An exploration of educational leadership in postgraduate medical education

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INTRODUCTION

In order to become a specialist, physicians undertake postgraduate medical education consisting of work-based learning(1, 2) when working as a doctor under supervision, and through participation in supplementary training such as courses and other formal education. At the clinical department and health care units, the responsibility of the quality of postgraduate medical training is often held by senior consultants. This doctoral project focuses on these consultants; clinicians who occupy formal positions in postgraduate medical education for the purpose of managing and supporting the training of residents. They are hereafter called program directors. Four studies will be conducted to explore the perceptions and experiences of these persons. The doctoral project will contribute with empirical data with the future intention to improve educational quality of postgraduate medical education by strengthening the role for the program directors.

In addition, the personal learning outcomes for the doctoral student to reach during the doctoral education program are to:
- independently be able to conduct a scientific study with qualitative as well as quantitative research methods,
- be able to present and discuss research in dialogue with the research community and the rest of the society,
- co-operate in an international research contexts and have knowledge about the research area on an international level,
- identify knowledge gaps and make a plan to fill this gaps and to
- achieve an ethical and professional attitude as a researcher.

BACKGROUND

The mission of Karolinska Institutet is to contribute to the improvement of human health through research and education. Competent physicians are a part of excellent patient care, which is certainly a part of improved health in society. Competence development occurs both in formal and informal context, where the formal parts consists of undergraduate and postgraduate medical education followed by continuing professional development (CPD)/continuing medical education (CME) after becoming a specialist. Several factors are important for the quality of formal medical education; curriculum, assessment and supervision among others.(3)Educational leadership is one of the important factors that have been identified.(4, 5)
Earlier studies have showed that stakeholders expect the program directors to be the leader of education at departmental level(6) and in the Swedish context, the Swedish Medical Association and The Swedish Society of Medicine emphasize the leading role of residency directors.(7) There is no clear-cut classification of leader or leadership. One definition for understanding leadership in this study is “the process of influencing others to understand and agree about what needs to be done and how it can be done effectively or the process of facilitating individual and collective efforts to accomplish the shared objectives”.(8) This definition brings in a supporting and facilitating aspect of leadership, which is congruent with the aim of the role of the program directors as defined by Swedish authorities.(9)

The role and responsibilities for program directors in Sweden are today quite open and very loosely regulated. In a provision by the National Board of Health and Welfare (9), it is expressed that the program director is “an organizational support function to the head of clinic, supervisors and residencies”. Such a loose and open provision leaves a large room of discretion for each head of clinic and opens up large national variation as well as a variation within a hospital in terms of the role and function of program directors, and no one actually knows what the program directors are doing and how they are perceiving their role.

**Brief overview of existing research**

Only a few empirical studies have previously been conducted about the leadership related to graduate medical education internationally (10, 11) and the number of studies about leadership at postgraduate medical education level is even more limited. Earlier studies have e.g. investigated the expectations of different stakeholders on program directors(6), their leadership style(12, 13), program directors approach to educational change(14), burnout(15), characteristics of program directors in anesthesiology(16) and the tasks and learning strategies of medical educational leaders(17). The latter study concluded that there is a need for further studies to distinguish between practices at different educational levels (e.g. graduate and postgraduate).

As far as we know, there are no empirical studies about educational leadership in postgraduate training in the Swedish context.

**Significance**

The result can be used to reissue regulatory documents for formal functions of the educational leaders; clarify the mandate and authority of the role; directed strategic projects can be initiated to improve the role; it visualizes the group as such during this research which can be a pre requisite to recognize the importance of this group; the research results can be used to design new educational initiatives and it can be used to clarify and visualize expectations that different groups hold on residency directors, that never have been aggregated before due to the lack or research in this area. This will be obtained by information to stake holders as health care providers, decision makers and network of program directors. And above all, since the research is limited in this area internationally, the results will fill a gap in the international research discourse.
AIM AND RESEARCH QUESTIONS

The overarching aim is to understand and clarify the role and tasks of the program directors in postgraduate training. The central unit of analysis is the educational leadership.

The central research questions are:

1. Exploring how program directors are perceiving their role - when and how are program directors executing their educational leadership in the postgraduate training?

