improved financial rewards, higher social prestige and arguably, increased professional security. There is currently little published evidence of these benefits across other health-related disciplines, although the introduction of consultant posts for allied health practitioners and nurses in the UK will change this (Department of Health 2003). Nursing and the allied health professions have historically had less formal systems of recognising professional specialisations, where they exist at all. There is evidence that medical specialisation arose, in part, to enhance medicine's superiority over their technical assistants and lay therapists whilst ensuring the advancement of the profession (Larkin 1983).

Specialisms can be formal or informal. The highly structured system of specialisation in medicine could be described as a formal system. Medical specialisms limit entry through strict selection criteria, rigorous training with recognition of the specialty through membership of a society. The title of the medical specialist generally bestows a clear, and commonly accepted understanding of the role of that practitioner. In contrast, most nursing and allied health disciplines have informal specialisms. Practitioners may identify

themselves as a specialist in a particular area, which may arise from additional (formal or informal) training and work in a differentiated role. Few, however, have the level of recognition, rewards or protection offered by the medical specialisms. One clear exception to this generalisation is the introduction of podiatric surgeons in Australia and the UK who have differentiated themselves from the podiatry profession by adopting a model similar to that used by medically-trained surgeons (Borthwick 2000, 2001).

There is evidence of 'despecialisation' of the workforce. Christakis *et al.* (1994) analysed the rates of change from specialist to generalist medical practitioners in the United States and found that 2.2 per cent of the specialist workforce redefined themselves as generalists over the four-year study period. The example of the orthopaedic surgeon provided at the start of this paper proposes a shift from a more specialised to generalised work to increase market share in an oversupplied profession. This potential for oversupply also highlights an important point about specialisation. The specialist tasks, by nature, are unlikely to make up a large proportion of overall healthcare needs; it is thus unnecessary for the whole workforce to have expertise to deliver these roles. In contrast, generalist roles are likely to be required in a higher proportion of consultations.

The ability of a professional group to take on new roles and discard the less pleasant or lower status roles has been an important component of the professionalisation and expansion of the workforce (Larkin 1983). By specialising, providers have less time to undertake other components of their work, which may be more routine or require less skill. The routine tasks often still need to be undertaken and may be delegated to other workers. Indeed, Larkin (1988) suggests that the development of specialties may depend on the ability of the professional group to delegate certain aspects of their work to other providers. This has parallels with Hugman's (1991) notion of 'internal closure', involving the creation of subordinate sub-groups within a profession which undertake lower status duties, freeing the professionals to specialise and pursue higher-status, autonomous 'virtuoso' roles. Examples of this are most clearly seen in medicine, with the development of medical specialties where specialised tasks are the sole domain of specialist providers and the more routine aspects of care are undertaken by general practitioners (Friedson 1988). Although recent changes in the UK have seen the introduction of 'general practitioners with special interests' who deliver some of the components of work normally owned by medical consultants (Gerada and Limber 2003). Other examples include the growth of therapy assistants who undertake the routine tasks of the therapist, freeing the therapist to undertake more assessment and delegate the therapeutic tasks (Nancarrow 2004).

The example of the orthopods at the start of this paper, however, highlights a risk of specialisation. When the orthopods discarded their unwanted activities, they lost control of those roles to other professional groups. Had they delegated their unwanted tasks to paraprofessional practitioners, they

might have maintained ownership over these activities. Now that they want to regain ownership of their previous activities, they will have to compete against a wide range of practitioners for a share of work over which they previously had jurisdictional control.

**Interdisciplinary change**

Disciplinary boundaries can expand by taking on work that is traditionally performed by other disciplines, or substitution (Figure 1). The terms vertical and horizontal substitution refer to the level of training, expertise or status between the practitioners. Substitution acknowledges the potential for both mutually-agreed transfer of tasks and contested boundary disputes in which transfer may be resisted.

