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Chapter 1

General introduction

Healthcare workers in the field of Obstetrics and Gynaecology (ObGyn) are confronted with numerous changes in society and medical practice. Innovations in various fields rapidly follow one another and alter the environment they live and practice in (Harden, 2007). For example, the care we provide surrounding fertility and pregnancy has been seriously complicated by societal changes like the worldwide epidemic of obesity and the increase in maternal age. Moreover, our possibilities in diagnosing and treating diseases has significantly expanded due to the extraordinary rise of technological developments, which also made patient information digitally accessible for the patient and his caregivers. Furthermore, medical practice has become subject to discussions about cost effectiveness, transparency, market forces, distribution of care to care professionals other than doctors, and patient centeredness (Meyboom- de Jong et al., 2002; Legrand-van den Bogaard & Rooijen, 2009). As a result, the world of ObGyn specialists and their practice have changed significantly. But this practice also needs to continue to change in order to keep up with the changes in societal demands and with the possibilities and needs in medical practice (Working Party of the Royal College of Physicians, 2005).

To preserve a good quality of gynaecological and maternity care, now and in the future, we need ObGyn specialists who are able to provide the appropriate care for this changing society. To reach this goal, future ObGyn specialists need to be adequately trained. This requires the content of their training to be aligned with changing ObGyn practice. In 2008, the Dutch Society of Obstetrics and Gynaecology requested a re-evaluation of the ObGyn training (Teunissen & Scheele, 2012) as several national papers suggested an inadequate alignment of ObGyn training with ObGyn practice (Bleker, 2001). Examples include laparoscopic surgery (Kolkman et al., 2005) and interprofessional education (Dörr & Scheele, 2011).

In this thesis, we used ObGyn training as a case study. This chapter describes the current postgraduate training of ObGyn specialists and reflects on current ObGyn practice to evaluate the current alignment. Next, we discuss how we can tailor the current ObGyn training to keep it aligned with changing society and practice, and we outline the research questions, the methods used, and the research performed.

First of all, current Dutch ObGyn postgraduate training is competency-based.

Competency-based education covers two main aspects. First, it aims to monitor and increase the quality of medical education by increasing transparency in the content and outcomes of medical education and by developing assessment tools to track the progress of a learner (Jones et al., 2001). Second, competency-based education aims to align medical education to the changing content and comprehensiveness of medical practice and thus to maintain the quality of care provided for society. This latter aspect of competency-based education is the focus of the present thesis.

In 1978, the World Health Organization (WHO) stated in a report on curriculum development that medical schools should not only deliver doctors that provide good quality of care, but should also deliver education that enables doctors to *'respond as best as possible to the priority health needs of citizens and society'* (Boelen & Woollard, 2009). Moreover, this kind of education was supposed to educate *'a health professional who can practise at a defined level of proficiency, in accord with local conditions, to meet local needs'* (McGaghie et al., 1978). In line with this, the WHO acknowledged that the content of medical practice had changed significantly. The performance of a doctor who provided

high quality care had become more comprehensive than it used to be and had come to exceed the sole domain of medical expertise (Neufeld et al., 1998)

To establish education that is responsive to societal needs but at the same time acknowledges the extended requirements in the performance of doctors, so-called competency frameworks have been developed, which outline the outcomes of competency-based curricula in medical education. These competency frameworks "*define the qualities and outcomes desired in a 'competent' physician*" (Frank & Danoff, 2007). Examples of these frameworks are the 'Tomorrow's Doctors' of the General Medical Council (GMC) of the United Kingdom (GMC, 2009), the framework of the American Accreditation Council of Graduate Medical Education (ACGME) (Swing, 2007) and the Canadian Medical Education Directions for specialists (CanMEDS) framework (Frank & Danoff, 2007).

The learning outcomes described in these frameworks '*focus on competencies needed by graduates of medical education to meet the needs of those they serve, and effect the outcomes desired in health care*' (Frank & Danoff, 2007). In this, a 'competency' is often defined as '*a complex set of behaviours built on the components of knowledge, skills and attitudes*' (Carraccio et al., 2002).