2. What are the enablers respectively barriers in the execution of their educational leadership perceived by the program directors?

RESEARCH DESIGN

Epistemology, ontology and methodology

Thomas Kuhn(18) points out that scientific knowledge develops through paradigms. Paradigms can be described as “glasses” through which we look at the world around us and depending on which paradigm we use, we will search for, interpret and present different kind if scientific result. Paradigms can be characterized through how we look upon reality (ontology), how we know something (epistemology) and how we go about to find out something (methodology).(19)

In the current research the objective is to explore how program directors perceive their role, and the project consequently appears within the constructivist paradigm. The ontology is relativism, where there is no objective real world to discover, but instead a socially constructed reality which is dependent on each individual’s subjective experience.(20) The ambition in this project is therefor to understand the world from the research subjects’ point of view. Epistemology answers the questions of what is the nature of the relationship between what is to be known and the researcher. In this project, the researcher is seen as a subject influencing how the data is understood and the research findings as a result of the subjective experience of the research subjects together with the researcher and the theoretical perspectives chosen. The epistemological stance is hence subjective as in the constructivism paradigm.(20)

The choice of methodology in the constructivism paradigm is reliant on the need to capture the subjective experiences of the research subject. Phenomenological research aims to understand the essence of social phenomena from the perspective of those who have experienced it.(21) When choosing methods within this approach, qualitative methods as interviews, focus groups observations or documents are often mentioned.(22) In this project, two interview studies and one diary study is used. In addition to these qualitative methods, a questionnaire will be used in study number III, thus the project is using a mixed-method approach which means that the project contains both quantitative and qualitative data to answer the specific research questions. (23) There are different reasons why using mixed methods (24) of which three has been particularly important in this project:
1. Different methods are one way to enhance the credibility since it allows the researcher to merge the data collected, so called method triangulation.

2. The methods are complementary and contribute to a deeper understanding of the phenomena. The qualitative data provide detailed information about how the role as a program director is experienced, enabling the researcher to explore an earlier unexplored field and emphasize the voices of participants through quotes. The quantitative data will supply the project with descriptive information from a wider population to provide insight into a breadth of experiences. This will also create the possibility of replication to another population to facilitate the comparison of groups.

3. The different methods help in the development of the project, where the result from one project will shape the other method. In this project, the first two studies form a basis for the third study.

In addition, the mixed-method approach enables the doctoral student to gain understanding of different research methods.

To summarize, the current research project is positioned within the constructivist paradigm and based on a phenomenological theoretical framework. The project will use a mixed-method approach, with three qualitative studies and one quantitative study.

**Setting and participants**
The setting is postgraduate medical education programs in Sweden.

Study I and II include a strategic, purposeful sample of program directors from two large hospitals in Stockholm; one university hospital and one large teaching hospital. Study III will consist of all persons registered in a list server of program directors provided by the Swedish Medical Association. Inclusion criteria will be all program directors on a department level responsible for the specialist training (excluding those responsible also for the internship), which is approximated to be 300 persons. Study IV will include a convenient sample of program directors from different postgraduate medical programs in Sweden.

**Data collection**
Data collection in study I and II was semi-structured interviews with program directors in the two large hospitals (n = 17) during February-August 2013. Each interview lasted approximately between 40 and 80 minutes with an average at 55 minutes. The interview guide was developed to cover two different questions: 1. When and how are program directors executing their educational leadership in the postgraduate training? 2. What are the enablers respectively barriers in the execution of their educational leadership? Some of the data was then used to answer the question in study I and other material was used to answer the question in study II.

Data for study III will consist of descriptive questionnaires. The questionnaire will be designed based both on the results of the semi-structured interviews (study number I and II).
and on a modified version of the Leadership Orientation Survey (25) which is designed for measuring leadership styles according to a model theoretical model by Bolman and Deal. (26)

In study IV, data will be collected through reflective diaries where the participants will register performed tasks related to their role as a program director, as well as reflections around performing these tasks. Diaries are useful when wanting personal and still structured responses, and are particularly useful for gathering information about activities that are not noticeable unless one takes notes. (27)

