Social Science & Medicine xxx (2012) 1–6

Contents lists available at SciVerse ScienceDirect

Social Science & Medicine

journal homepage: www.elsevier.com/locate/socscimed

Review

Intra-organizational dynamics as drivers of entrepreneurship among physicians and managers in hospitals of western countries

Wout T. Koelewijn [a,*], Michel L. Ehrenhard [b], Aard J. Groen [b], Wim H. van Harten [a]

[a] Department of Health Technology and Services Research, School of Management and Governance, University of Twente, Enschede, The Netherlands
[b] Netherlands Institute for Knowledge Intensive Entrepreneurship (NIKOS), School of Management and Governance, University of Twente, Enschede, The Netherlands

ARTICLE INFO

Article history:
Available online xxx

Keywords:
Organizational change
Hospital–physician relations
Entrepreneurship
Hospital administrators
Physicians
Review

ABSTRACT

During the past decade, entrepreneurship in the healthcare sector has become increasingly important. The aging society, the continuous stream of innovative technologies and the growth of chronic illnesses are jeopardizing the sustainability of healthcare systems. In response, many European governments started to reform healthcare during the 1990s, replacing the traditional logic of medical professionalism with business-like logics. This trend is expected to continue as many governments will have to reduce their healthcare spending in response to the current growing budget deficits. In the process, entrepreneurship is being stimulated, yet little is known about intra-hospital dynamics leading to entrepreneurial behavior.

The purpose of this article is to review existing literature concerning the influence of intra-organizational dynamics on entrepreneurship among physicians and managers in hospitals of Western countries. Therefore, we conducted a theory-led, systematic review of how intra-organizational dynamics among hospital managers and physicians can influence entrepreneurship. We designed our review using the neo-institutional framework of Greenwood and Hinings (1996). We analyze these dynamics in terms of power dependencies, interest dissatisfaction and value commitments.

Our search revealed that physicians' dependence on hospital management has increased along with healthcare reforms and the resulting emphasis on business logics. This has induced various types of responses by physicians. Physicians can be pushed to adopt an entrepreneurial attitude as part of a defensive value commitment toward the business-like healthcare logic, to defend their traditionally dominant position and professional autonomy. In contrast, physicians holding a transformative attitude toward traditional medical professionalism seem more prone to adopt the entrepreneurial elements of business-like healthcare, encouraged by the prospect of increased autonomy and income.

Interest dissatisfaction and competing value commitments can also stimulate physicians' entrepreneurship and, depending on their relative importance, determine whether it is necessity-based or opportunity-driven.

Introduction

Entrepreneurship among physicians and hospital managers is gaining renewed interest. Already during the 1990s, many European governments started to deregulate their healthcare systems, induced by trends like the aging society, the progress of innovation, the introduction of new technologies and the growth of chronic illnesses that were pushing healthcare to its limits (Saltman, Busse, & Mossialos, 2002). In explicitly adopting principles of the new logic of business-like healthcare, more weight was being given to value creation, cost containment and efficiency at the expense of the traditional logic of medical professionalism, which emphasizes the need to practice in strict isolation from commercial interests, optimizing the medical quality of procedures. At the organizational level, this gave rise to tensions between physicians embedded in the weakening logic of medical professionalism and hospital management embedded in the advancing business-like healthcare logic (Reay & Hinings, 2009). In addition, the growing reliance on the business-like healthcare logic resulted in a surge of medical entrepreneurial activities in countries across Europe (Saltman & Figueras, 1997).

The debt crisis and the current economic downturn will place additional pressure on governments of many Western countries to

* Corresponding author. Tel.: +31 620584867; fax: +31 534892159.
E-mail addresses: w.t.koelewijn@utwente.nl (W.T. Koelewijn), m.l.ehrenhard@utwente.nl (M.L. Ehrenhard), a.j.groen@utwente.nl, woutkoelewijn@hotmail.com (A.J. Groen), w.h.vanharten@utwente.nl (W.H. van Harten).

