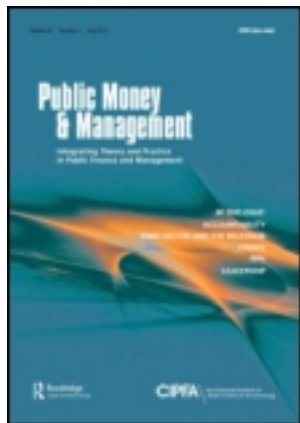


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# Does clinical management improve efficiency? Evidence from the English National Health Service

Gianluca Veronesi, Ian Kirkpatrick and Francesco Vallasca

*The paper investigates the presence and impact of clinicians on the boards of National Health Service (NHS) acute care trusts on efficiency over a three-year period (2006–2009). The analysis shows an increase, albeit marginal, in the number of clinically qualified directors in the period under investigation. Furthermore, it reveals that the percentage of clinicians—and, more specifically, doctors—at the board level is positively associated to the rating achieved for the financial management of resources. Although the results need to be treated cautiously, they do lend support to the argument that increased clinical involvement in management decision-making will have benefits for the performance of hospital services.*

**Keywords:** Boards of directors; clinicians; doctors; organizational performance.

A distinctive feature of the new public management (NPM) over the past two decades has been the push to co-opt professionals into the running of services through the delegation of financial responsibilities. This change has meant extending the 'management component' of professional jobs with more time devoted to such tasks as staff appraisal, planning and the administration of budgets (Causar and Exworthy, 1999, p. 98). In health services, for example, new models of hospital organization have favoured the development of clinical directorates, where doctors and nurses are asked to develop hybrid professional management roles (Numerato *et al.*, 2012). Linked to this have also been moves to recruit clinicians onto the corporate boards of hospitals and other organizations, such as clinical commissioning groups in the English NHS (Ham *et al.*, 2011).

For some these changes are understood mainly as a strategy of control, forcing doctors and nurses to regulate their own practice (Degeling *et al.*, 2006). Given that clinical decisions regarding diagnosis and treatment account for between 60–80% of all hospital expenditure (Young *et al.*, 1992), this objective has been especially important. However, it has also been suggested that greater clinical involvement in management, especially at strategic levels, may have wider benefits for health services, possibly improving their efficiency and quality (Rundall *et al.*, 2004; Academy of Royal Colleges and Audit

Commission, 2009; Veronesi *et al.*, 2013). Succi and Alexander (1999, p. 33), for example, suggest that a key aim of increasing clinician membership on the boards of hospitals in the US has been to strengthen their 'commitment to cost containment'. Specifically, 'by increasing the number of physicians in management or governance positions, hospitals may have greater success influencing physician attitudes and behaviours, and facilitating their adoption of more cost-efficient clinical practices' (*ibid.*).

Notwithstanding the enthusiasm for these changes in practice, the evidence to support them remains fragmented. One area where some research has been conducted is on the chief executive officer (CEO) and board levels of hospitals and other health organizations, mainly in the US (Prybil, 2006; Goodall, 2011). However, this work has been inconclusive, with studies reporting mixed results concerning the impact of clinicians on financial efficiency. There are also questions here concerning the relevance of these findings to non-US contexts where corporate-style boards are less well established, for example in the UK and continental Europe.

Given these concerns, our aim in this paper is, first, to analyse whether the efforts to strengthen clinical leadership in health care organizations have concretely produced a growth in the presence of clinicians at the strategic level. Moreover, we investigate the impact or clinical involvement in the strategic management of hospitals on efficiency

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outcomes. Specifically, we consider whether greater clinical memberships on the boards of English acute hospital trusts is associated with superior financial performance. To address this matter, the paper draws on two main data sources: our own unique data base of the qualifications of board members between 2006/07 and 2008/09; and performance ratings of the financial management of resources given by the Healthcare Commission (now the Care Quality Commission).