**Data analysis**

In study I, a deductive content analysis was used. Deductive content analysis is used when the analysis is based on existing theory or models in order to test it. (28) In this study it was used to test the suitability of a theoretical model by Bolman and Deal. (26) The deductive analysis process was inspired by Elo and Kyngäs. (29)

In study II and IV data is, respectively will be, analyzed with conventional content analysis. (30) This is an inductive method and includes reading the data, identifying meaning units, clustering meaning units into categories and subcategories and developing themes. (31)

In study III, the program Statistical Package for Social Sciences (SPSS v.22.0) will be used for both descriptive and comparative statistical analyses. The descriptive statistics of the study population will be stratified by roles of the program directors and other background variables. Parametric tests, presupposing normal distribution of the variables, will be used and otherwise will non-parametric tests be chosen. P-value < 0.05 will be considered as significant.

**Summary project review**

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<th>Study</th>
<th>Aim</th>
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<td>I</td>
<td>To explore program directors perceptions of their role in terms of work tasks, and if the theoretical framework of Bolman and Deal is useful in describing these work tasks.</td>
<td>Postgraduate medical education programs at two large hospitals in Stockholm</td>
<td>17 program directors</td>
<td>Semi-structured interviews</td>
<td>Content analysis with deductive approach</td>
<td>Manuscript submitted and under review</td>
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<tr>
<td>II</td>
<td>To explore the enablers and barriers for fulfilling the work tasks of program directors.</td>
<td>Postgraduate medical education programs at two large hospitals in Stockholm</td>
<td>17 program directors</td>
<td>Semi-structured interviews</td>
<td>Conventional content analysis</td>
<td>Manuscript writing</td>
</tr>
<tr>
<td>III</td>
<td>To quantitatively test the hypotheses from study I and II to learn if they are representatives for the whole target group.</td>
<td>Postgraduate medical education programs in various contexts in Sweden</td>
<td>250-350 program directors</td>
<td>Quantitative descriptive questionnaires</td>
<td>Descriptive and comparative statistical analyses</td>
<td>Planning stage</td>
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<tr>
<td>IV</td>
<td>To explore the program directors actual day to day work activities.</td>
<td>Postgraduate medical education programs in various contexts in Sweden</td>
<td>20 program directors</td>
<td>Solicited, structured diaries</td>
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FINDINGS

In study I, the aim was to explore firstly, program directors perceptions of their role in terms of work tasks, and secondly, if the theoretical framework of Bolman and Deal is useful in describing these work tasks. The result showed that the participants’ perceptions of their work tasks involved to structure the education (a structural function), to support and handling relations (a human resource function), to negotiate between different interests (a political function) and finally to influence the culture at the clinic (a symbolic function). Work tasks within the structural function were emphasized, and to some extent also the human resources function, whereas the two other functions were more complementary. The theoretical framework was shown to be useful to describe and organize the different work tasks perceived by the participants. This article was submitted and on review in January 2015.

In study II the aim was to determine which factors are perceived to enable respectively barrier the execution of the work tasks identified in study I. The preliminary result indicates influencing factors within four themes: organizational setting (e.g. departmental characteristics, financial and personal resources and priorities), role conditions (e.g. time for the assignment and access to decisions), interpersonal relations (e.g. communication, trust and support) and individual resources (e.g. the program directors ‘personal characteristics and competence). Further analysis of data as well as manuscript will take place during the spring 2015.

ETHICAL CONSIDERATIONS

Ethical approval for the doctoral project has been applied for accordingly at the local Ethical Review Board but was decided by the Board not to be required, according to protocol 2012/5:10 (dnr 2012/1662-31/5).

In all four studies, the participants will get written information about the purposes of the study, the right to withdrawal from the study at any stage, and assurances about their anonymity. No personal numbers are used in any of the studies.

In study I and II, the information was also made orally at the time of the interview and written consent was obtained from all participants. All interviews were performed in a private room with ensured privacy and confidentiality.

In study III, the software Netigate will be used for data collection. Netigate is storing email addresses for sample and the questionnaire is then constructed in the program. The software allows that the individual responses can be read in relation to an email address, but respondents can also tick a box to be “anonymous”. The data from Netigate will then be exported to SPSS anonymous for statistical calculations.

Previous publications (peer-reviewed)

REFERENCES