

Postprint Version	1.0
Journal website	http://www.ingentaconnect.com/content/maney/ihm/2012/00000005/00000004/art00004
Pubmed link	
DOI	10.1179/2047971912Y.0000000021

This is a NIVEL certified Post Print, more info at <http://www.nivel.eu>

How doctor involvement in management affects innovation

JEROEN DAVID HENDRIKUS VAN WIJNGAARDEN, DAAN BOTJE, STEFANIA ILINCA, NATHAN VAN DER WAA, RITA VELOSO MENDES, SUSAN HAMER, THOMAS PLOCHG

ABSTRACT

Much is expected from the (re) involvement of doctors in health care management to boost innovation.

As clinicians may better understand how health services are organized and function, they may be in a better position to identify innovations.

However, a key question is: Whose innovation agenda (i.e. what type of innovations) will be the outcome of clinical leadership? This paper explores this question by looking at examples in three European countries of doctor-led innovations. It shows that innovations are not neutral, but shaped by the agenda of its participants. Although doctors have their own interests and perceptions, these seem to change through their involvement in the management of processes and organizations, becoming broader and overlapping managerial agenda's.

Keywords: Innovation, Clinical leadership, Management

INTRODUCTION

The European health sector is facing major challenges with problems related to an aging population such as an increase in chronic diseases, multimorbidity, and a labor shortage. The current health systems in Europe do not seem sustainable and need to be restructured. To solve these problems all relevant participants have to be involved, be it public sector parties, private sector parties, or organized volunteer work.¹ Much is expected from the (re) involvement of doctors in health care management to boost innovation. As clinicians may better understand how health services are organized and function, they may be in a better position to identify innovations.^{2,3} Also, doctors are expected to ease opposition among their peers.⁴ However, engaging medicine in management has so far shown mixed results⁵ in the limited number of empirical studies that have been done.⁶ Still, there is considerable interest in developed countries in doctors becoming involved in management.⁷ Implicit to these optimistic expectations is the view that innovations are neutral; doctors and managers are

therefore expected to introduce similar innovations that would benefit all stakeholders. In contrast, Adler et al.⁸ (2009) argue that innovations are not neutral, but relational in nature, and thus amendable to power relations and interests. As such, innovations may serve the agenda of different stakeholders. Several studies have shown that professionals will only support innovations which strengthen their power base.⁹ Doctors in management positions may therefore not support innovations that only serve the managerial agenda and are perceived as not relevant for or contradicting professional interests.¹⁰ Moreover, intrinsic to professional occupations is their ability to exercise control over R&D agenda's; molding their outcome.^{10,11} Therefore, it seems relevant to differentiate between innovations that serve the managerial agenda, those that serve the professional agenda, and also mixed forms of innovations that serve both agendas when studying the effects of the involvement of doctors in management roles on innovations. So, although it seems likely that drawing medicine into management will lead to innovations, a key question may be: Whose innovation agenda (i.e. what type of innovations) will be served by clinical leadership? The objective of the working group on innovation in the COST Action research network on 'Enhancing Medicine in Management' (<http://www.dr-inmgmt.eu>) is to conceptualize and explore the relationship between doctor involvement in management and innovation. This paper describes the lessons learned by early career researchers observing healthcare innovations during short-term scientific missions (STSM) in different European countries. The term STSM is only understandable within the context of COST (European Cooperation in Science and Technology). Its objectives are the promotion of exchange within the Action's scientific objectives and to allow researchers (especially junior ones) to go to an institution in another COST country to foster cooperation. The working group on innovation commissioned three STSMs to explore how the group's theoretical thinking on the relationship between clinical management and type of innovation (managerial, professional, and mixed) would hold in practice.¹² Each junior researcher visited a different European country for 1 week and selected a number of projects or organizations to study, using available documents and interviews with key participants; doctors and/or managers. Two researchers looked at doctors in the role of project managers; who manage innovative projects in the Netherlands and in the UK.

The first researcher compared two innovative projects with a clinical focus; a new therapeutic tool or the improvement of the quality of a treatment.

The second studied two projects focused on process innovations, namely on improving the organization of care. The third PhD-student looked at the influence of doctors in line management on innovation in two French hospitals; a doctor-led hospital and a hospital led by general managers.