### Literature review

As noted, the argument that greater clinical involvement in management decision-making (at board level and more generally) rests on the assumption that these professionals bring with them greater knowledge, understanding and legitimacy (Dorgan *et al.*, 2010). As Fitzgerald (1994, p. 37) suggests: 'It is virtually impossible to imagine how managers, in isolation, could carry out the tasks required to specify the type, form, quality standards and volumes of a specific medical service without the active involvement of clinical specialists'. Not only might the 'informational advantages' (Molinari *et al.*, 1993) of clinical leadership result in a more optimal allocation of resources, their greater credibility could also make it easier to implement changes.

Yet, against this are also potential problems of opportunism. Focusing on boards in the US, Molinari *et al.* (1993) highlight risks associated with insider representation, especially when clinicians adopt a strong advocacy role, favouring their own speciality over and above wider 'corporate' interests. Indeed: 'given physician interests in state-of-the-art diagnostic and therapeutic technologies, it is plausible that medical staff board participation may result in imprudent capital investments that impair the fiscal viability of the hospital' (Molinari *et al.*, 1993, p. 361). Similar points are made elsewhere about the possible 'custodial' orientation of professionals who take on management roles (Ackroyd *et al.*, 1989; Kitchener *et al.*, 2005). Hunter (1992, p. 565), for example, suggests that the colonization of management functions by doctors could be interpreted as 'a stratagem for ensuring that no fundamental challenge is posed to their prevailing view of the world'.

Given this, it is perhaps not surprising that the available research on hospital boards, mainly in the US, has often been inconclusive when it comes to assessing the impact of clinical management on financial efficiency. On the one hand some studies have found a positive

association (Goes and Zhan, 1995; Molinari *et al.*, 1995; Prybil, 2006). Looking at the effect of board composition on hospital financial viability in 190 hospitals in California, Molinari *et al.* (1995) conclude that boards with more physicians had significantly better operational performance. Similarly, drawing on a longitudinal (1981–1990) panel of 300 acute care hospitals in California, Goes and Zhan (1995) find that physician involvement in hospital governance is associated with greater occupancy and higher operating margins. However, against this, Succi and Alexander (1999) conclude that the main effect of physician involvement in hospital management and governance is not greater, but lower hospital efficiency.

Outside the US, although corporate-style boards have been established for some time (for example, in NHS hospital trusts), far less is known about the impact of clinical involvement. In part this is because accurate figures on the numbers of doctors and nurses on boards are hard to come by. In the NHS, for example, all the indications are that clinicians represent 'a very small minority' (Harrison and Smith, 2003, p. 247) on boards and take on a 'primarily advisory role' (Fitzgerald and Ferlie, 2006, p. 18). A low level of clinical participation is also suggested by a study comparing the NHS with other health European health systems (Dorgan *et al.*, 2010).

Added to this are questions about how far clinicians in the NHS will be willing and able to contribute to financial decision-making. Studies of clinical attitudes in the NHS have found a deep rooted cynicism with regard to management and the priorities of financial control (Crilly and Le Grand, 2004; Degeling *et al.*, 2006), even more so than in the US (Rundall *et al.*, 2004). According to Jacobs (2005, p. 137), many doctors regard management as 'anti-patient, anti-clinical freedom and a threat to...autonomy and values'. Linked to this is the fact that many clinical professionals lack the training and skills to contribute to financial decision-making and may struggle to get their voices heard. Focusing on NHS acute trusts Veronesi and Keasey (2011), for instance, note how the current emphasis on business-type skills and financial savvy of board directors may have been counter-productive, resulting in other kinds of clinical expertise being marginalized in board discussions.

Hence, as in the US, there is some doubt about how far (if at all) greater clinical involvement on the boards of NHS

organizations will enhance their financial performance. Indeed, it has been suggested that greater clinical influence may even be counter-productive. Mannion *et al.* (2005), for example, note how lower performing hospital trusts in the NHS, according to government metrics, were often those dominated by 'professional cultures'. In these cases 'the powerful influence of the medical staff group diverted the trusts' attention towards meeting their own clinical needs and priorities, at the expense of meeting external performance targets' (p. 436). A study by Addicott (2008) of five cancer network boards also queries the benefits of high clinical representation, with some doctors giving priority to the interests of their own speciality.