0277-9536/$ – see front matter © 2012 Elsevier Ltd. All rights reserved.
doi:10.1016/j.socscimed.2012.03.055

consider budget cuts and healthcare deregulations (OECD, 2011). Based on the outcomes during the 1990s, intra-organizational dynamics between physicians and managers are expected to cause tension in addition to leading to a growing number of medical entrepreneurial initiatives. Still, little is known about how these dynamics lead to entrepreneurship.

To improve our understanding, we conducted a systematic literature review. We used neo-institutional theory to provide a structure for the intra-organization dynamics that may be driving entrepreneurship. This approach fits well with the recent interest in making connections with organization studies in the analysis of health policy and management, as was shown in the recent Social Science & Medicine Special Issue "Organization studies and the analysis of health systems" (Currie, Dingwall, Kitchener, & Waring, 2012).

We formulated our review question as follows:

What is known about the influence of intra-organizational dynamics among hospital managers and physicians on entrepreneurship in hospitals?

We define entrepreneurship in a hospital context as 'new entries by physicians and hospital managers who discover, evaluate and exploit opportunities to create future health services by bearing the risk of profit and loss' (Burgelman, 1983; Hisrich & Peters, 1992; Shane & Venkataraman, 2000). Hereby, our definition of physicians includes registrars, specialists and all other doctors working in a hospital. In addition, mistakes are viewed less forgivingly in the healthcare sector compared to the commercial sector, increasing the need for entrepreneurial risks to be calculated (Currie, Humpreys, Ucbasaran, & McManus, 2008).

As the business-like healthcare logic emphasizes entrepreneurial values, practices and processes, we include entrepreneurial orientation as defined by Lumpkin and Dess (1996). It comprises the constructs of autonomy, innovativeness, risk taking, proactiveness and competitive aggressiveness (Lumpkin & Dess, 1996; Miller & Friesen, 1983). Based on the work of these authors, we reason that a minimum level of entrepreneurial orientation among organizational members or groups will be critical in explaining entrepreneurial initiatives (Krauss & Frese, 2005).

We structure our review according to the neo-institutional model of Greenwood and Hinings (1996). As this frequently cited and highly relevant model has not been applied in a hospital setting before, we aim to fill this gap in literature. Greenwood and Hinings define intra-organizational dynamics in terms of the interplay between (1) power dependences and interest dissatisfaction, (2) power dependencies and value commitments, and (3) interest dissatisfaction and value commitments. In our review we will focus on intra-organizational dynamics depicted in the shaded area of Fig. 1, as potential drivers of entrepreneurship.

We combine these three elements with the concept of entrepreneurial orientation and formulate three subsidiary research questions:

1. In what ways do power interdependencies between physicians and managers lead to interest dissatisfaction in hospitals?
2. How are power dependencies related to value commitments and to an entrepreneurial orientation in hospitals?
3. How do interest dissatisfaction, competitive commitment and entrepreneurial orientation interact in hospitals?

Review method

The databases of Scopus, ISI and Pubmed were searched for relevant studies in English language journals. The searches were conducted in October–November (weeks 43–45) 2009. The definition of search items and the selection criteria were based on the three research questions. The retrieved articles were manually searched for other relevant references. In total, 34 publications were included in this review. More information on the search terms and selection process can be found in the attached web-accessible file (Appendix A).

We present the main findings and finish with a summary per research question. In addition, we contextualize the findings by adding quotations from interviews held in 2010–2011 with physicians in the Netherlands to verify the applicability of the neo-institutional model of Greenwood and Hinings (1996) in a hospital setting.