EXPERIENCES AND REFLECTIONS FROM THE STSMs

Doctors as project managers Both in England and in the Netherlands the introduction of a doctor-led innovation with a clinical focus was studied during the STSMs's. In England an internist initiated an innovative project to help diabetics regulate their blood sugar levels.

Information on blood sugar levels could be made digitally available to the internist, by patients uploading the data from their glucose meter.

Patients with difficulty in regulating their diabetes could send an e-mail and receive advice within 24 hours, thereby also saving a trip to the outpatient clinic. In the Netherlands a medical student and a clinician introduced the use of a computer program for the regulation of glucose and potassium levels for intensive care patients. The program utilizes information from an automated blood gas analyzer to present up-to-date Graphs. Both innovative projects started small and bottom up. Each was introduced within a very short time frame. The projects benefitted from the fact that the physicians could introduce it within their own practice, with their own patients. After a working program was developed of the innovation, it was implemented and fine tuned in practice. The internist in England started solo with a few patients and gradually increased the number of participating diabetics, incorporating his experience to improve the innovation.

The clinician in the Netherlands did a short briefing for the nurses and doctors within his unit and started using the new program. At the beginning it was used parallel to the old system to be able to adapt the innovation and increase usability.

Both projects seemed to generate the intended results. During the evaluation a majority of the diabetics involved in the English project welcomed the innovation as an important step towards self-management.

The nurses and doctors of the Dutch intensive care unit appreciated the new system as it is more efficient and more accurate and it therefore replaced the old system. However, despite the positive results these innovations did hardly spread to other units or other doctors. The internist was even asked by the head of the department to stop with the innovation, as he was the only one using it and thereby disrupting the homogeneity of the care delivered by the hospital. Both projects suffered from the fact that other stakeholders were not willing to support the innovation, as it contradicted their agenda. The project for diabetics was set up to improve quality, but it also had an effect on financing.

To finance the intervention a new tariff needed to be introduced to pay for e-mail contact between doctors and patients. This is a major change in the system and would require a thorough cost-effectiveness analysis for administrators to allow such a change. But no such analysis was done. E-mail contacts may have replaced consults in the outpatient clinic, but the net result is still unclear. The new tariff was therefore not introduced.

To use the innovation, doctors would have to work up to 9 hours a week for free to answer the e-mails and they were not willing to do that. The internist who initiated the project stopped pushing for further acceptance as he was afraid he would be summoned to stop entirely with the project. He now keeps this innovation going by answering the e-mails in his spare time. The Dutch project was resisted by several stakeholders. First the IT department was reluctant to change the infrastructure to incorporate what they regarded as a 'hobbyproject', as no IT specialist was involved. Second, the hospital board resisted the innovation. They were focusing on innovations that could be patented.

This one was based on open-source programs that are free to download and modify. Finally, several doctors from other units distrusted the idea of the automated intervention and opposed it. Both innovations started small and seemed successful when looking at their initial aims, but finally failed in having a real impact because they did not spread.

In the Netherlands two projects were studied with doctor-led innovations that were more focused on processes, namely integration of care. In the past there have been many projects for integrating care processes in the Netherlands especially within hospitals in the form of care pathways. These were often initiated and led by managers to improve both efficiency and quality, by using logistical principles and clinical guidelines as bases for a protocol led pathway. However, doctors were mostly reluctant to make clinical guidelines part of the pathway, afraid of losing their autonomy. Many clinical pathways are therefore focused on optimizing patient logistics not on quality of the content of care. However, the two innovate projects for this study were initiated by doctors. One project involved the introduction of a multidisciplinary team to assess and coordinate care for frail elderly living at home and was initiated by a general practitioner (GP). The other project involves a citywide network of care organizations to coordinate and integrate care for stroke patients; a regional stroke service. Both projects were successfully introduced over a period of several years. The project for the frail elderly was initiated by a GP, but soon involved several GP's, other care workers, but also researchers. Realizing that this innovation would only be successful if it showed to be cost-effective, the GP started cooperating with a research group.

Together they were able to secure a grant to do a pilot and an evaluation. After the study they hope to get structural means to sustain and spread the innovation. From the start the stroke service had a broad aim of improving patient logistics, information logistics, and continuity and quality of care. Realizing that these aims could not be met with only the involvement of doctors, soon other care givers were involved, but also managers and researchers. The initiative started with one hospital, and several long-term care organizations and gradually expanded. For several years the regional stroke network in Rotterdam is now operational, involving the majority of the hospitals in the region.

