

Responsibility *matters*: putting illness back into the picture

Sue Kilminster, University of Leeds, UK

Miriam Zukas, Birkbeck, University of London, UK

Introduction

“A lot of things change from different jobs ... I’d been working on surgery where the standard dose for morphine is 10 milligrams I.M [intramuscular]... but on elderly medicine I didn’t realise it was 2.5. I was on nights, I didn’t know there was this ... difference. ... The nurses were chasing me saying ‘My God, are you trying to send them into respiratory arrest?’ ” John (Foundation Year 1 (F1) doctor) [1]

John’s story encapsulates issues of professional practices, responsibility, accountability, trust and knowledge and illustrates some of their specific dynamics in clinical settings. This example raises question of knowledge, particularly John’s knowledge of prescribing morphine. Practice-based understandings about knowledge have demonstrated how such knowledge is emergent, embodied, embedded and material; knowledge generated through everyday practice “is deeply bound in the material forms, artefacts, spaces and infrastructures through which humans act.” (Orlikowski, 2006, p. 460). In the above vignette, knowledge about morphine is embedded in the specific prescribing practices in elderly care and embodied in the nurses as well as other professionals working in that specialty. John of course also has embodied knowledge about morphine but in this situation his previously safe prescribing practice has become potentially fatal. Despite being a new doctor, he has some responsibility for his prescribing practice as well as a legal responsibility to prescribe drugs which are ‘appropriate for the patient and their condition’ (General Medical Council, 2006).

Whilst questions of professional knowledge are therefore pertinent here, this paper’s primary purpose is to consider responsibility. As John’s account illustrates, responsibility in clinical settings is integral to work and learning. His story shows how he experiences this responsibility as individual, specific and intense; however it is also apparent from the story that responsibility is distributed in clinical practice. Thus, whilst the responsibility for prescribing was John’s, it was clear that the responsibility for patient care, including ensuring their safety (and therefore ensuring they received an appropriate dose of morphine) was shared with nurses. This is a common finding. For example, prescribing errors have been detected in approximately 10 per cent of all hospital prescriptions (Dornan et al, 2009); these error rates are roughly similar, whatever the level of experience and seniority of the doctor. But very few errors actually affect the patient because the practices, supervision and responsibility surrounding prescribing, dispensing and administering drugs are distributed amongst many professionals.

Such shared care ('responsibility') does not fit well with the various discourses of professionalism, trust and responsibility which circulate and which, in turn, are often conflated with accountability. Julia Evetts (for example, 2006, 2012) showed how discourses about professionalism, responsibility and trust are often used as a form of social control through notions of governance, audit, accountability and so on. Such discourses about responsibility and accountability are usually individualised: for example, the General Medical Council (GMC) in the UK describes the *Duties of a Doctor* thus: 'You are personally accountable for your professional practice and must always be prepared to justify your decisions and actions.' (GMC, 2006)

Solbrekke and Eglund (2011) offer a persuasive argument that 'responsibility' and 'accountability' have different meanings and conceptual bases. Ideas about professional accountability have come to predominate in the context of New Public Management and are characterised by notions of governance, external audit, economic control and so on, suggesting that they are externally driven. By contrast ideas about professional responsibility are characterised by notions of professional mandate, trust, moral rationale and internal evaluation, with the implication that they are internally driven. However, alternative sociomaterial analyses of responsibility which take materiality and practice seriously suggest a "complexified view of responsibility as woven into fully embodied nets of ongoing action, invention, social relations and history in complex adaptive systems." (Fenwick, 2009, p.105). These sociomaterial perspectives indicate fresh avenues for research. By tracing responsibility in practice, we will be able to examine the actions and social relations of professionals in relation to responsibility; in turn, this helps us to engage with questions such as: Who are professionals responsible to and for what? How do they understand their responsibility? How do professionals learn this responsibility?

Theoretical resources

Our original study of doctors' transitions from one level of responsibility to another, from which the data for this paper are derived, focused on learning responsibility, with the emphasis on learning, rather than responsibility. Our analysis first led us to conceptualise these transitions as *critically intensive learning periods (CILPs)* in which doctors engage with the particularities of the setting and establish working relationships with doctors and other professionals. The extent to which the specific learning cultures of the clinical workplace (at ward and at institutional levels) recognise transitions as CILPs contributes to or inhibits the performance of new doctors. However, whilst recognising the significance of learning, such an approach does not account adequately for the dynamic nature of responsibility and its materiality – in particular the intensity and urgency of clinical practice, as outlined above.