Comparing the frameworks reveals a strong resemblance in the competencies included in the frameworks and in their content. They all acknowledge that the education of a doctor should be comprehensive, with special attention to competencies other than medical expertise. However, they use different terminologies for the groups of competencies. For example, in America, the framework designed by the American Accreditation Council of Graduate Medical Education (ACGME) describes six domains of medical practice: Patient care, Medical knowledge, Practice-based learning and improvement, Inter-personal and communication skills, Professionalism, and System-based practice (Swing, 2007). The CanMEDS framework, on the other hand, describes seven roles for a doctor: Medical Expert, Communicator, Collaborator, Health Advocate, Manager and Professional (Frank & Danoff, 2007).

Competency frameworks such as those of the ACGME and CanMEDS have come to underpin all of medical education in the Western world (Hodges, 2013) as they emphasize several complex skills in the performance of doctors that stretch beyond medical knowledge. And it are these skills that often fail practicing doctors in their daily practice (Westerman et al., 2010). Both undergraduate and postgraduate medical education curricula have been redesigned to be competency-based and have formulated learning outcomes based on the competencies specified in these frameworks. For example, the CanMEDS framework has rapidly gained worldwide popularity, and its competencies have now been adopted into the medical education curricula of over 25 countries, including Australia, Denmark and the Netherlands (RANZCOG, 2010; Lillevang et al., 2009; Central College of Medical Specialties (CCMS), 2010).

In the Netherlands, the CanMEDS framework was adopted in 2004 by the Royal Dutch Medical Association (KNMG) as the standard for Dutch postgraduate medical training (Central College of Medical Specialties (CCMS), 2010). Consequently, the postgraduate curricula of all Dutch medical specialties had to be redesigned, because they had not been competency-based at all. In 2005, the specialty of Obstetrics and Gynaecology was one of the first specialties in the Netherlands, together with the specialty of Paediatrics, to use

the CanMEDS competency framework for their postgraduate training. The postgraduate curriculum was redesigned to a competency-based curriculum, including the competencies of the CanMEDS framework (Scheele et al., 2008).

Originally, the CanMEDS competency framework had been designed to meet the societal needs in medical practice in Canada, and although the framework has been used by many countries, it is rarely questioned if this Canadian framework meets the local societal needs for their doctor's performance. This is remarkable, since it is known that required competencies are *'bound to local political, social, and economic circumstances, to health needs, to availability of resources, and to the structure of the health care system'* (McGaghie et al., 1978), and the countries inevitably differ in the way they have organized their healthcare, insurance systems and medical education (Schoen et al., 2007; Schoen et al., 2006).

Does this make the CanMEDS framework useless for other countries than Canada? The worldwide use and popularity of the framework probably refutes this. However, it may be necessary to tailor the CanMEDS to the societal needs of a specific country and of a specific specialty to fully meet those needs. Conversely, it could be argued that tailoring is necessary to utilize the full potential of the CanMEDS framework in the postgraduate training of a specific country and specialty. For instance, when focusing on ObGyn in the Netherlands, the importance of some competencies for the practice of an ObGyn specialist might differ between Canada and the Netherlands due to differences in culture, the doctor's role in society, or medical practice. For example, Canada and the Netherlands differ in the number of homebirths and the intensity of collaboration with midwives. These differences among other differences may result in a mismatch between the formal outcomes that the CanMEDS represent and the actual necessary outcomes for the Dutch context.