*Vertical substitution*

Vertical substitution involves the delegation or adoption of tasks across disciplinary boundaries where the levels of training or expertise (and generally power and autonomy) are not equivalent between workers. Examples of vertical substitution include the extension of nursing roles to include prescribing, a role that was traditionally the domain of the medical profession

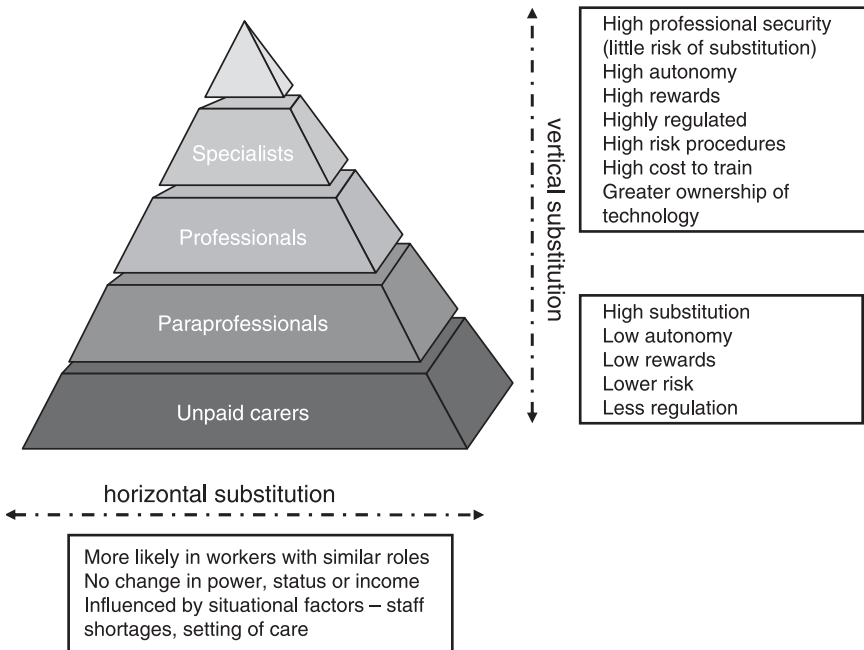


Figure 1 *The influence of vertical and horizontal substitution*

(McCartney *et al.* 1999). General practitioners are then able to move into the domain of specialist practitioners as general practitioners with special interests. The introduction of therapy assistants and support workers who deliver components of therapists' work, but do not have full therapy training, is another example (Nancarrow 2004). The medicalisation of midwifery is an example of vertical substitution in the other direction – in which doctors medicalised a role which was traditionally performed by lay women in the community, and subsequently used this authority to subordinate midwives (Willis 1983).

The difference between vertical substitution and specialisation is subtle. Vertical substitution occurs across disciplinary boundaries, unlike specialisation, which occurs within a profession. Vertical substitution generally increases the scope of practice of a profession, but the level of formal increase in status or rewards varies. For instance, nurses who prescribe medication do not earn the same status or financial rewards as doctors, although they do have increased standing within their own professional group (Mazhindu and Brownsell 2003). Similarly, general practitioners with special interests are not rewarded in the same way as consultant medical practitioners, either in terms of financial rewards or professional recognition.

Vertical substitution often becomes adopted as a natural extension of the role of an existing provider group. In some cases, that increased role may be limited to a specialised part of that group, but, for instance, a nurse practitioner with prescribing rights is a nurse practitioner with prescribing rights, not a doctor. However, only a 'specialised' group of nurses has access to prescribing technology (Mazhindu and Brownsell 2003). In other words, nurses have been able to form a sub-specialty within their own discipline through vertical substitution. In this case, the vertical substitution has involved the adoption of tasks normally owned by the medical profession.

The extent of vertical substitution tends to be controlled by the more powerful disciplines, leading in some cases to the development of paraprofessional groups. For instance, dental nurses have roles that are delegated by dentists, but they are not dentists. Their work is largely controlled by the dentist, and the dentist takes responsibility for the final outcome of care. The paraprofessional is normally dependent on, or 'technically subordinate' to the professional group (Freidson 1988). For instance, a dental nurse could not be fully employed in isolation from the dentist, without extensive change to their scope of practice (which has arisen with the growth of dental technicians). This point is reflected in the fact that nurse practitioners in the UK do not have the same level of autonomy as the medical profession in the prescription of medication (Mazhindu and Brownsell 2003).

Historically, in the UK at least, the medical profession has had the power to determine the scope of practice of other groups (Larkin 1983). For instance, before the professionalisation of ophthalmic opticians, the medical profession took over many of the medical aspects of eye management and created the speciality of ophthalmologists (Larkin 1983). However, the converse could not have occurred. Ophthalmic opticians would have been

restricted from undertaking components of the tasks of the medical profession, and could not have become doctors unless they adhered to the formal training recognised by that body. Thus, medical dominance has been pivotal in terms of defining professional boundaries.