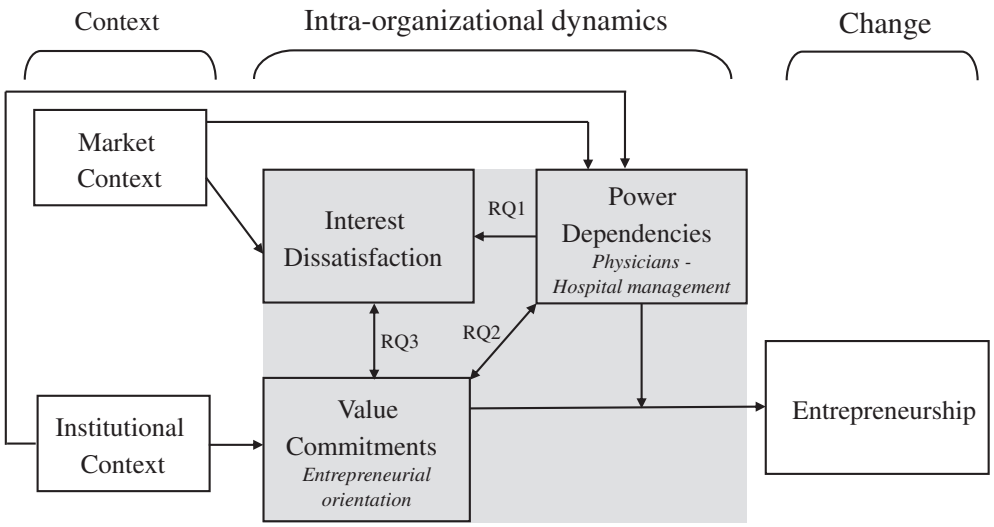

Fig. 1. Review model of intra-organizational dynamics as drivers of entrepreneurship.

Please cite this article in press as: Koelewijn, W. T., et al., Intra-organizational dynamics as drivers of entrepreneurship among physicians and managers in hospitals of western countries, *Social Science & Medicine* (2012), doi:10.1016/j.socscimed.2012.03.055

Power dependencies and interest dissatisfaction in hospitals

"I started my own clinic as I did not like the prospect of having to keep working in the hospital, having to put patients in need of a simple treatment on a waiting list just to fit the schedules of management."

Quotation from interview with an ophthalmologist, the Netherlands, January 2010.

We found twenty-two papers dealing with the influence of power dependencies on interest dissatisfaction in hospitals. An overview of the review results can be found in Table 1, which is obtainable through a web-accessible file (Appendix A).

Many papers were found on the increased interdependence between physicians and managers resulting from the increased dominance of the business-like healthcare logic (Castellani & Wear, 2000; Degeling et al., 2006; Kaissi, 2005; Lega & Depietro, 2005; Som, 2005; Sutherland & Dawson, 1998; Warwicker, 1998). Although medical dominance is reported to remain strong in key areas of technical and clinical autonomy (Abernethy, 2004; Currie, Humpreys, Waring, & Rowley, 2009; Fitzgerald & Ferlie, 2000; Klopper-Kes, Meerdink, van Harten, & Wilderom, 2009; McDonald, Waring, & Harrison, 2006; Succi, Lee, & Alexander, 1998), it is a source of strain and interest dissatisfaction among physicians (Thorne, 2002).

Based on a survey among 8108 physicians in the US, Paul Leigh (2002) points to the high proportion of dissatisfied physicians among surgical specialties, whereas their colleagues practicing medical specialties are unlikely to be dissatisfied. In addition to current explanations, we reason that the degree of tacit versus explicit knowledge applied by physicians may partly explain the level of interest dissatisfaction among physicians. Generally, physicians working in medical specialties tend to apply higher levels of tacit knowledge compared to physicians working in surgical specialties. As the application of tacit knowledge is more difficult to bring within a management-driven performance framework than the application of explicit knowledge, physicians working in other medical specialties are more successful in retaining their power and more satisfied compared to their colleagues working in surgical specialties.

Also, physicians outside clinical areas have not uniformly lost power as some have gained considerably. Based on their longitudinal study of 31 physicians with managerial responsibilities, Fitzgerald and Ferlie (2000) conclude that many physicians who have assumed hybrid roles have gained political power and autonomy. Some of these physicians are motivated by the desire to improve the quality of care, some are defensively motivated, using their role as a custodial strategy to prevent managers from gaining influence, while others are self-interested and looking for power.

