

# Use of professional profiles in applications for specialist training positions

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## ABSTRACT

**INTRODUCTION:** The seven roles of the CanMEDS system have been implemented in Danish postgraduate medical training. For each medical specialty, a professional profile describes which elements of the seven roles the specialty deems important for applicants for a specialist training position. We investigated use of professional profiles among the 38 Danish specialty societies in order to ascertain the use of the seven roles.

**MATERIAL AND METHODS:** We used information from the websites of the Postgraduate Medical Training Secretariats in March 2012. For each profile, we extracted information on how the seven roles were described, how the roles were ranked by importance, whether a score sheet was used by the appointment committee and whether the profile had been updated.

**RESULTS:** Twenty-four (63%) of the 38 profiles described the contents for all of the seven roles and four (11%) described the contents only for some of the roles. Nine specialties (24%) described a clear ranking of the seven roles with the medical expert and scholar roles generally ranked as most important. Seven specialties (18%) used standardised score sheets as part of the application process. Four (11%) specialties had updated their professional profiles.

**CONCLUSION:** The majority of specialties described the seven roles in their professional profiles, but the level of detail varied substantially. Few specialties described whether the roles were ranked by importance or provided specific guidelines for appointment committees on how the contents of the profiles should be interpreted. We suggest that specialties seek inspiration for updating their profiles, and that they use the contents from all specialties provided at a website.

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In 2000, a specialist commission appointed by the Danish Ministry of Health suggested that postgraduate medical training should be modelled according to the CanMEDS system [1, 2], and a reform to this effect was implemented in 2004. The concept of the system is that the competencies of a medical specialist may be characterised by seven key physician roles and that all roles are equally important. The seven roles were introduced in the form of professional profiles as part of the applica-

tion process for the Danish specialist training programme in 2008 [3]. The specialist training programmes in Denmark are coordinated by three regional postgraduate medical training secretariats (PMTS). In order to enrol for a specialist training programme, a candidate is required to have finished a one-year introductory specialist position with approved competencies related to the seven roles. Thereafter, a candidate can apply for a specialist training position through one of the regional secretariats. For some of the small specialties, a single secretariat coordinates these activities nationally rather than regionally. An appointment committee evaluates each applicant based on the applicant's written application, curriculum vitae and an interview, which may range from an informal interview to multiple mini interviews (MMI) [4] based on the seven roles as described by the specialist society. An MMI uses many short independent assessments, typically in a timed circuit, to obtain an aggregate score of each applicant's competencies. Although a generic template has been developed [3], each of the 38 medical specialties has its own unique professional profile. While professional profiles have now been used to evaluate coming specialists for more than four years, no overall analysis of contents of the profile has yet been presented. Also, experience from the use of professional profiles in appointment committees should be expected to cause at least minor revisions, notably because most of the specialties have application rounds twice a year.

The purpose of this study was therefore to analyse the contents of the professional profiles for each of the 38 Danish medical specialties in relation to:

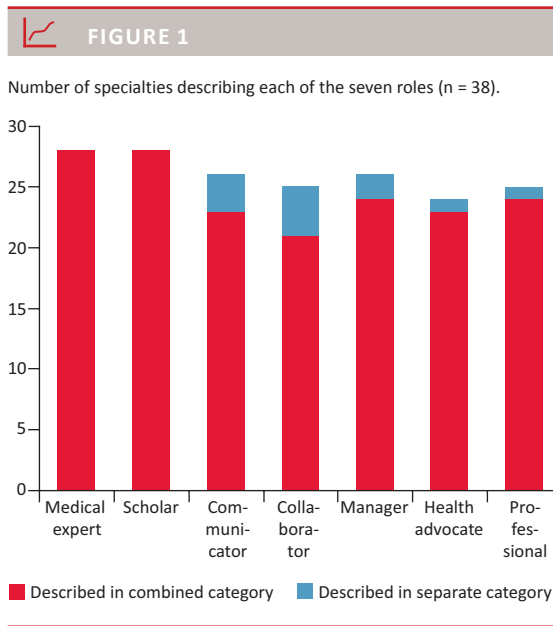
1. number of roles clearly defined
2. how the roles were ranked by importance
3. whether a standardised score sheet was used for assessment of applicants
4. whether the professional profile had been revised.