### Data and methodology

The previous section raises questions both about the nature and extent of clinical involvement at board levels in the NHS and its likely consequences for financial performance. To address these concerns we now focus on the hospital sector of the English NHS, which in 2008/09 consisted of 169 acute care trusts. In the sample, around 70% of hospital trusts across the period were operating as foundation trusts—the more independent and autonomous organizational form introduced in 2003. Due to the lack of a central repository of information on hospital governance, a unique dataset was constructed by manually working through the websites and annual reports of individual trusts. Only trusts that offered full information in terms of the membership of their board—and, specifically, the professional qualifications (for example, doctors, nurses, accountants etc.) and board role of the directors—were taken into account. This reduced the size of the final sample, which comprised 240 observation points over three years: 2006/07 to 2008/09 (57 in 2006/07; 81 in 2007/08; 102 in 2008/09). It also meant that our sample was an unbalanced panel.

Numerous measures of performance were taken into consideration, although our main focus here is on the quality of the financial resource management. This measure was taken from the performance scores incorporated in the ratings of hospital trusts published by the Healthcare Commission in the 'annual health check', with a rating score ranging from one (weak) to four (excellent). The financial score grades the ability of trusts to effectively manage the resources available with reference to services commissioned and provided. This data

referred to the work of other regulatory bodies including Monitor for foundation trusts and the Audit Commission (now abolished) for acute care trusts (Healthcare Commission, 2008).

The choice of method to analyse the data was motivated by the nature of the financial rating employed as a dependent variable. More specifically, since the financial rating indicator is an ordinal variable the analysis was conducted through pooled regression via an ordered logit model. The estimation process is based on the assumption that the ordinal variable—that is, the numerical score which measures the financial rating—is an approximation of a continuous variable. In turn, the continuous variable is supposed to be a linear function of a set of explanatory variables (covariates). The adopted model predicts the probability associated with each event and how this probability changes as a consequence of a change in some explanatory variables. Moreover, to further strengthen our analysis we introduced a series of control variables to rule out other factors that might influence performance outcomes, such as hospital size (financial and operational), status (teaching, foundation trust), staff numbers, the average age of patients, and the population in the catchment areas. Some other factors (number of inpatient admissions, length of stay in hospital, and percentage of bed occupancy) are not reported in the findings for the sake of simplicity and brevity.

### Results

In terms of the overall profile of the boards in our sample, we found that the average size of trust boards was between 12 and 13 directors, the largest having 17 directors. This figure, stable across the period, roughly replicated the average size of corporate boards in the private sector. As we expected, non-executive directors were the majority, making up around 51% of board members, while the average percentage of female directors was 33.8%, up to 34.72% in 2008/09. Interestingly, the NHS seemed to fair much better than the private sector with regard to female participation at board level, which stood at roughly 13% in mid 2011, and already exceeded the voluntary target of 25% for corporate boards proposed by Lord Davies in 2011 (Davies, 2011).

Turning to the first aim of this paper, to provide evidence on the number of clinicians on boards, on average we found that clinicians made up roughly only a quarter of the board members (26.03%) over the three-year period.

This is perhaps a disappointing finding given the concerted efforts to recruit clinicians into senior managerial positions (Ham *et al.*, 2011). When further broken down, it transpired that doctors represented approximately 14% of the board members, while nurses and the other allied health professions accounted for 12%. With reference to the normal range, at the 2.5 centile the percentage of doctors stood at 2.6 and clinicians at 9.1, whereas at the 97.5 centile doctors represented 29.7% of the board and clinicians 45.8%. Therefore, while clinical professionals were represented at strategic levels in NHS hospital trusts, they were still a minority. Indeed, other professionals with an accounting or finance background were almost as well represented, making up 20.33% of board membership and 10.6% of CEO posts in 2008/09. Those with a 'business' or non-NHS specific background (for example, civil servants) were even more numerous, accounting for just over half of board membership.