Hence, to make better use of the CanMEDS framework within the context of Dutch postgraduate training in Obstetrics and Gynaecology, we need to know if the framework needs tailoring to meet the competency needs in our local societal context. To do that, we first need to study what competencies are desired in the performance of a Dutch ObGyn specialist. For this, a critical reflection is needed on gynaecological and obstetrical practice in the Netherlands and the current performance of Dutch ObGyn specialists. A quick glance at gynaecological and obstetrical practice shows many changes and challenges, such as technological developments, sub specialization and feminization of the workforce (Davis, 2006; Hakvoort, 2004; Singh, 2006; Blott, 2004). An urgent problem that attracts substantial attention in the Netherlands is the collaboration between ObGyn specialists and midwives (Posthumus et al., 2013). This problem stands out due to the extensive attention it currently receives within the professional field and in society, but also due to its major impact on the quality of care provided. Research shows an impaired quality of maternity care, which is reflected by a relatively high rate of perinatal death in the Netherlands compared to other European countries (Europeristat project, 2008; Zeitlin et al., 2009; Zimbeck et al., 2009). Subsequent analysis suggested that 25-30% of these perinatal deaths was likely to be caused by substandard care factors concerning problems between the professionals in Dutch maternity care. Among these factors were a lack of structured collaboration causing fragmented and optional collaboration, inadequate communication between the professionals and an insufficient synchronization of the

quality systems of the individual professions (Adviesgroep Zwangerschap en geboorte, 2009; Posthumus et al., 2013).

The collaborative problems in maternity care are not unique for the Netherlands, as it seems to be a commonality for maternity care all over the world. Globally, research reports that collaboration between maternity care professions is difficult and complicated and has negative effects on the quality of maternity care. For example, countries like Australia, Canada, UK, and Sweden (Lane, 2012; Baldwin et al., 1992; Forster et al., 2006; Peterson et al., 2007; Larsson et al., 2009) all acknowledged a troubled relation between maternity care professionals, and all struggle with the question how to improve this collaboration and the adhering quality of care provided.

In their attempts to unravel the problems in the collaboration, researchers often focus on the organizational level of collaboration or on the attitudes of the maternity care professional towards collaboration with the other professionals (Blais et al., 1994; Langton, 1994; Lavender & Chapple, 2004; Miller, 1997; Rooks, 1999). As a result, facilitators and barriers in the organization and relationship are reported and strategies to overcome these hurdles are suggested. However, when reflecting on this literature, a theoretical approach towards investigating the problem appears to be lacking, despite the extensive knowledge and experience within another research field, that of interprofessional collaboration research.

When transcending the field of maternity care and entering the field of interprofessional collaboration research, we see a large amount of research reporting troubled collaborations in various fields of health care and their effects on patient safety (Manser, 2009). Moreover, we find several theoretical models on how to effectuate effective collaboration. For example, Salas describes five core factors (team orientation, team leadership, back-up behaviour, adaptability, and performance monitoring) and three coordinating mechanisms (shared mental models, achievement of mutual trust, and engagement in closed loop communication) that are essential for effective teamwork (Salas et al., 2005). Within the primary care setting, D'Amour has identified the interaction between two domains, four elements and ten factors that are important for interprofessional collaboration. Within the inter-organizational domain, the elements 'governance' (with the factors: centrality, leadership, support for innovation and connectivity) and 'formalization' (using formalization tools and structured information exchange) are important, whereas within the inter-relational domain the elements 'shared goals and vision' (characterized by the factors: 'goals' and 'client-centered orientation versus other allegiances') and 'internalization' (characterized by 'mutual acquaintanceship' and 'trust') are key (D'Amour et al., 2008). The models by Salas and D'Amour provide an insight into the complexity of collaboration. They not only show the factors needed for effective collaboration but also show the interdependency of the factors. From these models it becomes clear that a problem within one of the factors strongly influences the entire process of collaboration and thus the overall outcome of it.

Viewing the findings of maternity care research in the light of these theoretical models, one can easily see a resemblance between these findings and several factors within the models. For example, findings on lack of mutual respect and lack of understanding of the scope of each other's practices (Peterson et al., 2007) are closely related to the factors 'mutual acquaintanceship' and 'trust' in D'Amour's model. Yet, in the ObGyn research on interprofessional collaboration in maternity care a factor is often not interpreted in

connection to other relevant factors. That is unfortunate, since it implies that the connections and interdependencies of these factors with other important factors are missed. Consequently, it might remain unclear what actual problems underlie the troubled interprofessional collaboration causing impaired maternity care, e.g. what factors are problematic, and what would be the best strategies to solve it. For example, as the problems in collaboration clearly involve a specific competency in the performance of the maternity care professionals, which is addressed in their training, an intervention in the training of the maternity care professionals might be an obvious step. After all, the residents of today are the ObGyn specialists of the nearby future. Providing those residents with the skills, attitudes and knowledge needed to handle and solve collaborative problems seems an obvious choice. However, at this moment we do not know what exactly entails the collaborative problems in Dutch maternity care and whether some parts of this problematic collaboration can be solved through the training of the professionals involved.