Finally, all available profile contents was uploaded to a website with the intent of making a comparison between different specialties easily accessible for career planning physicians and undergraduates [5]. The results should inspire specialties to learn from each other and to tailor the contents of the individual specialty's professional profile [6].

## ORIGINAL ARTICLE

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## MATERIAL AND METHODS

In March 2012, the professional profiles and supplemental material were identified for all 38 medical specialties using the website of the PMTS – East. In those cases where material was unavailable from the PMTS – East, the material was extracted from the websites of the PMTS – North or South.

For each specialty, we extracted information on how each of the seven roles was described, how the roles were ranked by importance and the date of the profile. We defined a professional profile as describing a role if the profile had either a separate or a joint category for this role.

We also extracted information on whether standardised score sheets were being used by appointment committees from the secretariats' websites. We defined a standardised score sheet as a document describing in detail how each of the seven roles should be rated by the appointment committee (e.g. using a scale).

We contacted the secretariats by email for clarification and confirmation of our data and contacted the PMTS – East concerning which professional profiles had been revised and how many times they had been revised.

Finally, the contents of the 38 professional profiles were presented in a content management system (Joomla 2.5, open source), available at [www.fagligeprofiler.dk](http://www.fagligeprofiler.dk).

The website allows simultaneous comparison of each of the seven roles in the professional profiles for up to four of the 38 specialties.

*Trial registration:* not relevant.

## RESULTS

A total of 24 (63%) of the 38 specialties described the contents for all of the seven roles in their professional profiles, four (11%) described only the contents for some of the roles and ten (26%) described none of the seven roles.

The medical expert and scholar roles were most frequently described and both appeared in 28 (74%) of 38 professional profiles (Figure 1). Each of the other five roles were described in 24 to 26 (63–68%) of the 38 professional profiles. In some of the profiles, individual roles were described in combined categories addressing two to four roles. For example, “pathological anatomy and cytology” had a combined category for the communicator and collaborator roles. Two specialties only described the medical expert and scholar roles (nephrology and psychiatry) and had a third category called “additional roles” which included contents not specifically related to any of the other five roles.

The level of detail of the contents for each role varied between the specialties (Table 1). In some specialties, an approved introductory position was sufficient to fulfil some of the roles (e.g. health advocate in cardiology). Some roles described contents that was of a quantitative nature and easy for applicants to document (e.g. having worked within the specialty), whereas other contents was of a qualitative nature and more difficult to document (e.g. competency with specific skills).

Nine out of 38 professional profiles (24%) included a clear ranking of the seven roles. The medical expert role was ranked the most important in all nine specialties. In seven specialties, the medical expert role was followed by the scholar role in terms of importance (Table 2).

Seven of 38 specialties (18%) used score sheets, though their use varied among the different PMTSs (Table 3). Two specialties used score sheets only for the interview assessment, and five specialties used score sheets for both assessment of the written applications and for interviews. Five specialties used seven different global score systems which varied in terms of possible maximum scores from seven to 122 depending on the specialty. One specialty (general practice) used a different system in each region.

Four of the 38 specialties (11%) had revised their professional profiles after the initial publication in 2008 (anaesthesiology in 2009; clinical physiology, haematology and general practice in 2010).

## DISCUSSION

We found that all seven roles were described in almost two-thirds of the professional profiles. However, the detail of description varied greatly and only nine specialties described how each of the seven roles were ranked by

importance. For specialties which did have a description of ranking, the medical expert and the scholar roles were ranked as the most important. Seven specialties used score sheets, of which only six were publicly available.

### Strengths and limitations

To our knowledge, this is the first study investigating the usage of professional profiles in Danish postgraduate medical training. We used publicly available data and contacted the PMTSs for confirmation. Since some PMTSs' websites only disclose professional profile information in the period leading up to an application round, geographic variation may be underreported as some information may have been unavailable at the time we conducted our study. In a similar manner, some of the score sheets were not available from all three PMTS websites. However, our approach was pragmatic and reflects how physicians obtain information in order to plan their career. In order to guide their career choices, physicians need to know which exact criteria are used in the application process and preferably as early as possible.