We have, more recently, found Thévenot's (2001) notion of pragmatic regimes useful in this effort (Zukas and Kilminster, 2012) because of its theorisation of practice. Thévenot pointed out that, whilst theories of practice have been very helpful, there are two difficulties with them. The first is that there is a 'lack of realism' – an inadequate accounting for our 'dynamic confrontation with the world'. The second is that there needs to be some accounting for 'the moral element in practice which shapes the evaluative process

governing any pragmatic engagement' (Thévenot, 2001, p.57). In the case of doctors, this moral element might be understood as responsibility for patient care. Thévenot argues that there are different modes of engaging with the environment – these are what he calls *pragmatic regimes* which “are social devices which govern our way of engaging with the environment” (p.67). The dynamics of each pragmatic regime are governed by evaluation and orientated to good (defined in a broad sense as being similar to ‘making sense of’); this idea of the ‘good’ helps to account for the intensity or force of clinical practice.

The three pragmatic regimes outlined by Thévenot are: the regime of familiarity; the regime of planned regular action and the public regime of justification. Thévenot explains these regimes by inviting the reader to consider their own room – it is ordered for personal and local use so that, for example, some keys may be left on a table in a particular way because they are intended to remind the observer of something. This is the *regime of familiarity*: some of the ordering here may be difficult to put into words. If someone else is to stay in the room it will have to be re-ordered – things, such as the keys, will have to move from idiosyncratic to conventional uses which can be explained by everyday language. This is the *regime of planned regular action*. Next, if the room is to be rented out then things must be fixed, conform to standards and so on and the language must be formal; this is the *public regime of justification* which includes ‘legitimate conventions of qualification’.

The notion of pragmatic regimes helps account for the dynamics of practice in clinical settings because the different regimes are often all present simultaneously. For instance, the public regime of justification is manifest in the requirements that junior doctors are supervised appropriately and not expected to work beyond their competence. John’s story (at the start of this paper) about the prescribing of morphine in elderly care illustrates engagement in the regime of planned regular action. The regime of familiarity includes particular spatial configurations for example, where a particular piece of equipment is left in a particular ward or specific workarounds developed by particular networks of professionals and so on.

Most approaches to professional practice and training concentrate on public regimes and regimes of planned regular action; regimes of familiarity are under recognised and doctors in transition may collide with existing regimes of familiarity (for example, ‘we do (not) do X here’). Doctors who learn to make transitions more effectively work to understand regimes of familiarity as we have shown elsewhere (Zukas and Kilminster, 2012). The dynamic relationship between different pragmatic regimes shapes clinical practice in general, and CILPs in particular; responsibility is experienced differently in the different regimes of engagement.

However, in addition to the different modes of engagement, there are also different rationalities present in practice. There is a tendency to present clinical processes as rational, cognitive decision making but this misses the social and interactive nature of such decision making and its material aspects (Berg, 1997). The evaluation of any piece of medical or clinical information is not a simple cognitively rational process - material issues such as specific patient needs, organisational issues, time pressures and so on tend to have as much a part to play in decision-making, as do social processes *and* cognitive rationalities. Berg shows that there is no single optimal rationality – at different times, different

rationalities are to the fore due to the situated nature of practice. Therefore learning responsibility entails doctors engaging with different rationalities and different pragmatic regimes.

The relationship between responsibility and learning is at the crux of this paper. Learning is often understood to be a prerequisite for managing responsibility and risk (as shown in current discussions of preparedness; for example Illing et al, 2008; Nikendei et al, 2008; Matheson and Matheson, 2009; Cave et al 2009; Heaton et al 2008). However, this paper will argue that this linear separation of learning and responsibility is inadequate: instead, it will propose that learning is integral to the management of responsibility and risk. In order to trace how responsibility is enacted, the paper will explore specific instances of junior doctors' responsibility, the different rationalities and pragmatic regimes as they are manifested. Drawing on an earlier study which is outlined below, the paper focuses on specific *markers of responsibility* (see below). It concentrates on examples of problems of practice in relation to these 'markers of responsibility' in order to analyse the particularities giving rise to and surrounding the specific instances requiring (or 'calling forth') responsibility. The paper suggests that responsibility can be understood as being brought into being when (un)perceived needs arising from illness (for example recognising acute illness, responding to test results, identifying specific physical needs) give force to action.

