HOW LEAD CONSULTANTS APPROACH EDUCATIONAL CHANGE IN POSTGRADUATE MEDICAL EDUCATION

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ABSTRACT

Context
Consultants in charge of postgraduate medical education in hospital departments (‘lead consultants’) are responsible for the implementation of educational change. Although difficulties in innovating medical education are described in the literature, little is known about how lead consultants approach educational change.

Objectives
This study was conducted to explore lead consultants’ approaches to educational change in specialty training and factors influencing these approaches.

Method
From an interpretative constructivist perspective we conducted a qualitative exploratory study using semi-structured interviews with a purposive sample of 16 lead consultants in the Netherlands between August 2010 and February 2011. The study design was based on the research questions and notions from corporate business and social psychology about the role of change managers. The interview transcripts were analysed thematically using template analysis.

Results
The lead consultants described change processes with different stages, including cause, development of content, and the execution and evaluation of change, and used individual change strategies consisting of elements, such as ideas, intentions and behaviour. Communication was necessary to the forming of a strategy and the implementation of change, while the nature of communication was influenced by the strategy in use. Lead consultants differed in their degree of awareness of the strategies they used. Factors influencing approaches to change were: knowledge, ideas and beliefs about change, level of reflection, task interpretation, personal style, and department culture.

Conclusions
Most lead consultants showed limited awareness of their own approaches to change. This can lead them to adopt a rigid approach, whereas the ability to adapt strategies to circumstances is considered important for effective change management. Interventions and research should be aimed at enhancing the awareness of lead consultants of approaches to change in postgraduate medical education.
INTRODUCTION

Clinical departments are required to introduce changes in postgraduate medical education (PGME), to align specialty training with changing societal demands and new educational insights.1-5 Although details and terminology vary between countries, responsibility for specialty training in a hospital department generally rests with a senior consultant of the department, such as the local site director in the United States and Canada and the consultant responsible for education in Denmark. In this paper we use the term ‘lead consultant’ to designate this role.

Lead consultants are responsible for the quality of specialty training in their department. They are in charge of introducing programmatic changes into the actual residency training. They can also adjust daily practice of training to their own insights, within the boundaries of the official residency programme. Further, they are responsible for the assessment of the residents in accordance with modern assessment methods. Despite their responsibilities regarding changes in residency training, the approaches to change used by lead consultants are under-researched.

Change of organisational routines gets abundant attention in domains outside medicine, such as corporate business and social psychology. Theories about the complexity of change contain concepts like coalitions and power blocks6 and ambiguity in organizations.7 Recommendations to achieve change usually involve the role of the change manager, which is generally considered to be crucial.6-9 Important themes for this role in change management are leadership style10 and communication.11 A manager’s or leader’s beliefs and assumptions about change7;12 are regarded to affect his style. These concepts and recommendations about change may also be relevant to medical education and to the role of lead consultants as leaders of change.

Many reports about medical education reform have stressed the necessity of attention for the change process.13-18 Various of these reports reflect on whole change processes and emphasize important issues, such as attending to different phases of change.19;20 Other reports focus on factors of the person in charge of change, such as leadership qualities21;22 and attitudes of deans like commitment.
and patience\textsuperscript{23}, and skills like communication.\textsuperscript{24} However, most studies have focused on the role of administrators of medical education programmes. Few studies have specifically examined the role of lead consultants.\textsuperscript{25} Knowledge of lead consultants’ current approaches to change could identify important issues for their approaches to effectively reach and sustain changes in PGME.

We used an exploratory qualitative study design informed by concepts of change management from corporate business and social psychology. Semi structured individual interviews with lead consultants were conducted and analysed to explore the research questions: Which approaches to changes in specialty training are used by lead consultants? What factors influence these approaches?

**METHOD**

**Setting**

The study was performed in the Netherlands, where competency-based programmes were being introduced in postgraduate specialty training at the time. The new programmes have to comply with general and specialty-related national guidelines. The latter are developed by the national professional societies of the different specialties.

Training is organised at the level of hospital departments, which have considerable autonomy in determining delivery methods and scheduling of training, provided they comply with the above-mentioned guidelines. Residents undertake several training posts in a university hospital and affiliated teaching hospitals. All consultants in a hospital department contribute to training in the workplace. Lead consultants have final responsibility for delivery, organisation and quality of training in their departments, and the lead consultant in the university hospital coordinates the overall programme. Lead consultants are appointed by the Dutch Central College of Medical Specialties (CCMS). Specific management training is not required for the position. Length of tenure was the main criterion for appointment until 2011: lead consultants need to have been a consultant for at least five years, not specifically in the same department. Usually, they have functioned as assistant lead consultant for
some years prior to their post as lead consultant. Often, they already had a natural leading role within the team of consultants.