Comparing the four projects it shows that the involvement of doctors can potentially be beneficial for innovations. They understand the primary processes involved and they can more easily do small experiments within their practice or unit to mold the innovation and making it fit their context.

They also seem to have easier access to their peers.

However, there is a real danger of a too narrow focus on the clinical aspect.

Innovations are seldom purely clinical, in a sense that it only involves actions of care givers. The examples show that clinical innovations need to be imbedded in the processes and procedures that are part of the organization and the system. This also means taking the interests of other stakeholders, responsible for these processes and procedures, into account. The doctors involved in the innovations that had a more process focus (aiming to improve the organization of the care process) seemed to take a broader perspective and integrate other aims and agenda's. Maybe because they were not on their exclusive 'clinical' domain, they realized they needed to incorporate different aims and get other stakeholders involved. These projects seem to be more successful in spreading and sustaining their results.

Doctors as line managers

To study the impact of doctors as line managers on innovation one researcher looked at two types of hospitals in France, as these show a clear difference in doctor involvement in management.

In France there are different forms of hospital governance structures. This is related to the fact that there are both public ($\pm 65\%$) and private hospitals (35%).¹³ Among the privately owned hospitals about half works for profit and half is non-profit.

Among the public hospitals there is little variation.

These hospitals are governed by a CEO who is nominated and appointed by the Ministry of Health. CEO's of public hospitals rarely have a medical background and mostly graduated from top-business schools. When appointed, the CEO is expected to use a standardized management model that is applied in each public hospital in France. The Ministry of Health therefore has a strong hold over the public hospitals. According to the respondents there is little alignment between general management and doctors in these hospitals.

Individual doctors are very independent and autonomous and few doctors take part in general management.

Doctors are represented in the hospital medical board and the board of trustees, but these boards mainly play a small advisory role.

Especially, in general hospitals there is little cooperation among doctors and only weak forms of representation. Teaching hospitals are mostly smaller and there tends to be more cooperation among doctors, although often there is little interest in management because the focus is on treating patients and on research.

The governance structure of privately owned hospitals in France is more diverse. Often clinics have shareholders, but some are set up and owned by the doctors. One of these doctor-owned hospitals was studied. This hospital is owned by 18 of its 70 doctors. All participate in the supervisory board.

The hospital is managed by an executive board in which five doctors participate who still practice medicine part time and who appoint a CEO. All management tasks in the hospital are performed by part-time doctors in the hospital.

Strategic managers from a public hospital and from the doctor-owned hospital were interviewed about how doctors and managers play a part in improving the quality of care. In the public hospital, managers and doctors had a very different focus when it concerned quality. Doctors focused mainly on improving the quality of a treatment and on health outcomes, while managers focused on optimizing processes. As an example one of the respondents recalled a meeting during a quality audit for accreditation where a cardiologist remarked that, first, he was not interested in the accreditation and second that he did not use the electronic patient record they were asking about.

In this hospital, quality seems to be split in two domains, two separate worlds with its own participants, its own agenda's and its own innovations.

In the doctor-owned hospital these domains seemed to be more integrated. Quality is seen more as an integral part of what the hospital does, it is reflected in the treatment of patients and in how processes are organized. Doctors are responsible for optimizing both. However, the focus still seems to be more on innovations that serve the professional agenda. For example; last year's profits were spent on new instruments for their operation theatre.

CONCLUSION

This paper presents some lessons learned on the relationship between clinical management and innovation. No thorough scientific methods were used, but several examples based on a few interviews, were studied during short-term scientific visits

by three early career researchers. The involvement of doctors in management seemed to have several advantages for innovation in our cases; for example, because of their easy access to peers and their insider knowledge of the care process the doctors were able to quickly make necessary adaptations to innovations. However, not all interventions were successful despite their involvement.

In each case non-clinicians were also important stakeholders and they had different views on what made an innovation relevant and worth their efforts. An important reason why some of the innovations failed was that the views of non-clinicians were not represented and accounted for.