Methodology

All doctors experience multiple changes during their training and subsequent careers; these include moves from one level of seniority to another, changes in geographical location, changes of speciality and/or changes of clinical team. The purpose of the original study from which this paper is drawn, *Learning responsibility? Exploring doctors' transitions to new levels of medical performance*, was to develop better understandings of these transitions and more details have been reported elsewhere (Kilminster et al, 2010, 2011; Zukas and Kilminster, 2012). Essentially we used a learning perspective to understand doctors' transitions. We drew on Stake (2005) to develop a 'collective' case study of doctors in order to focus on the interrelationships between individual professionals and complex work settings (Hodkinson et al, 2008) and to take into account the complexity and diversity invoked in such a study. We focussed on elderly medicine because it involves complex patient care pathways and decision-making. Concentrating on the same speciality in this way facilitated exploration of the significance of differing individuals and differing local working practices, within broadly similar overall contexts. This maximised the strengths of the collective case study approach.

We focused on two key points of transition: the transition to beginning clinical practice which is the move from medical student to initial foundation training (F1) and the transition from generalist to specialist clinical practice which is the move from the second stage of foundation training (F2) to Specialist Trainee (ST). There is a significant increase in doctors' responsibility at each of these transition points. The move from medical student to beginning clinical practice includes a new responsibility for prescribing (in the UK this is a legal responsibility). The move from generalist to specialist training brings a new responsibility for patient management which is indicated in the training regulations and

employers' expectations. In order to investigate these transitions more fully we focused on these two particular *markers of responsibility* – prescribing for F1 doctors and patient management for STs. In both instances responsibility is immediate. New doctors would be expected to respond to some situations and conditions as soon as they begin working in the clinical setting. In elderly care such conditions include chest and urinary tract infections – an F1 doctor would be expected to prescribe appropriately and an ST would be expected to manage a patient with one of these conditions. Expectations about how responsibility is managed may be tempered by the perceived complexity of the clinical demands but may also increase depending on the time of day/night and whether a doctor is working at the weekend or on a weekday. Therefore these were the exemplars for our focus on prescribing and patient management.

We investigated aspects of transition at four levels - the individual doctor, their clinical team (and the site in which they were located), their employer and the regulatory and policy context. In order to understand the case study contexts, we analysed relevant regulatory and policy requirements including national and local training requirements, protocols and policies. We also undertook an interdisciplinary literature review. We sought material about induction from 31 individuals and sections in the six hospitals where our participants were based.

We interviewed ten F1 doctors (nine women, one man) and eleven STs (seven women, four men) once near the point of transition; most were interviewed for a second time two to three months later. We began all interviews by asking the doctors about their training and experiences to date. We asked particularly about the first few days of their most recent transition. The interviews then focused on the participants' markers of responsibility. F1s were asked to think about prescribing and STs were asked to think about patient management. As noted above, we asked participants to think about their work with patients with urinary tract infections and chest infections; in both cases, we asked them to discuss an instance in which they had been satisfied with their work with a patient with one of these conditions and an instance in which there had been some sort of difficulty. In the last part of the interview, participants were asked to make any comments they wished.

We invited all the participants to be observed at work on the ward, after the first interview. Whilst F1 doctors were willing to be interviewed, they were reluctant to be observed in practice, possibly because they lacked confidence in having their performance/work scrutinised and/or because of a desire not to be identified by colleagues as being part of a study which might reflect badly on them. In contrast, most STs were willing to be observed. Because STs frequently work with F1 doctors we were able to make some indirect observations of F1s. We undertook 13 supplementary interviews with healthcare professionals in elderly care working with F1s and STs in the study sites. The study was conducted at six different hospitals (two university teaching hospitals and four general hospitals). Ethical approval for the study was obtained the UK NHS Research Ethics System and research governance approvals were obtained from each of the NHS trusts involved.