**Design**
The study was performed from a constructivist point of view with an interpretative phenomenological epistemology.\(^{26,27}\) Based on the notion that social phenomena are constructed by communal meaning-making about those phenomena, we aimed to construct insightful accounts of lead consultants’ approaches to change, rather than to identify the ‘true’ nature of lead consultants’ approaches to educational change. Because management of change by lead consultants is an under-researched area, we conducted an exploratory qualitative study using semi-structured interviews. We interviewed consultants individually, because we expected that this would encourage more openness of responses than group interviews.

**Research team**
The daily research team consisted of three junior doctors/PhD students, a resident in obstetrics-gynaecology with a PhD in medical education, and a professor of medical education who is a lead consultant gynaecologist. The supervising team consisted of a professor of medical education, who is a psychologist, a professor of quality assurance in medical education, who is a medical doctor, and a lead consultant gynaecologist. The professors and lead consultants all regularly lead or engage in reform initiatives for medical education in the Netherlands or international. The main researcher and one other PhD student both participate in national initiatives for reform in PGME. None of the team members is formally educated as a change manager.

**Participants and procedure**
Between August 2010 and February 2011, the main researcher (JF) interviewed lead consultants with at least one year’s experience in this role. Potential participants were identified from lists of lead consultants distributed by the national societies of the different medical specialties. Because we were interested in variety of approaches, we interviewed a purposive sample of lead consultants from different hospitals and
different specialties, i.e. surgical specialties (obstetrics-gynaecology and surgery), internal medicine and radiology.

Of 34 lead consultants whom we invited by email, sixteen agreed to participate, eight did not respond, eight refused to participate due to lack of time (3), lack of interest (3) or for unspecified reasons (2), and two were excluded from participation because they were no longer a lead consultant. We made an appointment by email or telephone with each participant for an interview in their office. Written informed consent was obtained from all participants, who were assured that the data would be processed anonymously. The study was approved by the ethical review board of the Dutch Society of Medical Education (NVMO-ERB).

**Interviews**

The interview questions were based on the research questions and on concepts relating to change management from corporate business and social psychology. Since in those fields the role of the change manager is considered important for effective change management, concepts such as leadership style, approach fitting context and the influence of beliefs about change were included in the interview guide to explore in the approaches to change of lead consultants. We used semi structured interviews with open-ended questions to accommodate the exploratory goal of the study.

Pilot interviews with two lead consultants who did not participate in the study resulted in an additional introductory question about changes experienced during the past two years. The aim of this question was to prevent generalisation in the answers. This resulted in the following interview guide:

1. Tell me about any changes or innovations in residency training in which you were involved during the past two years.
2. How did you approach the change in / the introduction of [example]?
3. To which elements did you pay attention in order to successfully change [example]?
4. How did you lead the change process?
5. Did this approach differ from the one you used in one of your other examples? If so, in what way and why?
6. Would you share with us any ideas about possible influences that shaped your approach?

Analysis
The interviews were transcribed verbatim. For respondent validation, we asked the participants to comment on a one-page summary of their interview. Twelve out of sixteen participants responded and agreed on the main content of the summaries. We analysed the data using template analysis\textsuperscript{28,29}, which involves creation of a template: a list of codes representing themes, which reflects the (hierarchical) relationships between the themes as conceived by the researcher. Since template analysis is a technique rather than a methodology, it can be used in studies based on different epistemological positions, including constructivism. It also enables researchers to be explicit about their assumptions about possible themes in the data. The analysis starts from an ‘initial template’ containing \textit{a priori} themes based on the researchers’ assumptions and/or themes derived from the initial coding of part of the dataset. This template is then modified by iteratively adding, deleting and reorganising themes as coding continues.

The main researcher (JF) coded the data and created the template. The initial template combined topics from the interview guide and themes resulting from the analysis of the first three transcripts. During a discussion of this template by the whole team, the level of detail was determined. During continued coding and development of the template, the research team met several times to look for additional themes and prevent early narrowing of ideas. For the same purpose, a second researcher (MW) coded the transcript of the seventh interview. Theoretical saturation was reached after coding of fourteen transcripts. At this point, the research team discussed possible relationships between codes until agreement was reached. The two remaining interviews were coded to finalise and confirm the final template. All coding was done using qualitative data analysis software (MaxQDA, Marburg, Germany).
RESULTS

All participants were male and they were from four university hospitals and six teaching hospitals: six lead consultants in a surgical specialty (four obstetrics/gynaecology, two surgery), five internal medicine consultants and five radiology consultants. The participants from the three different specialties had been lead consultant for a mean duration of eight, five and eight years respectively. Their mean age was 55 (range 50-64), 53 (range 47-59) and 50 (range 42-56) years respectively. The participants’ accounts varied considerably in the changes they described, their approaches to change and the depth of their accounts. We found no systematic differences between specialties, hospitals or age of the lead consultants with respect to the content of their approaches.

