Is the modernisation of postgraduate medical training in the Netherlands successful? Views of the NVMO Special Interest Group on Postgraduate Medical Education

FEDDE SCHEELE1, SCHELTUS VAN LUIJK2, HANNEKE MULDER3, COBY BAANE4, CORRY DEN ROOYEN5, MATTHIJS DE HOOG5, JOANNE FOKKEMA7, ERIK HEINEMAN8 & HENK SLUITER9

1VU University Medical Centre, The Netherlands, 2Maastricht University Medical Centre, The Netherlands, 3University Medical Centre Utrecht, The Netherlands, 4Academic Medical Centre, The Netherlands, 5Royal Dutch Medical Association (KNMG), The Netherlands, 6Erasmus MC-Sophia Children’s Hospital, The Netherlands, 7St. Lucas Andreas Hospital, The Netherlands, 8UMC Groningen, The Netherlands, 9Deventer Ziekenhuis, The Netherlands

Abstract

Background: Worldwide, the modernisation of medical education is leading to the design and implementation of new postgraduate curricula. In this article, the Special Interest Group for postgraduate medical education of the Netherlands Association for Medical Education (NVMO) reports on the experiences in the Netherlands.

Aim: To provide insight into the shift in the aims of postgraduate training, as well as into the diffusion of distinct curricular activities, introduced during the process of modernisation.

Methods: Based on three levels of training described by Frenk et al., the process of modernisation in the Netherlands is reviewed in a narrative way, using the expert views of the NVMO-SIG on PGME as a source of information.

Results: Educational science has effectively been incorporated and has until now mainly been applied on the level of informative learning to create ‘medical expertise’. Implementing change on the level of formative learning for ‘professional performance’ has until now been a slow and arduous process, but the concept of reflection on practice has been firmly embraced. The training on the level of transformative learning is still in its early stages.

Conclusion and recommendations: The discussion about the aims of modern medical education could benefit from a more structured and transdisciplinary approach. Research is warranted on the interface between health care provision and those sciences that specialise in generic professional skills and in the societal context. Training professionals and educating ‘enlightened change agents’ for transformation in health care requires more governance and support from academic leaders with a broader perspective on the future of health care.

Introduction

The necessity to reform postgraduate medical education (PGME) has been recognised worldwide. Grounding in educational science and social accountability are rising issues (Cooke et al. 2010; Frenk et al. 2010). To meet these challenges, the Dutch legislative body for accreditation of PGME decided in 2003 to start modernizing PGME for clinical specialists. This resulted in a new accreditation system for postgraduate training institutions and clinical teachers, which primarily focused on the curricular structure. Future training had to be competency-based, modular and balancing work-based and theoretical training. To improve the master-apprentice training model, various new assessment and feedback tools were introduced (Scheele et al. 2008).

Ten years after the start of this process, we briefly reflect on the aims, methods and results of the modernisation in the Netherlands. Although countries and their cultures differ, lessons from the Dutch process may be of interest to those involved with innovating medical education in other settings.

This report reflects the continuous discussion within the Dutch Special Interest Group (D-SIG) for PGME of the
Netherlands Association for Medical Education (NVMO), which is part of a large national and international network of people involved with modernising PGME. The group is independent of political or governmental institutions and aims to reflect ‘out of the box’.

Method

The focus of this report is on strikingly new curricular structures or content, as viewed from the perspective of the D-SIG for PGME and is expert-opinion based, rather based on evidence. As a framework, the three levels of training as described by Frenk et al (2010) are used: (1) informative learning to create the ‘medical expert’, (2) formative learning for the ‘professional’ and (3) transformative learning resulting in the ‘enlightened change agent’. Frenk et al. described these as three historical stages in the development of medical education and its graduates in the recent past and in the near future. A medical expert has extensive knowledge and skills concerning diagnosis and treatment within a specific medical domain. A professional is a medical expert who is experienced in working in an evidence-based manner, and who communicates appropriately, collaborates effectively and organises health care in concert with other providers. The enlightened change agent is a professional who shows societal accountability as well. While the professional does the things right within the smaller context of his own work environment, the ‘enlightened change agent’ asks the right questions about local work habits and challenges the status quo from a perspective of social involvement and societal responsibility.