We used an interpretative approach for analysis. The phases of analysis included developing rich descriptions of individuals and sites; a more focused synthesis concentrating on the *markers of responsibility* (prescribing and patient management) using the exemplars

of managing urinary and chest infections for both F1s and STs; presenting emerging findings at practitioner and stakeholder seminars and an overall synthesis to identify generalities, broad principles, issues and outstanding questions.

Findings

As noted above, some discussions of responsibility suggest that it is a more or less permanent characteristic of an individual, disconnected from everyday practice. But in keeping with our sociomaterial perspective, we wanted to consider how responsibility was enacted in practice, rather than focusing on individual qualities, because it is in these everyday practices that we are able to analyse the particularities giving rise to and surrounding the specific instances requiring (or 'calling forth') responsibility – that is, that doctors 'are' responsible and practise responsibility. This section will therefore consider a selection of accounts of the everyday practices which evoked responsibility.

For example, Sarah told us about her transition into her first post:

"I started on nights... Well, my second night was more challenging than my first ... This lady who was acutely unwell COPD [chronic obstructive pulmonary disease], type 2 respiratory failure ... The registrar in elderly had handed over and told me exactly what I needed to do and ... said if she starts retaining CO₂ [carbon dioxide], you need to contact the medical registrar which I did. He was very unsupportive ... and I was a bit like, 'where do I go for help?' ... Then I contacted the SHO [senior house officer] on the admissions ward and he came and helped me and he was very supportive. But that was quite a traumatic night. Unfortunately the patient died ... the family then came in at one o'clock in the morning. I had to break the bad news to them so I definitely learnt a lot that second night ... I've come a long way since then." Sarah (F1)

This was only Sarah's second day as a doctor; she had a very specific responsibility which was to recognise that the patient's condition was deteriorating and then to get help to deal with the situation which she eventually managed to do. This responsibility demanded an immediate response from her so that, in common with all our other participants, she experienced responsibility as both individually located and immediate. Sarah's account indicates also the way in which responsibility is transacted in the handover which indicates a regime of planned regular action.

Laura, an ST and therefore a more experienced doctor, tells her story of coming to a new job:

"I was on call on my first day ... didn't really know where anything was, didn't know how to order blood tests, do anything very much. I got handed the bleep, the registrar had been on nights, handed me her passes for the computers this, that and the other and I was essentially left to my own devices. I was given a tour of the admissions unit and that was about the extent of it. Yes, it was a reasonably busy on call and then no one came to relieve me at the end of my shift so I was left there till about midnight. ...so it was just quite a lot of stress on the first couple of days." Laura (ST)

Here, we see the consequences of a regime of familiarity for Laura in being able to enact responsibility although Laura, like Sarah, generally understood the requirements and expectations she faced and largely accepted as her 'responsibility'. In both interviews, however, both Laura and Sarah make it clear that they really needed more support in the situations they were facing.

However, the requirements and expectations of others in terms of responsibility may conflict with those of doctors themselves, as Elizabeth's story shows. A radiologist spoke at an introductory session on her first day:

"All he told us was 'don't bother us, don't ask us' ... he said 'if a patient is coming down to my department for a procedure I expect them to be consented'. I was thinking 'well, how can you expect that because that's not GMC good practice? And someone actually said 'that's not right' and he said 'well, that's how we do it'.

Here, Elizabeth articulates clearly the discrepancy between the public regime of justification and a regime of planned action (the radiologist's practice). On the second day, she was asked to seek consent from a woman patient for a pace maker and said:

"I was just like 'well, I'm not doing it' and I just spoke to the consultant and said 'Look, I don't feel happy; does that sound reasonable?'" Elizabeth (ST)

In this instance the consultant radiologist expected Elizabeth to obtain the patient's consent for the procedure – such procedures cannot happen without consent. Consequently, if Elizabeth did not obtain the necessary consent, there would be a problem, at least with times of appointments in the relevant clinic (because consent would have to be obtained before the radiological procedure could begin); the patient might be sent back to the ward without undergoing the procedure which would involve a chain of consequences: further distress for the patient; many knock-on difficulties for other professionals; the need to make a new appointment and so on. As her interview shows, Elizabeth was also fully aware of the limits of her formal responsibility, citing clear guidelines about obtaining consent – both who should do it and that the doctor should understand the procedure before explaining it to the patient. Elizabeth did not think she had the necessary knowledge and so she faced an explicit conflict between the demands and expectations of responsibility from another professional in the setting in which she worked and her own understanding about responsibility – she had to negotiate the acceptability of her understanding. Responsibility here is therefore not located within Elizabeth: it is brought into being through the local practices (regime of planned action) and social relations, rather than the regulatory position.