### *Horizontal substitution*

Horizontal substitution arises when providers with a similar level of training and expertise, but from different disciplinary backgrounds, undertake roles that are normally the domain of another discipline. This is suggested in Kreckel's (1980) description of horizontal demarcation, implying mutually agreed transfer of tasks or negotiated boundary changes, rather than as contested jurisdictional disputes (Abbott 1988). Hugman's (1991) description of 'lateral closure' is a variant of occupational closure in which conflict arises between occupations of similar status and power who may compete with each other for control over similar areas of expertise. Lack of role clarity is thought to characterise such disputes, which occur more frequently between the subordinate healthcare occupations than with medicine (Hugman 1991).

The training of physiotherapy and occupational therapy assistants to become generic assistants, where their previously-defined boundaries become blurred, is an example of this (Rolfe *et al.* 1999). Similarly, the sharing of tasks around physical functioning and transfers by occupational therapists and physiotherapists is an example of horizontal substitution (Booth and Hewison 2002, Nancarrow 2004).

The growth of interprofessional practice and training is believed to have increased the extent of role overlap, or horizontal substitution, between practitioners (Nancarrow 2004). The extent and success of horizontal substitution is influenced by a range of factors, including the setting, duration and nature of care, access to alternative care providers and the ability of staff to undertake joint visits (Nancarrow 2004). Other factors that are likely to influence the roles of staff members within teams include the attitudes of and support by management, structures of team meetings and access to interprofessional education. Horizontal substitution is more likely to occur where practitioner roles are similar. There is, for instance, no reason why a physiotherapist could not test blood glucose levels, but it is clearly not part of their remit, so they would be unlikely to do it. They are more likely to overlap in tasks involving their traditional areas, such as mobility and patient assessment (Nancarrow 2004).

Unlike the other areas of potential boundary change, horizontal substitution does not appear to be associated with an increase in professional status or power or income. As a result, these changes are more likely to occur in response to situational factors such as staff shortages, or the setting of care (such as home-based care), when it makes pragmatic sense for another practitioner to deliver an intervention (Nancarrow 2004).

The potential for substitution increases when the tasks are less well defined, are not protected through regulation and do not involve access to

restricted technology. In order for substitution to be able to occur, the roles need to be flexible enough that other providers can adopt them.

Logically, it appears that tasks that fulfil the social end of the spectrum are more easily substituted than more highly medicalised tasks, which require specialised skills and technology, and are often regulated. Jamous and Peloille (1970) have described the 'indetermination and technicality ratio' to describe the actions of professionals. This compares the parts of a role that can be defined and communicated with a set of rules with the parts that cannot be clearly defined. Objective, measurable and definable processes are more easily monitored, owned and regulated than more subjective and less definable processes. Hence, the latter are more prone to encroachment by other practitioners. The lack of regulatory structures for social care providers in the UK until recently could be seen to support this argument. Conversely, the tasks that are associated with high physical risk to the patient or provider, such as surgery, are less likely to be substituted. The latter point has been challenged by podiatrists who successfully competed with orthopaedic surgeons on the basis of cost to undertake certain lower-limb procedures (Borthwick 2000). However, the opposition that they faced to adopt these tasks highlights the difficulties of encroaching on the turf of a well-established and powerful profession.

Vertical and horizontal substitution have the advantages that when there are workforce shortages at particular levels, some tasks can be undertaken by other workers (Nancarrow 2004). The growth of support workers to take on components of nurses' and therapists' tasks is an example of this (Draper 1990). However, substitution is limited in some settings by the regulatory aspects of a particular practitioner's work, professional indemnity, as well as protectionism by some professional groups (Farndon and Nancarrow 2003).

The disadvantages of substitution include the risks to professions where existing professional boundaries are at risk of encroachment from other groups through substitution. The changes in regulatory acts to protect the public, rather than the professions, is likely to increase this risk (Department of Health 2000b). Additionally, the division of labour provides the opportunity to replace more expensive practitioners with lower cost workers (Francis and Humphreys 1999).

