1 Introduction

Emergency care units (ECUs) in hospitals are presently confronted with new developments in the demand for care and in the supply of labor. Moreover, financial and legal settings have recently been subject to change. Hospitals seeking to react to these contextual changes need to consider professional, educational, and organizational adaptations in order to maintain a satisfactory performance.

The intention of this study is to determine and analyze factors that influence organizational performance in ECUs in the Netherlands and to deduce recommendations for their organizational design in a changing environment. The most important situational change to be considered is the emergence of new professionals, notably the so-called emergency physician (EP). We compare EPs’ introduction between countries -the Netherlands and the UK- and between different hospitals within the Netherlands. We show which factors influence the successful implementation of this new profession and discuss whether this kind of vertical job differentiation, which enables horizontal integration of tasks from hitherto separate medical domains, can lead to a better organizational performance in hospitals.

1.1 Starting point and problem definition

In 2004 the Netherlands Health Care Inspectorate (Inspectie voor de Gezondheidszorg, IGZ) published a report on the care provided by emergency care units. The report showed that the acute care chain was not satisfactorily coordinated. Especially insufficient was the lack of around-the-clock immediate availability of doctors with appropriate expertise and experience, which was seen to threaten the provision of adequate medical quality. Highlighting the ECU’s grievances, the report raised awareness of the problematic emergency care conditions throughout the country. Yet even before the Health Care Inspectorate’s report, organizational problems and bottlenecks in emergency care units (ECUs) could be observed.

“I stood outside the [emergency] room and read my first clipboard:
Princess Hope, sixteen, black, pain in the stomach. I went blank [...] What did I know about pain in the stomach?
I’d had pain in my stomach, yes, but in a woman it’s different:
too many organs, and the same pain can stand for a decomposing tuna sandwich
or a decomposing ectopic pregnancy that will kill in half an hour.”
(Samuel Shem, 1978: The House of God)
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everywhere in the Netherlands (De Vries 1999). Some of these problems are not specific to the Netherlands and have also been brought up in the international literature (e.g. Doronzynski 2002; Derlet et al. 2001; Graff 1999; Shih et al. 1999). They result from changes in environmental conditions (e.g. Lee et al. 2003, Washington et al. 2002, Lang et al. 1996, Green and Dale 1992, Bianco et al. 2003, Jaarsma-van Leeuwen et al. 2000) and necessitate reflection on job structure and skill mix, in addition to modifications in the workflow and the mix of coordination instruments.

The main changes for ECUs currently are the following: in the past, ECUs primarily focused on trauma patients, but recently, they have been facing a dramatic growth in patient diversity. Consequently, ECUs have become rather generalized departments that have to deal with an increasing variety of medical problems. One of the reasons for this development is the loosening of bonds between patients and “their” general practitioners (GPs) due to improved mobility, urbanization, and tourism (Hebly 1998). In addition, GPs increasingly have to cope with capacity problems. In order to avoid waiting periods, patients refer themselves to ECUs at hospitals (‘self-referrers’) instead of first seeing their GP. A few years ago, the percentage of self-referring patients in a large Amsterdam hospital was as high as 60-70% (Buiter 1999; de Vries and Luitse 1999). In another inquiry, performed at the ECU of the University Medical Center in Groningen in 2001, 42% of the patients came on their own initiative.

Another change ECUs have to deal with concerns patients’ attitudes: generally speaking, people coming to hospitals have become increasingly demanding. They expect prompt and satisfying treatment and they may check the quality by insisting on a second opinion (Dassen 2001, Rieffe and Wiefferink 1995). Moreover, the increased ageing of the population plays a role. More elderly people need to be treated and often, co-morbidity and previous afflictions must be taken into account.