The parameters of responsibility are reasonably clear to the participants in the preceding examples, even where there are conflicting expectations. However, the demands and intensity of clinical settings are such that responsibility is not always so explicit and understandings about responsibility are emergent:

“I don’t know if it’s got easier. I think I was a bit blind to the responsibility for the first month or so just because there were so many other things to think about. But then as you get more comfortable you realise that you have got a lot of responsibility and almost as you learn more you realise what more you could have done wrong because you understand the consequences ... I think it’s becoming more scary at the moment ... this job, I’ve been landed with a huge responsibility because there are many days where I’m the only one that sees people and I make all the decisions and I guess I shouldn’t really be doing that at my level but, you know, no choice about it. Jane (F1)

Jane is learning responsibility and is aware that she is working near, sometimes at, or even beyond, her limits; she finds this difficult at times as do most doctors. Unlike Elizabeth, she does not call upon the formal regime to limit her responsibility, but instead finds herself with ‘no choice’ as she sees it, because of the demands to care for patients within certain conditions. Responsibility, therefore, does not increase incrementally; it is fluid and changes at different times of day and night, depending on who else is present on the ward and on the nature of the work to be done.

Doctors learn responsibility as they care for patients and come to understand more about what they are doing:

“I think my first week was awful ... at the beginning it was awful and I had days when I really didn’t want to do medicine anymore ... even though you know what you’ve signed up for ... you just think did I really want to choose a job with so much responsibility?... When it comes down to it, you are just there on your own trying to make decisions about things that sometimes you don’t feel prepared for ... In the end, I did really enjoy the job ... being able to be the most senior person on the ward and the kind of changing responsibility you do get which is fine if you are comfortable with what you are doing. But obviously when something comes along that you’re not confident about and you can’t get hold of someone senior, then it is just awful.” Kate (F1 doctor)

Both Kate and Jane’s stories suggest that certain regulations were being transgressed. Junior doctors’ work and training is governed by a complex series of regulations which includes those from the GMC, Royal Colleges, Postgraduate Deaneries, Foundation Training Schools, NHS policies, employment legislation and legislation relating to medical regulation. These documents and discourses are explicit that trainees must recognise the limits of their competence or expertise and be appropriately supervised:

“Trainees must be appropriately supervised according to their experience and competence, and must only undertake appropriate tasks in which they are competent or are learning to be competent, and with adequate supervision. Trainees must never be put in a situation where they are asked to work beyond the limits of their competence without appropriate support and supervision from a clinical supervisor.” (GMC, 2011 p.13)

Such requirements about appropriate supervision are not always reflected in actual practice as we have seen above - a number of studies have shown that lack of supervision can lead

to poor outcomes for patients, including increased mortality (for example, Donaldson, 2006; Freemantle et al, 2012; Haller et al, 2009; Jen et al, 2009; Ninis et al, 2005). In common with both Kate and Jane, most of our participants talked about times when they felt they were working beyond their competence. So, both Kate and Jane are alert to what should happen (public regimes and regimes of planned regular action), they find themselves coming to understand regimes of responsibility within a regime of familiarity.

Discussion and implications

We have been trying to develop and use theoretical frameworks to better understand how professionals negotiate transitions in professional responsibility. How professionals manage transitions and learn to make wise decisions within them can have serious implications for patients, clients and/or members of the public affecting risk, effectiveness, work culture and relations with colleagues as well as clients. Empirical evidence suggests that transitions may be associated with increased risk to patients. Such risks are currently conceptualised as located in individuals and therefore managed through formalised and fixed systems and protocols. We have used understandings of knowledge as emergent, embodied, embedded and material to re-examine notions of professional responsibility.

There is a tendency to consider responsibility as a generalised orientation towards work - often including ethical elements, practice issues and organisational and professional association/regulatory aspects. However, as we showed above, doctors experience responsibility as individual, arising in relation to particular moments of patient care, not regulated and, sometimes, as overwhelming.