As Adler et al.⁸ (2009) suggested, innovations are not neutral but relational in nature, and thus amendable to power relations and interests. Doctors in management positions bring their own agenda to the table, introducing innovations that support professional interests. However, our observations suggest that the perception of what doctors find relevant for their professional interest can change. Doctors only involved in clinical work seemed to have a tendency to focus primarily on clinical skills, treatment, and outcomes as relevant. The doctors that were also involved in line management or in project management concerning process innovations seemed to have a much broader perspective. This may have several reasons. First; these doctors, because they have a broader focus, were (self) selected to participate in the management of processes. Second, they may have become more aware of the interrelationship between organizational procedures, processes, treatment, and outcomes because of their new role. Third, they may have realized that to reach any results in changing processes many different stakeholders need to be involved and their interests need to be incorporated. Finally, when a doctor is in charge of the processes there is less fear of losing autonomy when innovations transcend the divide between organizational processes and clinical treatments.

The involvement of doctors in management is expected to have a positive effect on innovation.

But, the question as to whose innovation agenda (i.e. what type of innovations) will be the outcome of clinical leadership is relevant, as these doctors will have their own interests and perceptions as our observations suggest. It is not straightforward that innovation outcomes will always reflect the agenda of policy makers striving for more efficiency and cost reductions. But it is also not straightforward that they will only focus on clinical skills and outcomes.

Our observations show that the involvement of doctors in management may influence their perception and interests and change their agenda, resulting in new mixed forms of innovations. Future studies will have to show what the net result of doctor involvement on innovations in health care will be.

ACKNOWLEDGEMENTS

This article draws in part on work carried out by Working Group 4 Innovation of the 7th EU Framework Programme COST Action IS0903 'Enhancing the Role of Medicine in the Management of European Health Systems – Implications for Control, Innovation, and User Voice,' chaired by Professor Ian Kirkpatrick. The main objective of the Action is to increase empirical, theoretical, and policy relevant knowledge about the changing role of medical professionals in the management of healthcare and outcomes of this and possible outcomes.

For further information please visit: <http://www.dr-in-mgmt.eu>.

REFERENCES

1. Hubert A, ed. Empowering people driving change: social innovation in the European Union. Bureau of European Policy Advisers (BEPA), European Communities. Luxembourg: Publications Office of the European Union; 2011.
2. Berwick DM. Disseminating innovations in health care. *JAMA* 2003;289:1969–75.
3. Brach C, Lenfesty N, Roussel A, Amoozegar J, Sorenson A. Will it work here? A decision makers guide for adopting innovation. *AHRQ* 2008:45.
4. Sheaff R, Rogers A, Pickard S, Marshall M, Campbell S, Sibbald B, et al. A subtle governance: 'soft' medical leadership in English primary care. *Sociol Health Illn* 2003;5:408–28.
5. Neogy I, Kirkpatrick I. *Medicine in Europe: lessons across Europe*. Leeds: Centre for Innovation in Health Management, University of Leeds; 2009.
6. Ileri S, Walshe K, Benson L, Mwanthi M. A qualitative and quantitative study of medical leadership and management: experiences, competencies, and development needs of doctor managers in the United Kingdom. *J Manag Mark Healthc* 2011;4:16–29.
7. Braithwaite J, Finnegan TP, Graham EM, Degeling PJ, Hindle D, Westbrook MT. How important are quality and safety for clinician managers? Evidence from triangulated studies. *Clin Governance Int J* 2004;19(1): 34–41.
8. Adler PS, Kwon SW, Heckscher C. Professional work: the emergence of collaborative community. *Organ Sci* 2009;2:359–76.
9. Akroyd S, Hughes JA, Sothill K. Public sector services and their management. *J Manag Stud* 1989; 26(6):603–619.
10. Plochg T, Hamer S. Innovation more than an artifact? Conceptualising the effect of drawing medicine into management. *Int J Health Care Manag* 2012; 5(4):189–192.
11. Sternberg RJ, Horvath JA. Tacit knowledge in professional practice. Researcher and practitioner perspectives. Mahway, NJ: Lawrence Erlbaum Associates; 1999.
12. Plochg T, Klazinga NS, Starfield B. Transforming medical professionalism to fit changing health needs. *BMC Med* 2009;7:64.
13. Chevreur K, Durand-Zalenski I, Bahrami S, Hernández-Quevedo C, Mladovsky P. France: health system review. *Health Syst Transition* 2010;12(6): 1–291.