Despite these reports of physicians being successful in retaining power, physicians are more pessimistic than managers about their relationship, as Rundall and Kaiser (2004) conclude on the basis of their survey among 1092 physicians and managers in the UK and US. This is attributed to the pervasive nature of the change brought by the introduction of the business-like healthcare logic. Another explanation provided by various studies is that both physicians and managers believe the other group has more power than they attribute to their own group (Braithwaite & Westbrook, 2004; Salvadores, Schneider, & Zubero, 2001). This observation is of particular importance as the perceived power and influence of a group may be tied to its willingness to participate in decision-making and the implementation of policies (Daake & Anthony, 2000). This may result in a possible lack of support for new policies if physicians perceive them as management-led without adequate consultations (Som, 2005).

According to Rivers and Woodard (1997), conflicts between hospital management and physicians can be prevented or resolved by avoiding controversial decisions that may threaten the interests and autonomy of either group and by agreeing to decisions that hold something for everyone. In addition, the influence of power dependency on interest dissatisfaction might be mitigated by the use of common goals and objectives to stimulate collaboration (Klopper-Kes et al., 2009).

Summarizing, although no studies were found dealing with interest dissatisfaction among hospital managers, convincing data on the relation between power dependency and interest dissatisfaction among physicians was found in the surveys of Degeling (2006) and Paul Leigh (2002), and the case studies described by Cohn (2005) and Som (2005). In general, these studies conclude that the growing dominance of the business-like healthcare logic has severely altered the relationship between managers and physicians in hospitals. Power dependencies have shifted and intensified in favor of hospital managers. The diminished economic autonomy of physicians and continuous efforts to bring clinical care within a management framework are associated with interest dissatisfaction among physicians. Their level of dissatisfaction is dependent on the extent of their subordination to management and the use of structural power to control their clinical practice. Sensitivity to controversial decisions and super-ordinate goals stimulating collaboration between physicians and managers may mitigate the influence of power dependency on interest dissatisfaction. In the following sections we will relate these concepts of power dependency and interest dissatisfaction to value commitments and entrepreneurial orientation.

Power dependencies, value commitments and entrepreneurial orientation in hospitals

"I always aimed to provide the highest quality of care. However, hospital management made it hard for me to do so. Now, in my own clinic, I have the freedom to work according to the highest standards."

Quotation from interview with a surgeon, the Netherlands, November 2011.

Nine papers were found dealing with the relation between power dependencies and value commitments in hospitals. An overview of the review results is included in Table 2, which is available as a web-accessible file (Appendix A).

Based on their survey among 1221 physicians, Floyd, Kramer, and Born (2005) suggest that physicians driven by a defensive value commitment are more willing to leave their profession than to change the way they practice. In reality however, physicians may even turn into clinical directors participating in hospital management despite their defensive value commitment, as Buchanan (1997) reports on the basis of in-depth interviews with six clinical directors and nineteen hospital managers.

Ong and Schepers (1998) report that physicians who continue in their medical profession despite the changes brought about by the business-like healthcare logic may choose to leverage their position as sole supplier of essential knowledge and skills to protect their interests. A more explicit strategy driven by a defensive value commitment is to invoke the help of the board of trustees or to start lawsuits to stop hospital management adopting principles of the business-like healthcare logic (Feinstein, 2003).

Thorne (2002) provides examples in her in-depth case study of the struggle for power between physicians and managers in the British National Health Service, showing how physicians are pushed to explicitly adopt elements of the business-like healthcare

Please cite this article in press as: Koelewijn, W. T., et al., Intra-organizational dynamics as drivers of entrepreneurship among physicians and managers in hospitals of western countries, *Social Science & Medicine* (2012), doi:10.1016/j.socscimed.2012.03.055

logic they intended to resist to maintain their professional autonomy. As a result, these physicians may attend business schools to acquaint themselves with the concepts of business-like healthcare or establish their own clinics or healthcare system based to some extent on the logic of medical professionalism (Feinstein, 2003). By integrating managerial functions in their own set of responsibilities, physicians' dependence on the managerial power of others decreases.