Notwithstanding these overall trends, the study did reveal variations between trusts in the numbers of doctors and nurses who sat on boards. It is notable for example that for 2008/09, in 23.53% of acute trusts (24 out of 102), clinicians made up more than 30% of board members—well beyond the statutory roles of nurse and medical director. Overall, the data highlighted a progressive increase in the number of clinicians on boards over time, with clinicians occupying 26.4% of directors' posts in English trusts in 2008/09 (marginally higher than the average for all three years of 26.03%). There were also strong signs that when a trust appointed a clinician as a CEO this, in turn, had positive consequences for the overall proportion of board members who were nurses and doctors—possibly indicating a virtuous circle over time.

With regard to the background of the CEO, the figure for the whole period suggested that around 22% of the CEOs had a clinical background, with roughly an equal ratio of CEOs being classified as doctors or nurses and other allied health professions. By contrast, the statistics for the chair showed that only a minimal percentage of them had a clinical background (around 6%), with a comparable percentage in 2008/09. Backing the overall trend, in this year only a minor portion (4.9%) of trusts had a chair with a medical background, which left a very minimal presence of chairs with other clinical qualifications.

Moving onto the second purpose of the paper—to assess the impact of clinical

involvement on boards on financial performance—the results are harder to interpret. The sample distribution showed a high percentage of hospital trusts achieving standards of excellence: 155 trusts (64.58% of the total sample) successfully achieved the maximum rating of four over the three years and 88.75% of the total sample, a rating of three or over. Nevertheless, we did not find any association between the percentage of clinicians and the rating achieved. Indeed, trusts with the highest percentage of clinicians seemed to be associated with lower financial ratings. However, when looking at the different clinical categories, the data suggested that a greater percentage in the number of doctors on boards was related to a better financial rating (over 14% for the 'excellent' rating, up from 10.75% for the 'weak' rating). Conversely, the pattern was more ambiguous where nurses and other allied health professions were considered.

The importance of the presence of doctors in strategic roles with regard to financial concerns was highlighted by the pooled regression analysis. As illustrated in table 1, the findings revealed a positive and significant relationship only between the ratio of doctors on boards and the rating achieved in the management of resources for all the specifications of the model employed. As for nurses and the allied health professions, the analysis signalled a positive but not significant association with the financial rating. These results were confirmed for all the changes in the specification of the model.

In relation to the impact of the various control variables included in the model, we found a positive relationship between the foundation trust status and the financial rating achieved. This is perhaps not surprising given that the foundation trust status is only assigned to hospital trusts that meet a tough set of criteria and standards, with a particular focus on financial sustainability. On the other hand, there did not seem to be any significant association between being a teaching trust and the financial rating. All the traditional governance variables (such as board size, the ratio of non-executive directors, and so on) were found to have a positive association but their statistical significance was not consistently related to the quality of the financial management as measured by the Healthcare Commission.

In order to test the reliability and consistency of the findings, robustness tests were conducted. First, we checked the

**Table 1. Do clinicians on the board influence the financial management of the trust?**

	(1)	(2)	(3)	(4)	(5)	(6)
<i>Dependent variable: financial rating</i>						
CLINICAL	3.268 (2.506)					
DOCTORS		3.626* (2.171)	4.096* (2.372)	4.119* (2.439)	4.823* (2.480)	5.260* (2.713)
OTHERCL		1.509 (3.082)	1.264 (3.076)	1.250 (3.071)	0.717 (3.200)	0.718 (4.310)
CEOBACK	-0.167 (0.453)					
CEOBACK_DOC		-0.835* (0.474)	-0.796 (0.488)	-0.818* (0.492)	-0.799 (0.493)	-0.122 (0.675)
CEOBACK_OTH		-0.813 (0.604)	-0.807 (0.598)	-0.793 (0.587)	-0.701 (0.604)	-0.072 (0.656)
BOARDSIZE	2.082 (1.355)	4.045*** (1.082)	4.156*** (1.162)	4.215*** (1.173)	4.253*** (1.170)	2.049 (1.323)
INDEPENDENT	2.021 (2.973)	7.700** (3.037)	7.618** (3.016)	7.521** (3.063)	7.494** (3.078)	2.132 (3.052)
GENDER	0.462 (1.596)	0.813 (1.382)	0.895 (1.533)	0.889 (1.545)	1.070 (1.651)	0.737 (1.740)
ATURNOVER	0.008 (0.007)		-0.004 (0.006)	-0.004 (0.007)	-0.004 (0.007)	0.005 (0.006)
SIZE	0.035 (0.488)		-0.096 (0.275)	-0.096 (0.275)	-0.288 (0.353)	-0.165 (0.474)
MEANAGE	0.006 (0.017)				0.011 (0.015)	0.012 (0.018)
POPSERVED	0.154 (0.207)				-0.139 (0.165)	0.067 (0.205)
FOUNDATION	4.005*** (0.464)					4.002*** (0.467)
TEACHING	0.265 (0.367)					0.357 (0.380)
Year dummies	YES	NO	NO	YES	YES	YES
Observations	240	240	240	240	240	240