Aside from patients’ behavior, the demands of the labor market and employees have also been subjected to major changes. Doctors who work in the ECUs of large hospitals are usually residents in training to become specialists. In smaller non-teaching hospitals, ECUs are commonly staffed with interns, i.e. doctors who have recently finished medical school, and GP-residents. This causes three problems. First, it causes a high turnover of medical staff working in ECUs, which in turn leads to the instability of routines and extra work for nurses. Second, the doctors working in ECUs
tend to have little experience (de Vries 1999, de Vries and Luitse 1999) and thus specialists often need to be consulted and the total workload increases. Third, in addition to these organizational aspects, problems result from the changing professional supply provided by the labor market. Doctors, especially interns, are becoming an ever more scarce resource. Attracting and keeping qualified doctors forces hospitals to increasingly take the individual employee’s preferences into account. Many young physicians, among which there are a growing number of women, want to work fewer hours (RVZ 2001, p. 55, 60) and would welcome shorter training programs (van Offenbeek et al. 2005). Therefore, current plans are to drastically shorten the duration of residencies by introducing a more intensive and better structured program. Residents will spend their time exclusively on work that directly contributes to the curriculum of their specialty. It will no longer be possible to employ them to do the daily main work of the ECUs.

On the one hand, it is obvious that hospital managers need to revise their traditional views of the occupational structure, training and education, work structure, workflow, and coordination instruments at the ECU (Hebly 1998). On the other, it is difficult to realize changes that affect the role, formal position, educational and professional domain, career, work and income of old-established medical specialists. Informal substitution of medical tasks by other professionals has already been shown to be a widespread phenomenon (Scholten et al. 1999). However, formal delegation of tasks within the medical discipline by vertical job differentiation and between the medical and nursing discipline by task rearrangement is only a recent development and is still controversial (van Offenbeek et al. 2002).

In 1997, a Dutch university hospital started formal educational programs for a new job family, the so-called ‘hospital physicians’. These doctors are characterized by a non-specialist, multidisciplinary three-year training program (Jaspers et al. 1999). Van Offenbeek (2004) has showed that by supporting this initiative, medical specialists themselves are starting to address the fragmentation caused by specialization. According to the long-established specialists involved, the hospital physician does not threaten their own professional domains. EPs in the Netherlands can be defined as a type of hospital physician. The idea of EPs, however, is not Dutch and it is not new. In several countries EPs are recognized specialists and have been working in ECUs for decades. In the USA, for example, EPs started working in the late 1960s, in the UK in the 1970s, and in Australia in the 1980s (Arnold 1999).
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Despite these earlier examples and despite the seemingly analogous terminology, the EP concept differs considerably among countries. It is hence important to provide a definition of EPs in the Dutch context. By developing an EP job description that served as a basis for EP implementation in many hospitals, de Vries and de Goeij (2001, p. 1) put forward a definition at an early stage of Dutch EP development:

“The emergency physician judges as the first medic on the scene the nature of the medical help needed. He/she decides on the medical urgency, and puts the first medical treatment indicated into action. If necessary the emergency physician asks the consulting specialist then available or directly refers through. The emergency physician is responsible for the co-ordination in the reanimation/resuscitation team in the emergency department, and together with the trauma-surgeon carries the responsibility for the co-ordination in the trauma team. The emergency physician works together with the emergency nurses, ambulance staff, administrative staff and all the specialities which are in the hospital.”

The first training program for EPs in the Netherlands was launched in 1998 (Hirschler-Schulte et al. 1999). A university hospital and a number of large teaching hospitals soon followed. During the last few years, interest in educating and employing EPs steadily increased. In 1999, the newly educated physicians established their own professional association. Since 2004, a number of hospitals have joined forces to establish a national accredited educational program for emergency physicians, which is planned to come into action in 2007.