Finally, as Berenson, Bodenheimer, and Pham, (2006) and Fletcher (2005) point out, physicians can have a transformative commitment to their traditionally dominant logic of medical professionalism. Attracted by the prospect of additional sources of income and autonomy over working conditions, many physicians in the US, chose to become medical entrepreneurs. Fletcher (2005) reports how physicians invest in enterprises delivering ancillary medical services while Berenson et al. (2006) provides examples of physicians investing in specialty clinics or outpatient centers that compete with hospitals. This increases the need for the adoption of entrepreneurial values. However, as cross-sectional research by Bhuian, Menguc, and Bell (2005) among 231 US hospitals shows, both hospital managers and physicians should consider the implications. As overly strong and explicit entrepreneurial values are associated with lower hospital performance, moderate entrepreneurship may provide the best results.

Unfortunately, we did not find studies on joint entrepreneurial activities by both physicians and managers in addition to the influence of value commitments on entrepreneurship by physicians. Neither did we encounter studies concerning the drivers and entrepreneurial orientation that cause hospital managers to engage in entrepreneurship.

Although our review uncovered only limited empirical material concerning the influence of power dependencies on the transformative commitment of physicians, the most convincing studies we found were the survey by Berenson et al. (2006), and the case study by Thorne (2002). Increased power dependence on hospital managers has heightened both transformative and defensive value commitments among physicians. As part of a transformative value commitment, physicians may be drawn to become medical entrepreneurs and open specialty clinics by the prospect of additional income and autonomy. As part of a defensive value commitment, physicians are pushed to embrace certain elements of the business-like healthcare logic to effectively protect their professional autonomy. This last finding relates well to the notion of custodial strategy (Ackroyd, Hughes, & Soothill, 1989) in which managerial practice is embraced by professional interests to maintain the status quo as defined by the professional community.

Relation between interest dissatisfaction, value commitments and entrepreneurial orientation in hospitals

> *"The raison d'être of management is to facilitate physicians. However, they expected me to facilitate them, a situation that became unbearable. Since I believed I could do better at organizing things than managers, I started my own clinic."*

Quotation from interview with a dermatologist, the Netherlands, August 2011.

We found six papers that dealt with the relation between interest dissatisfaction and a transformative value commitment in hospitals. An overview of the review results is presented in Table 3, which is available as a web-accessible file (Appendix A).

According to the reviewed articles, there seems to be a positive relation between the presence of two rival logics, interest dissatisfaction and a transformative commitment. Based on their extensive research, Reay and Hinings (2009) conclude that separate identities embedded in different logics may be maintained "through pragmatic collaborations" while executing tasks and responsibilities. In addition, Hoogland and Jochemsen (2000) indicate that despite pragmatic collaborations, organizational members who continuously experience the presence of a rival logic will focus their interest dissatisfaction on the other group, which is held responsible for diminished autonomy or the unfavorable distribution of resources.

Research by Pham (2004) among 90 physicians being exposed to managed care reveals that in the course of the process in which health plans began imposing restrictions on their clinical autonomy, physicians increasingly found themselves dissatisfied with the role of "double agents", with potentially conflicting responsibilities to patients and insurers. Over time, their interest dissatisfaction channeled into both a defensive value commitment toward the business-like healthcare logic and a transformative commitment among physicians toward the traditional logic of medical professionalism. Both resulted in practices based on a hybrid logic of medical professionalism combined with entrepreneurship derived from the business-like healthcare logic (Pham, Devers, May, & Berenson, 2004; Stone, 1997; Volz, 1999).

Hospital performance benefits from the ability of management to relate to the individual interests and value commitments of physicians. Wood, Bhuian, and Kiecker (2000) reports on the basis of a cross-sectional survey among 237 US hospital managers that senior management's ability to develop an organization-wide market orientation and entrepreneurship positively influences performance: "Organizational entrepreneurship must be supported by actively encouraging new product idea generation, implementation of new methods and techniques in the delivery of health-care services" (p.222). This allows physicians holding different value commitments to participate in hospital-wide entrepreneurial initiatives.