The stories of our participants show how responsibility in practice is therefore specific, concrete, fluid, not necessarily incremental, relational and impermanent. Responsibility is also embodied and distributed, learnt and has to be recognised in the moment. Responsibility is material and dynamic because it is experienced in relation to time and space as well as in relation to the materiality of illness – if a patient's condition changes, responsibility changes. It may increase with more acute illness but it may also decrease, for example because more senior doctors become involved. Sarah's story about the patient with COPD who died includes times when she was responsible and times when she was able to withdraw from responsibility (when the SHO helped). This event happened at night when there were few experienced doctors around. The patient's deteriorating condition – their illness – was also material to this responsibility. Responsibility is therefore specific, immediate and enmeshed with bodies, illnesses, drugs, machines and networks of professionals as well as patients and their families.

Learning responsibility in clinical settings certainly involves learning about institutional expectations and what matters – the knowledge that matters, the practices that matter, the expectations that matter but also the material conditions that matter, including the physical conditions of the patients. The notion of CILPS in our earlier work was intended to articulate some of the intensity, urgency and time-bound nature of transitions in clinical practice; the shape of CILPs is dependent on both the dynamic relationship between different pragmatic regimes and the extent to which the specific learning cultures of the

clinical workplace (at ward and at institutional levels) recognise and articulate the different rationalities present in clinical practices and processes. New doctors have to negotiate different pragmatic regimes, different logics of practices, and different conceptions of responsibility/accountability – their decisions and actions depend on which rationality is foregrounded; the responsibility experienced depends on which regime is foremost. Particular issues arise when doctors respond to a different logic and/or pragmatic regime than that which predominates in a specific instance or when they recognise a need to shift logic and/or regime; responsibility is partly enacted through such shifts.

This detailed examination of practice has enabled us to foreground the particularities, urgency and fluidity of everyday clinical practice. It recasts our understandings of responsibility – and managing risk – as involving learning in practice. This is a critical insight because it suggests that the theoretical basis for the current approach to managing risk and responsibility through the prior preparation of doctors is insufficient. Instead, we have shown how learning is enmeshed with responsibility and risk and is integral to practice. This has significant implications for policy, employment, education and the practice of new doctors as well as the management of responsibility and risk. It suggests a need to foreground social and material understandings about responsibility in contrast to the current focus on individualised understandings.

Notes

[1] Once qualified, doctors are provisionally registered with the General Medical Council and enter a compulsory two-year Foundation programme designed to provide general clinical experience which includes different specialities; the doctors rotate between series of different posts. At the end of Foundation training, doctors apply for entry to specialist training and undertake a series of paid posts.

References

Berg, M. (1997), "Problems and promises of the protocol", *Social Science in Medicine*, Vol. 44 No. 8, pp. 1081-88.

Cave, J. Woolf, K. Jones, A. and Dacre, J. (2009), "Easing the transition from student to doctor: How can medical schools prepare their graduates for starting work?", *Medical Teacher*, Vol. 31 No. 5, pp. 403-9.

Donaldson, L. (2006), *Good doctors, safer patients*. Department of Health, London.

Dornan, T. Ashcroft, D. Heathfield, H. Lewis, P. Miles, J. Taylor, D. Tully, M. and Wass, V. (2009), *An in depth investigation into causes of prescribing errors by foundation trainees in relation to their medical education. EQUIP study*. Available from http://www.gmc-uk.org/about/research/research_commissioned_4.asp (accessed 3 January, 2013).

Evetts, J. (2006), "Introduction: trust and professionalism: challenges and occupational changes", *Current Sociology*, Vol. 54 No. 4, pp. 515-531.

Evetts, J. (2012), "Professionalism in turbulent times: changes, challenges and opportunities", paper presented at Propel International Conference, University of Stirling, 9-11 May 2012, available at www.propel.stir.ac.uk/downloads/JuliaEvetts-FullPaper.pdf.

Fenwick, T. (2009), "Responsibility, complexity science and education: dilemmas and uncertain responses", *Studies in Philosophy of Education*, Vol. 28 No. 2, pp. 101-118.