Research questions:

This thesis aims to clarify whether the current competency-based training of ObGyn specialists adequately prepares them for current and future ObGyn practice and helps to ensure that ObGyn specialists are able to provide the care that society expects and needs. Moreover, in aiming to improve the quality of care provided in current practice, we intend to explore the foundations of the complex collaborative problems to find out if and how the training of ObGyn specialists in certain competencies can help solve these problems. The main goal of this thesis was to study how we can tailor the CanMEDS framework for a local situation. The research questions we aim to answer are:

1. Do the CanMEDS competencies meet the competency needs of Dutch gynaecological practice?
2. How do we get more insight into the collaborative problems in obstetrical care?

To answer our research questions, we chose the method of *strategic planning* as a suitable tool. According to Russell Ackoff, '*planning is anticipatory decision making. It is the process of deciding before action is required*' (Saxena, 2009). And as society and ObGyn practice change rapidly, we would like the competencies learned in ObGyn training to not only meet the needs of current practice, but also to anticipate on the changes in the nearby future of ObGyn practice. We thereby aim to prevent that the competencies within the tailored CanMEDS framework may be outdated before they are actually fully implemented in ObGyn training.

In business management, strategic planning is defined as '*a process of asking and answering questions about the organisation*' and '*a management tool...used for one purpose only; to help an organisation do a better job- to focus its energy, to ensure that members of the organisation are working toward the same goals, to assess and adjust the organisation's directions in response to a changing environment. It is a disciplined effort to produce fundamental decisions and actions that shape and guide what an organisation is, what it does and why it does it, with a focus on the future*' (Saxena, 2009).

In strategic planning, an organisation strives to best prepare itself for known and yet unknown circumstances in the organisation's environment. Goals are set for the future,

and choices are made based on the feasibility and priority of the goals. Next, strategies are developed to reach those goals.

When transferred to medical education, which 'organisation' performs the strategic planning depends on the way medical education is organised in a particular country. For example, the designated institutes to perform strategic planning for undergraduate medical education are probably the medical schools or universities. In Dutch postgraduate education, the organisation is the association in which all specialists of a specific specialty are united and which is responsible for the national postgraduate curriculum of that specialty. For the Dutch ObGyn postgraduate training, this is the Dutch Society of Obstetrics and Gynaecology (NVOG).

Whichever organisation may perform the strategic planning, a proactive stance of those involved in the strategic planning is required to reach the full potential of strategic planning. This includes paying attention to the 'big picture' and being ready to adapt to changes in the environment when necessary. Moreover, strategic planning requires the organisation to critically reflect on its profession and education. This includes critically appraising everything within and surrounding the profession and questioning if the current purpose and content of the profession still suits the profession's environment.

A methodology commonly used for strategic planning in business management is the three step '*Draw-See-Think*' approach (Saxena, 2009). In this thesis, we use this approach to guide the tailoring of the CanMEDS framework for our ObGyn training. The first step (*draw step*) comprises creating a vision of the desired or intended content of the training. In light of tailoring the CanMEDS framework and its competencies, this means we critically appraise current and future ObGyn practice and gain insight into the competencies needed and desired in the performance of a ObGyn specialist. In the second step (*see step*), the content of the CanMEDS framework is reviewed and compared to the desired content of the framework. In the final step (*think step*) it is identified what specific actions should be taken to close the gap between the current framework and the desired content of the training.