Summarizing, our review yielded limited results concerning the relation between interest dissatisfaction and value commitments. No results were found on the relation between interest dissatisfaction and entrepreneurial orientation. Still, Volz (1999) provides insights on the relation between interest dissatisfaction and defensive or transformative value commitments. Interest dissatisfaction can stimulate entrepreneurial activities among physicians holding a defensive or transformative value commitment. In this respect we reason that the type of value commitment determines whether entrepreneurship is need-based or opportunity-driven. This represents a novel observation as need-based entrepreneurship is generally associated with low incomes and unemployment (Ritsilä & Tervo, 2002).

Finally, physicians' involvement in the entrepreneurial activities of hospitals is important as research suggests that active development by hospital management of both a hospital-wide market orientation and entrepreneurship is related to higher performance.

Discussion

We investigated the influence of intra-organizational dynamics among managers and physicians on entrepreneurial behavior in a hospital setting. Based on the neo-institutional model of Greenwood and Hinings (1996) we derived three research questions, and we will summarize the results accordingly. Finally, we will provide suggestions for further research.

First, we found that contextual changes have considerably altered the relation between managers and physicians in hospitals as dependencies have shifted and intensified. Physicians' economic autonomy has been diminished while there have been continuous efforts to bring clinical care within a management framework. This is associated with interest dissatisfaction among physicians.

Please cite this article in press as: Koelewijn, W. T., et al., Intra-organizational dynamics as drivers of entrepreneurship among physicians and managers in hospitals of western countries, *Social Science & Medicine* (2012), doi:10.1016/j.socscimed.2012.03.055

Second, our review indicates that growing power dependence on hospital managers has heightened both defensive and transformative value commitments among physicians. As part of a defensive value commitment, physicians can be pushed to defend their position and autonomy by adopting the entrepreneurship entailed by the business-like healthcare logic to protect their position and autonomy effectively. As part of a transformative value commitment toward their traditional logic of medical professionalism, physicians can be attracted to entrepreneurship by the prospect of increased autonomy and income. Both commitments can apparently lead to the same outcome, although the physician holding a defensive commitment might be confronted with the very business logic he wanted to escape in the first place. This is supported by the work of Lega and Depietro (2005), describing how hospitals over time, seemingly inevitably, assume the form of professional bureaucracies.

Third, literature reveals that besides power dependence, interest dissatisfaction can also stimulate entrepreneurial activities among physicians holding a defensive or transformative value commitment. In addition, literature suggests that management can improve hospital performance by developing an organization-wide market orientation and actively seeking the involvement of physicians in the entrepreneurial process, from idea generation to the implementation of new health services.

Finally, we contribute to current literature by adding intra-organizational factors as drivers of necessity-based entrepreneurship. Until now, necessity-based entrepreneurs were mainly associated with low wages and unemployment.

Our approach has resulted in a unique and integrative contribution to the current literature on entrepreneurship of physicians and hospital managers, despite rendering limited results. Still, only initial support was established for the hypotheses derived from the model of Greenwood and Hinings, and this should be considered as a starting point for further methodological testing. Therefore, we propose to operationalize interest dissatisfaction, power dependence and value commitments and to test them in larger descriptive studies, preferably longitudinally in a hospital setting.

Finally, we know little about the exact sequence of activities in the process resulting in physicians' entrepreneurship, including interactions and decision-making processes of physicians and managers to realize entrepreneurial initiatives. Qualitative research addressing these questions would provide important additional insights into the question as to how and when entrepreneurship takes place in a hospital setting.

Appendix A. Supplementary material

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.socscimed.2012.03.055.

References

Abernethy, M. A., & Vagnoni, E. (2004). Power, organization design and managerial behaviour. *Accounting, Organizations and Society, 29*(3–4), 207–225.

Ackroyd, S., Hughes, J. A., & Soothill, K. (1989). Public-sector services and their management. *Journal of Management Studies, 26*(6), 603–619.

Berenson, R. A., Bodenheimer, T., & Pham, H. H. (2006). Specialty-service lines: salvos in the new medical arms race. *Health Affairs, 25*(5).

Bhuian, S. N., Menguc, B., & Bell, S. J. (2005). Just entrepreneurial enough: The moderating effect of entrepreneurship on the relationship between market orientation and performance. *Journal of Business Research, 58*(1), 9–17.