In order to show the variety in consultants’ experiences, we first describe the types of change they reported. Next we report on their approaches to change, followed by a discussion of factors that influenced these approaches. The results are illustrated by examples and quotes from the interviews.

Types of change

The participants mentioned different types of change, ranging from concrete changes, such as switching from paper to electronic resident portfolios or changes in on-call schedules, to more general changes like creating a better educational climate during handovers. Changes also differed in that some were externally imposed, while others were induced by local and personal initiatives. New national regulations, such as the nationwide introduction of a standard form to record feedback, were frequently mentioned as an external cause of change; local and personal initiatives included a lead consultant’s initiative to offer residents the opportunity to talk to a psychologist once a year and steps to improve cooperation with colleagues from another specialty.
Approaches to change

Process of change in stages

When talking about their efforts to implement change, consultants talked about processes of change consisting of different elements. In many accounts, mention was made of stages of change processes.

The analysis revealed distinct types of stages: the cause of change, formulation of concrete changes, the actual execution of change and evaluation.

The causes of change that were mentioned can be characterised as official external causes or causes originating within the local organisation. The former include the introduction of a standard feedback form imposed by external regulations, while examples of the latter were residents asking for more teaching moments or the initiative of a lead consultant who believed that residents learn best from examples.

Concrete changes are formulated in response to the above-mentioned causes, for example the decision to introduce the new feedback forms, the decision to shorten handover moments in order to free up time for lectures and more attention during bedside teaching for demonstrating physical examination.

The execution of change involved the moment when the new forms actually came into use and the scheduling of a lecture after morning report and of more bedside teaching by consultants.

Although execution can be the final stage, it may be followed by evaluation and/or adjustment of the change. For example, when the feedback form turned out to be very time consuming, the lead consultant advised that only one feedback category should be addressed at a time.

Strategy and communication

During the analysis we noted that every lead consultant’s approach to change consisted of a characteristic set of elements, such as views, intentions and behaviour. We will refer to this as the consultant’s strategy.

A strategy applies to both the content and the execution of the process of change. For example, based on the notion that change should not be abrupt, one lead consultant introduced change gradually:

“You have to phase it. And make sure they don’t see it [the whole process] at once.” (participant 9)
Communication was important regarding strategies. We identified three aspects of its role: 1) communication during strategy formation, consisting of gathering information about the issues and the people involved, 2) communication aimed at enabling the lead consultant to carry out his strategy, 3) the effect of a consultant’s change strategy on the nature of communication.

Strategies were dynamic in that they could vary depending on the specific change process and alter in the course of a particular change process.

**Awareness**

The participants differed in the extent to which they showed awareness of the nature of the approaches they described, such as planning a strategy and the stages of the change process. Some consultants talked about different aspects of their approach without explicitly identifying these as stages or strategy. Nevertheless, irrespective of their level of awareness, all consultants clearly used a strategy in their reasoning and acting to achieve change.

“The way it eventually happens depends on whether you can motivate people, whether you can explain it to the people so that they get it.”

(*participant 8*)

Their accounts showed a certain order in which actions were performed, although many did not deliberately divide the change process into different stages. Different levels of awareness were also evident in the consultants’ descriptions of strategy development, ranging from conscious advance deliberation to spontaneous emergence during the process. One consultant, for example, deliberately planned a strategy based on his belief that people only change when motivated. He therefore sought ways to create enthusiasm for and engagement with the implementation of the above-mentioned feedback form, and invited an enthusiastic user to the department to explain its use and point out its educational benefits.

**Influencing factors**

We identified several factors that affected the consultants’ approaches to change. These factors had a direct effect on a consultants’ approach to change and an indirect effect on other factors. We will describe the main factors and related interactions.
Factors originated from within the lead consultant (personal factors): knowledge, task interpretation, ideas and beliefs about change, levels of reflection and personal style, and from the environment, departmental culture in particular.

Knowledge
An important influence was the lead consultant’s knowledge about change processes, strategies, elements of strategies and communication. Such knowledge seemed to influence consultants’ awareness of the content of their own approaches (stages and strategies as well as communication). Lead consultants who lacked this type of knowledge seemed to have a limited repertoire of approaches to change.