Period: 2006/07-2008/09.

Robust standard errors in parentheses.

\* =  $p < 0.1$ . \*\* =  $p < 0.05$ . \*\*\* =  $p < 0.01$ .

Description of variables:

CLINICAL = Number of clinicians on the board divided by total number of board members.

DOCTORS = Number of doctors on the board divided by total number of board members.

OTHERCL = Number of other clinicians on the board divided by total number of board members.

CEOBACK = Dummy equal to 1 if the CEO was a clinician.

CEOBACK\_DOC = Dummy equal to 1 if the CEO was a doctor.

CEOBACK\_OTH = Dummy equal to 1 if the CEO was a clinician but not a doctor.

BOARDSIZE = Log transformation of the total number of board members.

INDEPENDENT = Number of non-executive directors divided by total number of board members.

GENDER = Number of female directors divided total number of board members.

ATURNOVER = Turnover divided by the number of staff.

SIZE = Log transformation of the number of beds.

MEANAGE = Mean age of patients.

POPSERVED = Number of inhabitants divided by number of beds.

FOUNDATION = Dummy equal to 1 for NHS foundation trusts.

TEACHING = Dummy equal to 1 for NHS teaching trusts.

possibility of autocorrelation between the ratings of hospital trusts, meaning that the ratings would not change significantly between different years giving doctors the possibility to correctly predict the rating achieved by the trust. The levels of autocorrelation were confirmed within the customary levels. Furthermore, to avoid the issue of possible reverse causality, we employed lag values of the independent variables employed. The concern was that doctors were not driving performance improvements but were being recruited onto the boards of hospital trusts that were already successful. Here, the results were still indicating a positive relationship, but were also not as statistically robust as the earlier findings in all the specifications of the model. Thus, we cannot exclude the possibility that financially successful trust boards have been more prone to recruit doctors or that doctors themselves have self-selected to join these boards. What this means is that, while the positive relationship between ratio of doctors' directors and financial performance is confirmed, we also need to treat this conclusion with some caution.

#### Discussion and conclusions

The results reported in this paper have a number of implications for research and policy. They suggest that little progress has been made in increasing the presence of clinicians at the strategic levels of NHS hospital trusts. This casts a doubt on the impact of the health reforms undertaken especially in comparison with other European health systems, such as Italy, Denmark and Norway (Jacobs, 2005; Kirkpatrick *et al.*, 2011), where clinicians appear to be better represented at senior levels. Interestingly, the majority of the clinician posts were on executive roles, including CEOs and other roles such as director of operations, which still leaves space for non-medical non-executive directors within the boardroom. Thus, despite the efforts of government and professional associations, the UK seems to have some catching up to do (see also King's Fund report, 2011).

Turning to the question of what impact senior clinician managers are having on hospital performance, our results are potentially even more interesting. They suggest that a higher ratio of doctors on trust boards is associated with higher financial performance in the English NHS. As such, the findings offer support for much of the US-based research, which has drawn similar conclusions (Goes and Zhan, 1995; Molinari *et al.*, 1995; Prybil,

2006), while questioning studies that point to the counter-productive influence of clinical leadership (Succi and Alexander, 1999; Mannion *et al.*, 2005). Implied is that the specialist clinical knowledge and political capital that doctors bring to the strategic decision-making process may outweigh the risks associated with opportunism.

