Innovating the practice of medical specialty training

Innovations are being introduced into medical specialty training in response to changes in healthcare demands and related changes in requirements for physicians’ training. However, bringing about the intended changes in practice turns out to be challenging and largely dependent on how innovations are handled by the people involved. The aim of this thesis is to contribute to the knowledge about innovating medical specialty training. It uses knowledge about innovation processes from other fields as a basis, and focuses on the experiences of the people who participate in medical specialty training: residency program directors, consultants, and residents. The overall question of this thesis is: how do people who participate in medical specialty training deal with innovations in this training?

Chapter 1 provides the introduction to the research in this thesis. It starts with explaining that the term innovation in medical education in this thesis indicates something new or changed to training departments, which requires certain intended behaviour of the people involved and typically includes new concrete methods. Then, the changes in the fields of healthcare and medical education of the recent past are explained. These include an increase of complexity of healthcare, and societal demand for accountability of costs and of physician performance that should include general qualities like good communication. These changes have led to the contemporary view that specialty training should be competency based and outcome oriented. The chapter continues by sketching the resulting innovations to specialty training, like workplace-based assessment, and how research up until now has mainly focused on the innovative applications and on intended and educational effects, but not yet on the challenging process of innovating. Knowledge about innovation processes from other fields like business, sociology, and healthcare is introduced, followed by an outline of the paucity of attention to the process of innovating medical specialty training. Thus, while it is clear that innovating specialty training is challenging, it is still largely unclear how innovations in this area should be dealt with in daily practice. Therefore, insight is needed into how those who participate in medical specialty training deal with innovations. The chapter rounds off with an overview of the studies that were conducted in order to address this
Chapter 7

topic. Firstly, distinct aspects that are involved with innovation were looked into, respectively: approaches of program directors responsible for change, the effects of using an innovation, and the perceptions regarding these effects of those involved in medical specialty training. Then, these elements were combined by looking into the effects of an innovation and how those were intertwined with the implementation approach.

Chapter 2 describes an exploratory qualitative study about program directors’ approaches to change at a training department. The study design was based on notions from corporate business and social psychology about the roles of change managers. The specific research questions were: which approaches to change in specialty training do lead consultants use and what factors influence these approaches? The study showed that lead consultants described different stages in change processes, including cause, development of content, and the execution and evaluation of change. Also, they seemed to use individual change strategies consisting of elements such as ideas, intentions and behaviour. Factors influencing approaches to change were: knowledge, ideas and beliefs about change; level of reflection; task interpretation; personal style, and department culture. However, most consultants showed limited awareness of their own approaches to change. This finding suggests that they might adopt a rigid approach, whereas the ability to adapt strategies to circumstances is considered important to effective change management.

Chapter 3 reports an exploratory qualitative study for establishing what types of effects of an innovation its users perceive. It focussed on workplace-based assessment (WBA) as a case of an innovation in specialty training that is widely used. In 2011, semi-structured interviews were conducted with 17 purposively sampled Dutch trainees and (lead) consultants in surgical and nonsurgical specialties. To encourage exploration of effects outside the domain of education, the study design was informed by sociological theory on the diffusion of innovations. Analysis supported by the template analysis technique revealed six different, albeit interrelated, domains of effects of WBA: sentiments (including affinity with the innovation and emotions); dealing with the innovation; specialty training; teaching and learning; workload and tasks, and patient care. Users’ affinity with WBA partly determined its
effects on teaching and learning. Organisational support and the match between the innovation and routine practice were considered important to minimise additional workload and ensure that WBA was used for relevant rather than easily assessable training activities. Dealing with WBA stimulated attention for specialty training and placed specialty training on the agenda of clinical departments. These findings of substantial effects outside the strictly education-related domain strongly indicate that the people involved should consider all potential effects when designing and implementing innovations.

Chapter 4 describes a Q methodological study that was conducted to explore the distinct perceptions that users of the same innovation can have about its effects, again focussing on WBA as a case. The specific research question was: what perceptions of the effects of using WBA exist among its users? Purposively sampled obstetrics–gynaecology residents and attending physicians (including program directors) at six hospitals in the Netherlands performed individual Q sorts by ranking 36 statements concerning WBA and WBA tools according to their level of agreement. By-person factor analysis was conducted to uncover patterns in the ranking of statements, followed by interpretation using participant comments about their Q sorts. This led to identification of five distinct user perceptions regarding the effects of WBA in practice, which were labelled *enthusiasm*, *compliance*, *effort*, *neutrality*, and *scepticism*. These perceptions were characterized by differences in views on three main issues: the intended goals of the innovation, its applicability (ease of applying it to practice), and its actual impact. These findings point out that variance in perceptions of an innovation’s effects have to be considered when innovating medical specialty training, and provide insight into the nature of the distinct perceptions that one could encounter.

Chapter 5 describes a study that aimed to gain insight into effects of an innovation and how these are influenced by the implementation approach. For this purpose, a case study was conducted of a Dutch project that tried to improve accountability and quality of specialty training by introducing transparency and competition. Using a theory-driven methodology, proceedings of project meetings were thematically

Summary
Chapter 7

analyzed to identify choices and developments regarding the implementation approach and to assess the effects of various approaches. This revealed intertwined effects and features of the implementation approach that could be brought together in themes called transparency, competition, and obstacles for competition. The project team’s approach leaned on appealing to professional motivation, but was supplemented by pressure to participate. This did elicit use of the innovation by parties who had first resisted, but in a way that was not conducive to the goals. Furthermore, the approach involved stakeholder involvement. This revealed obstacles for implementation, to which the approach was then adapted. Attending to these issues enabled the development of effects that went beyond the intentions, but that were relevant for training quality. These findings suggest that adapting an implementation approach to obstacles revealed by involving stakeholders supports development of fundamental changes, and illustrate the dynamic nature of the approach and its effects when innovating specialty training.

Finally, chapter 6 synthesises the research from the previous chapters and provides an answer to the central research question: how do people who participate in medical specialty training deal with innovations in this training? This answer points to the need for a different conceptualization of innovating specialty training, which is proposed subsequently. It entails abandoning the dominant linear perspective where optimal implementation of an innovation will lead to certain intended effects. The conceptualization described in this chapter offers a more dynamic model that can account for the complexities of innovating specialty training. It links the conceptual foundation of the innovation, its translation to practice, and effects in practice.

It accentuates the notion of translation of a concept to practice, which is formed by the combination of applications and implementation approach. Following the explanation of the new conceptualization, it is compared to existing literature. Next, reflections on the methodology of the work in this thesis are provided. These include an argument for not striving for a detailed manual for dealing with innovations in specialty training, reflections on the strengths of this thesis (including the relevance of this research, the approach, and the methodological rigour) and on the limitations (including sources of possible bias and the transferability of the findings). Then,
implications of the content of this thesis are set out. These include a shift in focus for both research and practice from innovative applications to the translation of innovative concepts that includes implementation approach. For medical education research, this entails the challenge of taking up methodologies that are fit to study complexity. For practice, it means that the training programmes of the innovation professionals of the future, like in educational or management studies, need to cover a broad terrain. Furthermore, all involved in innovating specialty training need awareness of the complexity of the process as a basis for an appropriate approach. The insight provided by this thesis can prevent them from expecting unambiguity, clear-cut use of applications, and immediately reaching the intended effects. In this way, this thesis supports realistic expectations and approaches for innovating the practice of medical specialty training.