Braithwaite, J., & Westbrook, M. T. (2004). A survey of staff attitudes and comparative managerial and non-managerial views in a clinical directorate. *Health Services Management Research, 17*(3), 141–166.

Buchanan, D., Jordan, S., et al. (1997). Doctor in the process. The engagement of clinical directors in hospital management. *Journal of Management in Medicine, 11*(2–3), 132–156.

Burgelman, R. A. (1983). A process model of internal corporate venturing in the diversified major firm. *Administrative Science Quarterly, 28*(2), 223–244.

Castellani, B., & Wear, D. (2000). Physician views on practicing professionalism in the corporate age. *Qualitative Health Research, 10*(4), 490–506.

Cohn, K. H., Gill, S. L., & Schwartz, R. W. (2005). Gaining hospital administrators' attention: ways to improve physician–hospital management dialogue. *Surgery, 137*(2), 132–140.

Currie, G., Dingwall, R., Kitchener, M. J., & Waring, J. (2012). Let's dance: organization studies, medical sociology and health policy. *Social Science & Medicine*, .

Currie, G., Humpreys, M., Ucbasaran, D., & McManus, S. (2008). Entrepreneurial leadership in the English public sector: paradox or possibility? *Public Administration, 86*(4), 987–1008.

Currie, G., Humpreys, M., Waring, J., & Rowley, E. (2009). Narratives of professional regulation and patient safety: the case of medical devices in anaesthetics. *Health, Risk and Society, 11*(2), 117–135.

Daake, D., & Anthony, W. P. (2000). Understanding stakeholder power and influence gaps in a health care organization: an empirical study. *Health Care Management Review, 25*(3), 94–107.

Degeling, P., Zhang, K., Coyle, B., Xu, L., Meng, Q., Qu, J., et al. (2006). Clinicians and the governance of hospitals: a cross-cultural perspective on relations between profession and management. *Social Science & Medicine, 63*(3), 757–775.

Feinstein, A. R. (2003). Scholars, investigators, and entrepreneurs: the metamorphosis of American medicine. *Perspectives in Biology and Medicine, 46*(2), 234–253.

Fitzgerald, L., & Ferlie, E. (2000). Professionals: back to the future? *Human Relations, 53*(5), 713–739.

Fletcher, T. (2005). The impact of physician entrepreneurship on escalating health care costs. *JACR Journal of the American College of Radiology, 2*(5), 411–414.

Floyd, S. W., Kramer, J. A., & Born, P. H. (2005). Institutional forces in the acceptance of managed care practices by physicians. *Health Care Management Review, 30*(3), 237–250.

Greenwood, R., & Hinings, C. R. (1996). Understanding radical organizational change: bringing together the old and the new institutionalism. *The Academy of Management Review*, 1022–1054.

Hisrich, R. D., & Peters, M. P. (1992). *Entrepreneurship: Starting, developing, and managing a new enterprise*. McGraw-Hill/Irwin.

Hoogland, J., & Jochemsen, H. (2000). Professional autonomy and the normative structure of medical practice. *Theoretical Medicine and Bioethics, 21*(5), 457–475.

Kaissi, A. (2005). Manager–physician relationships: an organizational theory perspective. *The Health Care Manager, 24*(2), 165–176.

Klopper-Kes, A., Meerdink, N., van Harten, W., & Wilderom, C. (2009). Stereotypical images between physicians and managers in hospitals. *Journal of Health Organisation and Management, 23*.

Krauss, S. I., Frese, M., Friedrich, C., & Unger, J. M. (2005). Entrepreneurial orientation: a psychological model of success among southern African small business owners. *European Journal of Work and Organizational Psychology, 14*(3), 315–344.

Lega, F., & Depietro, C. (2005). Converging patterns in hospital organization: beyond the professional bureaucracy. *Health Policy, 74*, 261–281.

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *The Academy of Management Review, 21*, 135–172.

McDonald, R., Waring, J., & Harrison, S. (2006). Rules, safety and the narrativisation of identity: a hospital operating theatre case study. *Sociology of Health and Illness, 28*(2), 178–202.