Of course, this conclusion also needs to be treated with caution. When robustness tests were conducted, the evidence of doctors' impact on financial performance is tempered somewhat. In particular, we are unable to rule out the possibility of reverse causality and the likelihood that successful trusts are those that recruit more doctors onto their boards (or which doctors self-select to join). In this respect our findings concerning the strength of clinical influence on the financial outcomes of hospitals are not as unequivocal as other studies (for example, Dorgan *et al.*, 2010). However, what we can rule out is the negative impact of this clinical influence, suggesting that problems of opportunism and the incompatibility between medical and financial knowledge are not be as great as is often assumed (Kurunmäki, 2004).

A related finding is with regard to the clinical qualifications of the CEO. According to Goodall (2011), focusing on the US, there is a strong positive relationship between CEOs with a medical background and hospital rankings. Our results, however, do not support this conclusion. Rather, what they suggest is that it is the ratio of clinically qualified directors—doctors in particular—that counts for most. While CEO leadership may still be a crucial factor, particularly in building and maintaining effective relationships within the board, a clinical qualification in itself may not be required to make this happen (Kirkpatrick *et al.*, 2007; King's Fund, 2011).

When drawing these conclusions it is important to note certain caveats and directions for future research. First, although we identify a strong link between the presence of doctors on hospital boards and performance outcomes, our data does not explain *why* this is the case. Second, there is scope to conduct a more fine-grained analysis of the different kinds of expertise on the board. How important, for example, is the particular medical specialization and subsequent training of doctors who take on these roles? Also, what about the expertise of non-clinical board members, notably those with business or accounting backgrounds? A central premise of the new public management (NPM) is that these private sector skills will enhance the performance of public

organizations (Boyne and Walker, 2005), although how far this applies to the English NHS is still unclear.

Notwithstanding these caveats, our study makes some important contributions. In terms of research we have questioned the assumption that doctors and managers are always necessarily locked into a 'oppositional stalemate' (Degeling *et al.*, 2006). Regarding policy, we find evidence to support the goal, in the UK and more widely, of strengthening clinical leadership in health care management. Indeed, our results suggest that performance improvements in the NHS might be relatively straightforward to achieve. While persuading doctors to take on management and leadership roles is not without challenges, it is arguably less costly (and possibly more effective) than current moves to restructure health services to generate increased competition.