“I don’t think people have strategies, I think everyone just acts in their own way. I’ve never attended a course in communication, so I just communicate the way I’m used to and the way I think is right. I don’t have any, I don’t know, I don’t have any deeper thoughts on that.” (participant 10)

Ideas and beliefs about change
The lead consultants held specific views with regard to other people’s perceptions of change and consequently about the best ways to get people to accept change.

“People like things to be uncomplicated. And everything that comes unexpectedly is experienced as a threat or as something unpleasant. So you have to remove everything that is unexpected (...) Everything that’s new is scary. So you have to make new things look like they are old.” (participant 9)

Views regarding ways to motivate people to accept change led consultants to stimulate interest or enjoyment in the task (intrinsic motivation) or to apply external pressure (extrinsic motivation).

Lead consultants also had ideas about change for themselves. Some viewed change as a burden; others saw it as a positive challenge.

“I solemnly believe that you should always work on what we are actually doing, what we could possibly change, what could make things more fun, and a little better [...]” (participant 12)

Strategies were designed in accordance with a lead consultant’s ideas and beliefs about change, which are influenced by knowledge about other people’s ideas and approaches to change.
Levels of reflection

The lead consultants reflected on results of and situations during change processes on one of three levels. They attributed failure or success to circumstances and other people (externally directed reflections) or to their own behaviour and actions or their own capabilities (internally directed reflections). Lead consultants who reported internally directed reflections, usually also reported efforts to adjust their approaches.

“With me the rub is, and I’m very well aware of that: I’m not very good at working out details. [...] Well, if they don’t do it, I reckon I haven’t made up a good enough plan” (participant 12)

Participants who showed externally directed reflection on the other hand were less inclined to adapt their approach.

“Sometimes you’re working on an easy problem and you still haven’t solved it after six months (...) sometimes unexpected resistance is to blame, or unexpected complexity, or just disinterest of people.”(participant 9)

Task interpretation

The lead consultants expressed different views regarding their obligations and efforts with respect to their post. For example, one consultant, who felt he should adhere to the new guidelines regardless of his own opinion, spent a lot of time incorporating them into the programme. By contrast, a consultant who saw it as his primary responsibility to prepare residents for their careers prioritised supervising residents in the workplace over compliance with new guidelines.

Lead consultants also had ideas about what other people expected of them.

“They look to me when something has to be done regarding the subject of specialty training” (participant 13).

Both aspects of task interpretation influenced strategies.

Personal style

Every lead consultant mentioned personal habits and characteristics with regard to thinking and acting in general, which we labelled personal style.

“I think I have a natural tendency to sloppiness” (participant 14)
Personal style directly influenced aspects of the approach to change, such as communication, or it affected other factors, like the acquisition of knowledge or task interpretation.

**Culture**

The consultants also indicated that culture and customs within the department influenced their approaches. A whole team of consultants being education minded could directly affect strategies (asking others for solutions first) and communication (not having to clarify the importance of attention for education) and indirectly influence other factors, such as task interpretation (considering it normal to delegate educational tasks to others).

**DISCUSSION**

We performed an exploratory study about the approaches used by lead consultants in managing educational change for specialty training in their departments. We found that lead consultants’ approaches to change consisted of (stages of) change processes and change strategies, and that individual consultant’s approaches were mainly characterised by their level of awareness of the strategies they used. We identified several factors that influenced consultants’ approaches to change: knowledge about change, ideas and beliefs about change, levels of reflection, task interpretation, personal style and departmental culture.

**Comparison with the existing literature**

The different stages we identified in consultants’ change processes are in line with stage models of change processes, which are well established in the literature on corporate and educational change. Results of other studies of change processes in medical education also fit with these models. Although different models vary in number and content of stages, there is a common pattern that also emerged from our results: an implementation stage, preceded by preliminary stages and followed by a closing stage.
Our findings about lead consultants’ formation and use of strategies are supported by Henry Mintzberg’s work on this subject.\textsuperscript{31,32} His thesis is that the creation of strategies can not only involve orderly and rational planning in advance, but also involves intuition and creativity during the process. Furthermore, strategies can be formed and used unaware; “a pattern need not result from a plan”.\textsuperscript{32} Likewise, we found lead consultants’ strategies to range from planned and deliberate to spontaneous emergent.

Our results with regard to the influence of lead consultants’ ideas and beliefs about change on the approaches they use are supported by the literature on social psychology and organisational development\textsuperscript{6,7}, where underlying values and beliefs about change have been shown to influence people’s strategies and communication. It is thus considered important for change managers to be aware of their own and others’ change paradigms, since this can help them to attune their approach to the local environment.