Miller, D., & Friesen, P. H. (1983). Strategy-making and environment: the third link. *Strategic Management Journal, 4*(3), 221–235.

OECD. (2011). *Health: Spending continues to outpace economic growth in most OECD Countries*. OECD Health Data 2011.

Ong, B. N., & Schepers, R. (1998). Comparative perspectives on doctors in management in the UK and The Netherlands. *Journal of Management in Medicine, 12*(6), 378–390, 322.

Paul Leigh, J., Kravitz, R. L., Schembri, M., Samuels, S. J., & Mobley, S. (2002). Physician career satisfaction across specialties. *Archives of Internal Medicine, 162*(14), 1577–1584.

Pham, H. H., Devers, K. J., May, J. H., & Berenson, R. (2004). Financial pressures spur physician entrepreneurialism. *Health Affairs, 23*(2), 70–81.

Reay, T., & Hinings, C. R. (2009). Managing the rivalry of competing institutional logics [Article]. *Organization Studies, 30*(6), 629–652.

Ritsilä, J., & Tervo, H. (2002). Effects of unemployment on new firm formation: micro-level panel data evidence from Finland. *Small Business Economics, 19*(1), 31–40.

Rivers, P. A., & Woodard, B. (1997). Organizational power and conflict regarding the hospital–physician relationship: symbolic or substantive? *Health Services Management Research, 10*(2), 91–106.

Rundall, T. G., Kaiser, H. J., Davies, H. T. O., & Hodges, C. L. (2004). Doctor–manager relationships in the United States and the United Kingdom. *Journal of Healthcare Management, 49*(4), 251–268.

Saltman, R. B., Busse, R., & Mossialos, E. (2002). *Regulating entrepreneurial behaviour in European health care systems*. Philadelphia/Buckingham: Open University Press.

Saltman, R. B., & Figueras, J. (1997). *European healthcare reform: Analysis of current strategies*. WHO Regional Publications, European Series No. 72. Copenhagen: WHO Regional Office for Europe.

Please cite this article in press as: Koelewijn, W. T., et al., Intra-organizational dynamics as drivers of entrepreneurship among physicians and managers in hospitals of western countries, *Social Science & Medicine* (2012), doi:10.1016/j.socscimed.2012.03.055

Salvadores, P., Schneider, J., & Zubero, I. (2001). Theoretical and perceived balance of power inside Spanish public hospitals. *BMC Health Services Research [electronic resource], 1*(1), 9.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *The Academy of Management Review, 25*(1), 217–226.

Som, C. V. (2005). Nothing seems to have changed, nothing seems to be changing and perhaps nothing will change in the NHS. *International Journal of Public Sector Management, 18*(5), 463–477.

Stone, D. A. (1997). The doctor as businessman: the changing politics of a cultural icon. *Journal of Health Politics, Policy and Law, 22*(2), 533–556.

Succi, M. J., Lee, S. Y. D., & Alexander, J. A. (1998). Trust between managers and physicians in community hospitals. *Journal of Healthcare Management, 43*(5), 397–415.

Sutherland, K., & Dawson, S. (1998). Power and quality improvement in the new NHS: the roles of doctors and managers. *Quality in Health Care, 7*(Suppl.), S16–S23.

Thorne, M. L. (2002). Colonizing the new world of NHS management: the shifting power of professionals. *Health Services Management Research, 15*(1), 14–26.

Volz, D. (1999). How physician networks are selling themselves. *Marketing health services, 19*(1), 30–33.

Warwicker, T. (1998). Managerialism and the British GP: the GP as manager and as managed. *International Journal of Public Sector Management, 11*(2–3), 201–218.

Wood, V. R., Bhuian, S., & Kiecker, P. (2000). Market orientation and organizational performance in not-for-profit hospitals. *Journal of Business Research, 48*(3), 213–224.

Please cite this article in press as: Koelewijn, W. T., et al., Intra-organizational dynamics as drivers of entrepreneurship among physicians and managers in hospitals of western countries, *Social Science & Medicine* (2012), doi:10.1016/j.socscimed.2012.03.055