Despite the increasing interest in employing EPs, scientific evidence on their effects for ECU performance in the Netherlands hardly exists and their benefit remains hitherto unproven. The only attempt, put forward by Maas et al. (2007), concludes that EPs contribute to faster treatment times, less diagnostic tests and fewer patient admissions. The authors, however, restrict their study to trauma patients and base their findings on a single hospital with only two trained EPs. Their evidence is hence rather limited. This study fills the existing research gap by presenting a comprehensive investigation of the implementation of EPs in selected Dutch hospitals and their effect on the performance of the ECU.
1.2 **Objective of the study and research questions**

This study has two research objectives. First, it aims to reveal similarities and differences in the development of EPs as a profession and their professional role. Two comparisons are conducted: 1) between the Netherlands, where EPs are newly emerging, and the UK, where EPs have been employed for several decades and which is often referred to as an example for Dutch EPs to follow; 2) between hospitals within the Netherlands. While the unit of analysis in the first instance is countries and hospitals respectively, in the second we compare emergency care systems. The study determines for which organizational configurations and to what extent emergency physicians enable a better fit between contextual characteristics and organizational structure in ECUs, leading to improved organizational performance.

With regard to the first objective, the comparison between the development of the EP profession in the Netherlands and the UK will be based upon the work of critical professionalization theorists (e.g. Freidson 1970, Elliott 1972, Larson 1979, Abbott 1988). The comparison of their role and position in individual hospitals within the Netherlands will follow Lewin’s (1951) “force field” approach. The corresponding research questions are as follows:

(Q1) *How can differences in the development and deployment of EPs be explained?*

(Q1-a) *What are the similarities and differences in the professional development of EPs in the Netherlands and the UK?*

(Q1-b) *Which forces explain the implementation and development of EP roles in individual hospitals in the Netherlands?*

With regard to the second objective, we draw on the theoretical assumptions of the “structural contingency” approach: The better the work structure fits the task environment, the better the organizational performance of a work unit will be (e.g. Van de Ven et al. 1976; Van de Ven and Ferry 1980; Van de Ven and Drazin 1985). The performance of a work unit is therefore determined by a simultaneous fit between a number of contextual and structural variables. This approach has regularly been applied to patient care units (e.g. Van de Ven and Ferry 1980; Alexander and Randolph 1985; Mitchell et al. 1996). We investigate how the characteristics of patient populations, occupational structure, and the organization of the care process...
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relate to a number of indicators of organizational performance in ECUs. The corresponding research questions are as follows:

\[(Q2) \text{ Under which task environmental and organizational circumstances can EPs contribute to improved organizational performance?}\]

\[(Q2-a) \text{ Can EPs contribute to a higher organizational quality of care?}\]

\[(Q2-b) \text{ Can EPs contribute to reducing costs?}\]

\[(Q2-c) \text{ Can EPs contribute to a better working climate?}\]

\[(Q2-d) \text{ Can EPs contribute to better medical quality?}\]

1.3 Structure of the book

In order to provide answers to the research question, this book follows Pettigrew’s (1987) structure of systematizing change. He distinguishes the context, content and the process of change. The chapters in this book cover these three elements: chapter 2 covers context, chapter 4 process and chapters 5-8 content. They are subsequently brought together to a conclusion in chapter 9. A more detailed structure of this book is as follows:

Chapter 2 investigates the development of EPs as a professional occupation in the national context. It compares the EP development in the Netherlands and the UK.

Chapter 3 describes the design that has been applied to the rest of the study. It provides details about the process and the applied criteria for the case selection.

Chapter 4 narrows the focus of the EP-development down to the Netherlands and investigates what forces determine the development process of EPs within hospitals and how these forces shape the way EPs are utilized.

Chapter 5 introduces the theoretical framework that is applied for evaluating the performance of ECUs.

Chapter 6 describes the different methods of data collection and analysis.

Chapter 7 presents parts of the empirical analysis in a comparative way. The cases are described in detail and overviews of the cases’ characteristics of task environment and organizational structure are provided. This chapter acts as a reference for the subsequent chapter 8, which comprises the analysis about the effect of EPs on four performance dimensions.
Chapter 9 summarizes the results of the study. It discusses the findings, draws conclusions about the theoretical implications and formulates guidelines for hospital executives regarding the implementation of EPs. It shows the limitations of this study and raises suggestions for further research.