On each of the three levels of training, effects of the modernization of PGME are reported. On the first two levels, we reported effects on the specific domains of curriculum content, faculty development, assessment, use of information technology (IT) and the use of quality improvement (QI) systems (Table 1). Among the distinct effects, the diffusion of innovation may vary from the experimental phase to a more established way of working. If a described activity has not yet been established amongst the roughly 30% innovative and early adapting clinical teachers, the phase of experimentation is reported.

Results

Effects on informative learning for the ‘medical expert’

Curriculum content. While the strong aspects of the master-apprentice model were preserved, the effectiveness of work-based training was improved. The transparency of the new
national curricula allowed for a better local training structure, with a continuous focus on steep learning curves. Purposeful planning led to a more balanced distribution of the volume of practice over the various sub-domains of a specialised area of medicine. Some local or regional training centers offer tailor-made training programs based on the pre-existing skills and different personal learning curves of the trainees. Investigating and rearranging the curricular structure of PGME proved to be the basis for important steps forward.

**Faculty development.** Learning in the workplace always depended on strong role models (Steinert et al., 2006). The exemplary role of clinical supervisors has been enhanced by faculty development programs aiming at didactical insight and proper use of feedback.

**Assessment.** Short-term and long-term feedback systems were introduced to support reflection on learning. It became obligatory to collect assessments of knowledge, skills and performance in practice. These have to be collected in portfolios alongside information about work experience, theoretical training and reflection on the learning process. Regular formal in-training assessments based on these portfolios and on frequent general feedback from faculty have become solid diagnostic tools for the development of medical expertise in the trainee. In many training sites, the use of formal, solidly justified decisions about ‘entrustable professional activities’ have improved the safety for trainees and patients (ten Cate & Scheele 2007).

**Use of IT.** Simulation (Palter et al. 2011) has gained importance as a tool for training surgical skills. It improves learning curves for surgical procedures and it enhances patient safety. However, in view of the enormous opportunities for simulation in the training of health professionals, it still receives insufficient attention. Likewise, E-learning is relatively scarcely used.

**Quality improvement systems.** It has become normal practice to use feedback from trainees to improve medical training. Almost every training centre in the Netherlands uses a tool for measuring the training climate, developed by Boor et al. (2011). Besides, trainees are encouraged to give individual feedback to trainers by means of questionnaires (Lombarts et al. 2011), which contributes to faculty development. Moreover, exit-interviews are commonly used to detect flaws in the training system and to enhance the culture of improvement. Apart from these internal quality systems, the Dutch visitation system for the accreditation of postgraduate training programs is an important external incentive for the optimal use of educational structure and educational tools. In sum, we observed progress in the effectiveness and efficiency of postgraduate training on the level of ‘medical expert’.

**Effects on formative learning for the ‘professional’**

**Curriculum content.** In the new curriculum, each trainee has to attend several courses on generic professional competencies, such as communication, collaboration, management, patient safety, ethics and educational skills. Usually, the one- or two-day’s courses that address these competencies are well reviewed, but there are concerns about the transfer of professional competencies to daily practice. There is an increasing call for workplace-based learning of these generic skills.

In order to practise and improve deliberate collaboration in the workplace, a few training sites have introduced multiprofessional team training, in particular for surgeons, gynecologists and paediatricians. Team training appears to be a major asset in the training of professionals, not only because of potential direct benefits for patient care, but also because it fosters mutual respect in a multi-professional team (Fransen et al., 2012). However, team training is far from commonplace yet.

The concept of learning from reflective practice has become the flagship of professional development in the Netherlands (Aukes et al., 2009). It has been incorporated in all PGME curricula as an important element for training. Meetings for reflection on daily work and on complications of treatments are obligatory elements for accreditation.