Freemantle, N. Richardson, M. Wood, J. Ray, D. Khosla, S. Shahian, D. Roche, W.R. Stephens, I. Keogh, B. Pagano, D. (2012), "Weekend hospitalisation and additional risk of death: an analysis of input data", *Journal of the Royal Society of Medicine*, Vol. 105 No. 2, pp. 74-84.

General Medical Council (2006,) *Good Medical Practice*, General Medical Council, London.

General Medical Council (2011), *The Trainee Doctor*, General Medical Council, London.

Haller, G. Myles, P.S. Taffé, P. Perneger, T.V. Wu, C.L. (2009), "Rate of undesirable events at beginning of academic year: retrospective cohort study", *British Medical Journal*, BMJ 2009;339:b3974.

Heaton, A. Webb, D.J. and Maxwell, S.R.J. (2008), "Undergraduate preparedness for prescribing: the views of 2413 UK medical students and recent graduates", *British Journal of Clinical Pharmacology*, Vol. 66 No. 1, pp. 128-34.

Hodkinson, P. Biesta, G. and James, D. (2008), "Understanding learning culturally; overcoming the dualism between social and individual views of learning", *Vocations and Learning*, Vol. 1 No. 1, pp. 27-47.

Illing, J. Morrow, G. Kergon, C. Burford, B. Peile, E. Davies, C. Baldauf, B. Allen, M. Johnson, N. Morrison, J. Donaldson, M. Whitelaw, M. and Field, M. (2008), *How prepared are medical graduates to begin practice? A comparison of three diverse UK medical schools: final summary and conclusions for the GMC Education Committee*, General Medical Council, London.

Jen, M.H. Bottle, A. Majeed, A. Bell, D. and Aylin, P. (2009), "Early in-hospital mortality following trainee doctor's first day at work", *PLoS ONE*, Vol. 4 No. 9, e7103 doi:10.1371/journal.pone.0007103.

Kilminster, S. Zukas, M. Quinton, N. and Roberts, T.E. (2011), "Preparedness is not enough: understanding transitions as critically intensive learning periods", *Medical Education* Vol. 45 No. 10, pp. 1006-1015.

Kilminster, S. Zukas, M. Quinton, N. and Roberts, T.E. (2010), "Learning practice? Exploring the links between transitions and medical performance", *Journal of Health Organisation and management*, Vol. 24 No. 6, pp. 556-70.

Matheson, C. and Matheson, D. (2009), "How well prepared are medical students for their first year as doctors? The views of consultants and specialist registrars in two teaching hospitals", *Postgraduate Medical Journal*, Vol. 85 Issue 1009, pp. 582-89.

Nikendei, C.B. Kraus, B. Schrauth, M. Briem, S. and Junger, J. (2008), "Ward rounds: how prepared are future doctors?", *Medical Teacher*, Vol. 30 No. 1, pp. 88-91.

Ninis, N. Phillips, C. Bailey, L. Pollock, J.I. Nadel, S. Britto, J. Maconochie, I. Coen, P.G. Booy, R. and Levin, M. (2005), "The role of healthcare delivery in the outcome of meningococcal disease in children; case- control study of fatal and non-fatal cases", *British Medical Journal*, Vol. 330, pp. 1475-8.

Orlikowski, WJ (2006), "Material knowing: the scaffolding of human knowledgeability", *European Journal of Information Systems*, Vol. 15 No. 5, pp. 460-66.

Thévenot, L. (2001), "Pragmatic regimes governing the engagement with the world" in Schatzki, T.R. Knorr Cetina, K. and von Savigny, E. (Eds.) *The practice turn in contemporary theory*, Routledge, London.

Solbrekke, T.D. and Eglund, T. (2011), "Bringing professional responsibility back in", *Studies in Higher Education*, Vol. 36 No. 7, pp. 847-61.

Stake, R.E. (2005), "Qualitative case studies" in Denzin, N.K. and Lincoln Y.S. (Eds.) *The Sage Handbook of Qualitative Research: Third Edition*, Sage, London.

Zukas, M. and Kilminster, S. (2012), "Learning to practise, practising to learn: doctors' transitions to new levels of responsibility," in Hager, P. Lee, A. and Reich, A. (Eds.) *Practice, Learning, Change: Practice-theory perspectives on Professional Learning*, Springer-Dordrecht, Netherlands.