## References

- Academy of Royal Colleges and Audit Commission (2009), *Clinicians and Finance: Improving Patient Care* (Audit Commission, London).
- Ackroyd, S., Hughes, J. and Soothill, K. (1989), Public sector services and their management. *Journal of Management Studies*, 26, 6, pp. 603–619.
- Addicott, R. (2008), Models of governance and the changing role of the board in the 'modernised' UK health sector. *Journal of Health Organization and Management*, 22, 2, pp. 147–163.
- Boyne, G. A. and Walker, R. M. (2005), Introducing the 'determinants of performance in public organizations' symposium. *Journal of Public Administration Research and Theory*, 15, 4, pp. 483–488.
- Causser, G. and Exworthy, M. (1999), Professionals as managers across the public sector. In Exworthy, M. and Halford, S. (Eds), *Professionals and the New Managerialism in the Public Sector* (Open University Press, Buckingham).
- Crilly, T. and Le Grand, J. (2004), The motivation and behaviour of hospital trusts. *Social Science & Medicine*, 58, 10, pp. 1809–1823.
- Davies, E. M. (2011), *Women on Boards* (BIS, London).
- Degeling, P., Zhang, K., Coyle, B., Xu, L. Z., Meng, Q. Y., Qu, J. B. and Hill, M. (2006), Clinicians and the governance of hospitals. *Social Science & Medicine*, 63, 3, pp. 757–775.
- Dorgan, S., Layton, D., Bloom, N., Homkes, R., Sadun, R. and Van Reenen, J. (2010), *Management in Healthcare: Why Good Practice Really Matters* (McKinsey/LSE, London).
- Fitzgerald, L. (1994), Moving clinicians into management: a professional challenge or threat? *Journal of Management in Medicine*, 8, pp. 32–44.
- Fitzgerald, L. and Ferlie, E. (2006), *Managing Change and Role Enactment in the Professionalised Organization* (NCCSDO, London).
- Goes, J. B. and Zhan, C. (1995), The effects of hospital–physician integration strategies on hospital financial performance. *Health Services Research*, 30, 4, pp. 507–530.
- Goodall, A. (2011), Physician-leaders and hospital performance: is there an association? *Social Science & Medicine*, 73, 4, pp. 535–539.
- Ham, C., Clark, J. and Spurgeon, J. (2011), *Medical Leadership: From Dark Side to Centre Stage* (King's Fund, London).
- Harrison, S. and Smith, C. (2003), Neobureaucracy and public management: the case of medicine in the NHS. *Competition & Change*, 7, pp. 243–254.
- Healthcare Commission (2008), *The Annual Health Check 2008/2009—Assessing and Rating the NHS* (London).
- Hunter, D. J. (1992), Doctors as managers: poachers turned gamekeepers? *Social Science & Medicine*, 35, pp. 557–566.
- Jacobs, K. (2005), Hybridisation or polarisation: doctors and accounting in the UK, Germany and Italy. *Financial Accountability & Management*, 21, 2, pp. 135–161.
- King's Fund (2011), *The Future of Leadership and Management in the NHS: No More Heroes* (London).
- Kirkpatrick, I., Kragh-Jespersen, P. and Dent, M. (2011), The contested terrain of hospital management: professional projects and healthcare reform in Denmark. *Current Sociology*, 59, 4, pp. 589–506.
- Kirkpatrick, I., Malby, B., Neogy, I. and Dent, M. (2007), *National Inquiry into Management and Medicine* (CIHM, University of Leeds, Leeds).
- Kitchener, M., Caronna, C. A. and Shortell, S. M. (2005), From the doctor's workshop to the iron cage? Evolving modes of physician control in US health systems. *Social Science & Medicine*, 60, 6, pp. 1311–1322.
- Kurunmäki, L. (2004), A hybrid profession—the acquisition of management accounting expertise by medical professionals. *Accounting Organizations and Society*, 29, 3–4, pp. 327–347.
- Mannion, R., Davies, H. T. O. and Marshall, M. N. (2005), Cultural characteristics of 'high' and 'low' performing hospitals. *Journal of Health Organization and Management*, 19, 6, pp. 431–439.
- Molinari, C., Alexander, J., Morlock, L. and



- Lyles, C. A. (1995), Does the hospital board need a doctor? The influence of physician board participation on hospital financial performance. *Medical Care*, 33, 2, pp. 170–185.
- Molinari, C., Morlock, L., Alexander, J. and Lyles, C.A. (1993), Hospital board effectiveness: relationships between governing board composition and hospital financial viability. *Health Services Research*, 28, 3, pp. 358–377.
- Numerato, D., Salvatore, D. and Fattore, G. (2012), The impact of management on medical professionalism. *Sociology of Health & Illness*, 34, 4, pp. 626–644.
- Prybil, L. D. (2006), Size, composition, and culture of high-performing hospital boards. *American Journal of Medical Quality*, 21, 4, pp. 224–229.
- Rundall, T. G., Davies, H. T. O. and Hodges, C. L. (2004), Doctor–manager relationships in the US and the UK. *Journal of Health Care Management*, 49, 4, pp. 251–268.
- Succi, M. J. and Alexander, J. A. (1999), Physician involvement in management and governance. *Health Care Management Review*, 24, 1, pp. 33–44.
- Veronesi, G. and Keasey, K. (2011), NHS boards of directors and governance models. *Public Management Review*, 13, 6, pp. 861–885.
- Veronesi, G., Kirkpatrick, I. and Vallasca, F. (2013), Clinicians on the board: what difference does it make? *Social Science and Medicine*, 77, pp. 147–155.
- Young, G. J., Beekun, R. I. and Ginn, G. O. (1992), Governing board structure, business strategy, and performance of acute care hospitals: a contingency perspective. *Health Services Research*, 27, 4, pp. 543–564.