### **The implications of workforce change**

Professional boundary changes are commonly described using the language of combat and protection (Freidson 1988, Macdonald 1995, Parkin 1979, Abbott 1988); the current climate of workforce change, however, whilst not without difficulties, appears to be more consensual than the battlefield language implies. This may be because with high levels of unmet demand for the majority of health service professions, dynamic role boundaries stand to benefit not just single disciplines, but many professional groups simultaneously,



due to the upward expansion of existing roles and the introduction of new workers. In the United Kingdom at least, the changes to professional boundaries are occurring at a rate that exceeds what the professions could hope to achieve in a climate of adequate workforce supply. Additionally, the changes are occurring in a policy climate that actively supports workforce flexibility for a range of professions with noticeably diminished dominance of the medical profession. Indeed, it appears that some professions are experiencing boundary expansion despite, rather than because of, the push from their representative professional bodies. This is the first time in the history of the current professions that the state has explicitly supported non-medical practitioners to encroach on traditionally medical roles such as prescribing and surgery.

This paper has drawn on the prevailing models of professionalism that assume that existing professions have a desire to expand their boundaries, to take on more specialised and more prestigious work, whilst delegating the less satisfying or less prestigious components of their work to other workers. However, this is neither true nor possible for all disciplines. An evaluation of the introduction of assistant practitioners into a community occupational therapy service showed that the qualified therapists had nowhere to expand to, and, importantly, were reluctant to delegate their traditional roles to the assistant practitioners. This was because the tasks that were delegated were the reason for which the therapists entered the profession in the first place (Mackey and Nancarrow 2004). Similarly, there are examples within podiatry and occupational therapy in which the introduction of support workers was seen to devalue the respective professions profession because it acknowledged that less qualified workers could do components of the work, instead of being seen as an opportunity to 'delegate the dirty work' (Farndon and Nancarrow 2003, Mackey and Nancarrow 2004, Webb *et al.* 2004).

The dominant model of professionalism is underpinned by the concept of occupational monopoly, which ensures the protection of formal bodies of knowledge connected with work, and restricts entry to the profession (Freidson 2001). Workforce flexibility legitimises the blurring of inter-professional role boundaries by endorsing vertical and horizontal substitution; it does not however appear to be deprofessionalising the workforce through a loss of monopoly over certain aspects of work. Instead, there is disaggregation of knowledge from more highly specialist groups to generalist, or less specialist groups. The impact of these role changes on professional status remains to be seen. To date, there are however no examples of role changes that have *removed* the attributes that are associated with the professional labels. The labels applied to particular professions still appear to be associated with the provision of particular services, ownership of a body of knowledge, autonomy and authority. In contrast, however, the impact of the adoption of more specialised tasks by existing groups (such as the prescribing rights of non-medical practitioners) on the levels of professional status and recognition is not yet clear, but certainly does not bestow the level of esteem held by the original owners of those tasks.

Willis (1989) describes four approaches used by medicine to maintain its professional dominance over the other healthcare disciplines: the subordination of other workers; restricting the occupational boundaries of other workers; exclusion, by limiting access to registration and therefore legitimacy; and incorporation of the work of other disciplines into medical practice. Yet, with few exceptions, the current climate of workforce change is challenging all of these controls. The shortage of general medical practitioners is seeing medical roles being usurped by nurses and allied health practitioners, whilst in the UK, generalist medical practitioners are taking on traditional specialist roles as 'GPs with special interests' (Gerada and Limber 2003). Medical practitioners now have far less influence over the professional registration and roles of other groups. Hierarchies still exist within the health professions, but now the previously subordinated nurses and allied health practitioners are introducing their own subordinate workers.

Dynamic role boundaries have the potential to challenge the monopoly of all the healthcare professions. The professions appear to be safe if they can retain a high level of demand for their specialised services; if they can retain sufficient control over their own roles, or compete with existing providers on the basis of cost, quality or novelty for the delivery of those tasks. They are also likely to maintain some market share if they can diversify to deliver new roles or retain ownership over the technology required to deliver them. The groups most at risk within a period of overall workforce boundary changes are likely to be the most specialised. During periods of high demand for services, specialists tend to let go of the less technical or less prestigious tasks, only to face competition to regain these roles from a more highly skilled pool of less specialised workers when demand reduces (as the orthopaedic example illustrates). The workforce is unlikely to behave in the manner of a 'Giffen good' in which an expensive good can be substituted for a cheaper one when the more expensive one is unavailable, but then be replaced again by the expensive good when it becomes available again (Whitehead 1970). Once ownership of particular tasks has been despecialised and redistributed to a wider workforce and competition for their delivery increases, the goods should reduce in price.

*Address for correspondence: Susan Nancarrow, Trent RDSU, University of Sheffield, Institute of General Practice and Primary Care, ICOSS, 219 Portobello Road, Sheffield S1 4DP  
e-mail: s.nancarrow@sheffield.ac.uk*

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