Emphasis on the professional empowerment of trainees has increased. So far, in the Netherlands, we know of some smaller initiatives addressing the issues of personal professional empowerment and participation in management. This has brought about the participation of trainees in ward management teams as respected members whose opinions are valued. This role increases trainees’ awareness of context and their sense of responsibility for the care process as a whole. The use of ‘facilitated peer group supervision’, i.e. guided group learning from reflection on practice and of the use of patient feedback for training, have been detected rarely.

**Faculty development.** Most faculty members seem to have embraced teaching in a climate that fosters reflective practice. On the other hand, faculty development on the level of the ‘professional’ is still neglected. Courses on, e.g. generic professional competencies, multi-professional team training, ‘facilitated peer group supervision’ and learning from patient feedback are still lacking.

**Assessment.** All curricula have incorporated assessment programs that explicitly address the performance of trainees in the fields of generic professional skills. To observe their behaviour in various situations, a variety of formal tools has been introduced, ranging from direct observation during consultation to multisource feedback. For accreditation, local curricula and the portfolio need to enhance the training and assessment of generic professional skills. This development indicates that the assessment of generic skills is on the agenda of postgraduate medical training.

**Quality improvement systems.** Nowadays, quality systems mainly focus on the use of educational structure and tools to enhance the training for medical expertise. Quality systems could stimulate the intensity and the value of generic skills training. In the Netherlands, only moderate progress has been made in this respect.

The reported activities indicate that reflection nowadays is an important tool for the training of professionals. However,
innovative formal systems like ‘facilitated peer group supervision’ suffer from slow diffusion. Likewise, spread of some good examples of team training and of empowerment of trainees is slow.

Effects on transformative learning for the ‘enlightened change agent’

Focus on this level seems to be completely absent in all curricula and at most training sites. An example of a way to address societal responsiveness is a program director who discussed newspapers and health politics on a regular basis. So far, however, this only occurs incidentally. Other ways to integrate this issue into curricula would be to simulate trainees to regularly ask questions about the health care system they are part of. They could be empowered to successfully join forces in innovative projects.

On the level of the ‘enlightened change agent’, curriculum content, assessment, use of IT and quality improvement systems all remain challenges. Doctors should care for the governance of care, and ignoring this subject in postgraduate medical training seems short-sighted.

Discussion

The modernisation of PGME in the Netherlands has evidently improved the training of the ‘medical expert’. It has started to improve the training of the ‘professional’ and it seems to have only just begun to affect the training of the enlightened change agent. Educational science was implemented relatively rapidly and successfully to improve the training of residents. Several educational tools and methods, such as multisource feedback or simulation, seem to have such obvious advantages that the medical profession did not need long to let them diffuse into their practice.

Although reflection has become an important subject in the education of residents, raising the ‘professional’ seems to address a more complex level. Patients still complain about a lack of patient-centred care. They complain about the logistics of health care and suffer from outdated systems. These issues are at least partly the responsibility of health care professionals. After registration, starting Dutch medical specialists realise that their generic skills are insufficient (Westerman, 2012). On the upside, there are persuasive reports of better performance due to team performance improvement, e.g. with a checklist (Haynes et al., 2009). These are all compelling reasons to strive to improve the professional performance of doctors.

Reflective practices that are successfully applied in some medical disciplines have not yet been institutionalized everywhere. For instance, General Practitioner (GP) training extensively uses ‘facilitated peer group supervision’. It seems sensible and expedient to adapt this successful feedback method to the training of clinicians.

Another source of feedback that can be of great value in the education of professional medical experts are the patients. They are at the core of our attention and should be invited to provide feedback on individual care providers, team performance and on the infrastructure of the care process. Until now, however, patient feedback has not been employed sufficiently. This enormous source of wisdom for training should nourish our trainees and teams of care providers.