For the first step of strategic planning (*draw step*), we performed a *situational analysis*. This is a suitable exercise for analysing the environment of an organisation and creating a vision of the desired content of the tailored CanMEDS framework for the Dutch ObGyn training. This analysis investigates internal and external factors of the organisation that provide an insight into possible opportunities, threats, desires and unmet needs in the organisation or in the organisation's environment. Prideaux identified several external and internal factors for a situational analysis within the context of medical education and curriculum design (Prideaux, 2003) of which several will be researched in this thesis.

External factors:

- Societal expectations and changes
- Expectations of employers
- Community assumptions and values
- Nature of support systems
- Nature of subject disciplines
- Expected flow of resources

Internal factors:

- Students
- Teachers
- Institutional ethos and structure
- Existing resources
- Problems and shortcomings in the existing curriculum

Thesis outline

This dissertation describes the *draw step* and *see step* of the *strategic planning* approach used to tailor the CanMEDS framework for the postgraduate training of the specialty Obstetrics and Gynaecology in the Netherlands. We thereby aim to evaluate the alignment the CanMEDS framework used in current ObGyn training to contemporary and future needs of Dutch society and ObGyn practice. And to evaluate if tailoring of the CanMEDS framework for the Dutch ObGyn postgraduate training is necessary.

In the *draw step*, several factors of the *situational analysis* described above are going to be investigated. The factors that we chose are ‘Community assumptions and values’, ‘Societal expectations and changes’, ‘Expectations of employers’, and ‘Problems and shortcoming in the existing curriculum’. These factors were chosen because they are thought to adequately inform the critical reflection on the ObGyn profession and its purpose within society we aim to achieve in our strategic planning. An analysis of these factors can result in the identification of specific competencies needed in the performance of a ObGyn specialist. Next, in the *see step*, the defined competencies are compared to the competencies described in the CanMEDS framework, as this helps to gain insight in the goal of this thesis: how to tailor the CanMEDS framework for our local ObGyn situation.

To answer the first research question, the factors ‘Community assumptions and values’ ‘Societal expectations and changes’ and ‘Expectations of employers’ are going to be explored. In **chapter 2**, we will research societal expectations and values regarding the performance of ObGyn specialists by consulting stakeholders surrounding ObGyn specialists for their needs regarding ObGyn specialists’ performance. In this needs assessment, we aim to find more general themes in the competency needs and compare them to the competencies described in the CanMEDS framework.

Chapter 3 presents an analysis of the expectations of employers on future changes in societal and ObGyn practice. We will explore the perspectives of ObGyn specialists on their future practice using a questionnaire with open-ended questions on the ObGyn practice of 2025. By analysing the predictions of the future, we aim to identify trends in future ObGyn practice and their implications for required competencies in the performance of ObGyn specialists.

To answer the second research question, chapters 4, 5 and 6 include an in-depth analysis of the collaboration between ObGyn specialists and midwives in Dutch maternity care. With this, we aim to gain insight into the factors underlying the problems in this collaboration and into the possibilities for an educational intervention in solving these problems. This is a first step in analysing the factor 'Problems and shortcomings in the existing curriculum'. In **chapter 4**, we evaluate the process and effectiveness of the collaboration between ObGyn specialists and midwives from the perspectives of both professions. For this purpose, two questionnaires were validated for the specific cross-sectoral setting in which community midwives collaborate with hospital-based doctors. In **chapter 5**, the historical development of the collaboration between both professions will be investigated by means of an analysis of historical documents. **Chapter 6**, presents the perspectives of midwives on the organisational and relational aspects of their contemporary collaboration with ObGyn specialists. These perspectives will be explored using a theoretical model for interprofessional collaboration. **Chapter 7** summarizes and discusses how the previous chapters have answered the two research questions, and which conclusions and implications this yields for the applicability of the CanMEDS within a non-Canadian context. Furthermore, strengths and limitations of the research are discussed, and directions for future research are appointed.

The project described in this thesis stands in the midst of everyday practice and aims to provide the learning outcomes of the Dutch ObGyn training with a solid foundation. It is an expression of the pride with which the Dutch Society of Obstetrics and Gynaecology treats their postgraduate training.

This thesis is based on published journal articles and thus some repetition across the chapters can be expected.

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