Adapting strategies to circumstances is considered important for effective change management in general\textsuperscript{6,9,10} and in medical education.\textsuperscript{33} Our results revealed only one contextual influence: departmental culture. Other factors, such as the persons involved or the nature or goals of change, were not found to be influential. This suggests that lead consultants do not fit their approaches to specific circumstances. This may reflect a degree of rigidity, which may impair the effectiveness of change management.

Our findings regarding lead consultants’ awareness of the strategies they used also relate to the ability to adapt approaches to circumstances. This requires awareness of the effects of one’s actions, and is a key element of learning theories stating that learning entails detection and correction of error. Kolb’s ‘experiential learning’ theory\textsuperscript{34}, for example, claims that it is necessary to reflect on mistakes in order to choose new behaviour to experiment with. Similarly, Argyris and Schön’s ‘single-loop learning’\textsuperscript{35} states that, when something goes wrong, people will look for another strategy that will work within the so called ‘governing variables’ of underlying norms, policies and objectives. Our observation that lead consultants’ awareness of their
actions and strategies as well as reflection on these are prerequisite for detecting options for adjustment of approaches is in line with both Kolb’s and Argyris and Schöns’s models.

Argyris and Schöns ‘double-loop learning’ goes even further by also including the modification of norms, objectives and policies (‘governing variables’): double-loop learning occurs when correction of errors involves the modification of these variables. Again consultants will only be able to engage in this type of learning when they are aware of their beliefs about change, strategies and expectations. They can adapt these variables to deal with discrepancies between their approach and the beliefs of other people involved in the change process or the course of change.

By contrast to reports about change in medical education in which ‘leadership’ was identified as an important element of change management, our results do not mention leadership as such. This may be due to the broad scope of the concept of leadership, which comprises several facets of our results. Yukls’s definition of leadership, “influencing others to understand and agree about what needs to be done ... and facilitating ... efforts to accomplish shared objectives” covers different elements of our findings about lead consultants’ approaches: strategy, communication, beliefs about change and task interpretation. Therefore, our results do not contradict the notion that leadership is important for change, but seem to address different aspects of the concept of leadership.

**Strengths and limitations**

To our knowledge, this is the first study to explore lead consultants’ approaches to change management in specialty training. Our findings are supported by comparable notions about change management from other fields.

Another strength of this study is its methodological rigour. Since little is known about lead consultants’ approaches to change, we appropriately conducted an exploratory study. We built on knowledge from other fields by basing the study design on concepts from the literature on organisational change. We used template analysis, because it allowed us to work from a theoretical basis without having to adhere to themes that turned out to be inadequate.
A limitation of this study is that it was conducted in one country. Since organisation and management of PGME differ between countries, some topics may be less relevant to other settings. Nevertheless, we believe there are sufficient similarities between the organisation of PGME programmes to warrant the assumption that the findings will have some relevance to other settings.

Another limitation is the absence of female lead consultants in our study sample, reflecting the current underrepresentation of women among lead consultants in the Netherlands. Thus our results do not show any differences between the approaches of male and female consultants, which are to be expected based on reported gender differences in leadership.38

Since our data are limited to interviews with lead consultants, the results are likely to present a limited picture of change management in PGME. The consultants’ espoused theory (i.e. explanations of their actions which they would like themselves or others to believe) may differ from their ‘theory-in-use’, i.e. the reasons that actually determine their behaviour.35 In order to present a fuller and more accurate picture our study should be supplemented by observational studies of lead consultants’ approaches to change and studies of the perceptions of other parties involved.

**Suggestions for future research**

Although we have gained some insight into lead consultants’ approaches to change, future research will have to determine which issues cause the most problems or for which aspects of change processes lead consultants would appreciate support. Investigations of the effectiveness of different approaches to change would be helpful in developing specific practical advice for lead consultants. Ethnographic studies might make a valuable contribution to our understanding of lead consultants’ actual practice and its effects.

Because of the increasing contribution of women in health care and medical education, it is to be expected that the number of women in lead consultant positions will increase. Women’s approaches to change management should therefore be addressed in future research.
Implications for practice
It is important for lead consultants to be aware of their approaches to change and of the need to fit their approaches, including their underlying beliefs, to circumstances. Furthermore, it seems that lead consultants would benefit from expanding their repertoire of elements of strategies. Reflection on the effects of elements of their approaches could promote these goals, as would acquisition of theoretical knowledge about management and change processes. Initiators and advocates of change in PGME should pay attention to the implementation and management of change if they are serious about putting theory into practice.
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