What could explain the resistance to making important progress in the training of ‘new’ professionals? History shows that in the twentieth century, medical inventions were magnificent and multiple (Le Fanu 2000). Therefore, medical specialists have much higher appreciation for technical skills and a strong focus on a highly specialised area than for generic skills, and trainees seem to adopt this point of view rapidly. The celebratory mood raised by the history of technical success still seems to overrule the urge for a different change in the beginning of the twenty-first century. Another possible explanation might be that trainers often lack generic professional skills themselves, which makes it difficult for them to teach these skills, let alone to act as role models (Paice et al. 2002).

In an academic institution, one might expect a lot of research on areas that connect health care provision with the sciences that specialize in the generic professional skills. However, this research is virtually absent. Budgets gravitate towards ‘safe research areas’ within the specialised biomedical science, tradition rules.

If the road to a high standard of training on the level of the ‘professional’ is already so fraught with difficulties, should we even try to aim at training on the level of the ‘enlightened change agent’?

In our opinion the answer is definitely yes! Maybe the development of the ‘Professional’ and an enlightened view should be the starting point of medical training. At least, trainees in medical education should work and learn in a context with a holistic health care philosophy instead of the current discipline oriented perspective (Stern & Papadakis 2006). Taking responsibility for clinical governance by trainees and clinicians is a demand for durable health care systems (Nicholls et al. 2000). A culture change is needed for effective clinical governance with strict attention for ‘system awareness, teamwork, communication, ownership and clinical leadership’ (Degeling et al. 2004).

In Dutch health care, several examples of innovative care were initiated by enlightened change agents, e.g. in the innovative way of using e-health for patient-centred care (Keus et al. 2012). It seems sensible to offer training in medical leadership and societal connectivity to all trainees to some extent, while gifted trainees might be trained on a higher level. The concept of flexible content during training based on personal traits and achievements of the trainee is gaining ground rapidly in the Netherlands.

Future research is needed, and two sequential areas are discerned. The first is to scout major problems in health care and to perform transdisciplinary research on diagnosis and possible interventions to address these problems. The second avenue for research is the translation of proposed interventions and health care policy into effective curriculum design. This is where educational science becomes pivotal. In our opinion, medical education and its research bring together the perspectives of the health professional, the educationalist and
of society. To create really innovative and valuable research, representatives of these three domains should be involved.

The NVMO-SIG on PGME aims to integrate multiple perspectives and organises discussions between representatives of these domains. Although likely biased due to the extraordinary interest of these members, the present study gives an overview of the Dutch progress in the modernisation of postgraduate medical training, which might be used to reflect on similar achievements in other countries.

A postgraduate medical training program that includes a social perspective on acute health demands requires strong governance, i.e. consistent management, cohesive policies, clear guidance, transparent processes and effective assignment of decision-rights. Academic leaders should balance the interests of research and training in the interplay between the dominant biomedical discourse and the discourse that aims at improved professional performance. This requires a shift of paradigm in which both academic leaders and clinical teachers are involved. The decades-long tradition of championing the study of the biochemical detail has to be challenged. The magnitude of this mission raises our concern.

**Declaration of interest:** The authors do not have any interests that interfere with the content of this article.

**Notes on Contributors**

All contributors are members of the special interest group for postgraduate medical education of the Dutch Society for Medical Education.

**FEDDE SCHEELE, MD, PhD,** is a Full Professor of Health Systems Innovation and Education at the VU University Medical Center and at the Amsterdam, The Netherlands.

**HANNEKE MULDER, MSc, PhD,** is an Associate Professor of Quality and Innovation at the University Medical Center Utrecht School of Medical Sciences in Utrecht, The Netherlands.

**HENK SLUITER, MD, PhD,** is a Specialist in Internal Medicine and Manager of postgraduate medical education at the Deventer Ziekenhuis, Deventer, the Netherlands.

**References**


Westermarn M. 2012. Mind the gap. The transition to hospital consultant, PhD thesis, VUmc University Medical Centre, Amsterdam.