Furthermore, our definition of roles can be discussed. Some professional profiles used different phrasing, for example clinical oncology used "academic abilities" to describe the scholar role. In those cases, we regarded the professional profile as describing the role. For other professional profiles, some of the roles were less well defined. For example, the profile of nephrology had a category called 'additional roles' which described information relevant for the three roles of collaborator, communicator and manager. As it was not well-defined for which role for example "positions of trust" was relevant, we did not regard the profile as describing any of the three roles.

### Context

In a recent study on the implementation of the seven roles in the specialist courses of the specialist training programmes [7], two specialties did not address the roles at all, 12 only addressed the role of medical expert

TABLE 1

Examples of descriptions of roles in professional profiles.

<b>Medical expert</b>
<i>Quantitative</i>
Previous work within the specialty or other relevant specialties: other internal medicine specialties, surgical gastroenterology, radiology (Gastroenterology-hepatology)
<i>Qualitative</i>
Ability to plan, execute and interpret imaging studies
Capacity for visual assessment and three-dimensional perception
Shows initiative in obtaining knowledge (Clinical radiology)
<b>Health advocate</b>
<i>Brief description</i>
Should be relevantly aware of principles of radiation hygiene (Clinical physiology)
<i>Elaborate description</i>
Practical teaching experience in health-promoting behaviours (smoking cessation, weight loss, etc.)
Work experience in developing countries
Work experience in aid organisations (Clinical oncology)
<b>Professional</b>
<i>Perception of role in relation to career only</i>
Has demonstrated dedication in planning own education (Clinical physiology)
<i>Perception of role in relation to behaviour</i>
Awareness of own possibilities and limitations
The physician must demonstrate interest and ability at a high professional and ethical level to take decisions in the interest of the patient (Clinical Biochemistry)

and none addressed all seven roles. This is corroborated by our findings and suggests a generally poor implementation of the seven roles. Similarly, the implementation of the seven roles in daily clinical practice was addressed in a 2011 survey of Danish physicians [6]. While most physicians in training felt that they had received sufficient training in the roles of medical expert, communicator, collaborator and professional, fewer felt that they were sufficiently trained in the scholar, manager and health advocate roles. The lack of training in the scholar role is interesting as it is ranked to be the second most important role according to the professional profiles.

TABLE 2

Specialties	Medical expert	Scholar	Communicator	Collaborator	Manager	Health advocate	Professional
Anaesthesiology	1st	1st	2nd	2nd	2nd	2nd	2nd
Clinical oncology	1st	1st	2nd	2nd	2nd	2nd	2nd
Child and adolescent psychiatry	1st	2nd	1st	1st	2nd	2nd	2nd
Endocrinology	1st	2nd	3rd	3rd	4th	4th	–
Dermatology	1st	1st	2nd	2nd	2nd	2nd	2nd
Neurology	1st	1st	1st	1st	2nd	2nd	2nd
Orthopaedic surgery	1st	1st	2nd	2nd	2nd	2nd	2nd
Paediatrics	1st	1st	2nd	2nd	2nd	2nd	2nd
Psychiatry	1st	1st	2nd	2nd	2nd	2nd	2nd

The ranking of the seven roles in the nine specialties that uses ranking. Roles with equal ranking are all ranked with same number (i.e. all firsts are equally ranked).

 TABLE 3

Availability and use of score sheets in seven specialties.

Specialty	Available on PMTS website	Used according to PMTS	Score sheet is used for	Global score	Description
Anaesthesiology	North, South	North	Application and interview	No	Each role is graded as qualified to some, a high or a very high degree
General practice	All regions <sup>a</sup>	All regions <sup>a</sup>	Application and interview	Yes	East: 0-96 point scale (application 0-48, MMI 0-48) North: 6-36 point scale (application 1-6, MMI 5-30) South: 0-122 point scale (application 0-32, interview 0-90)
Gynaecology and obstetrics	East, North	East, North	Application and interview	Yes	Each of the seven roles is graded on a 1-7 point scale. 1-7 point global score
Neurology	North, South	South	Interview	No	Each of the seven roles is graded as being less, possibly or clearly qualified
Orthopaedic surgery	All regions	All regions	Interview	Yes	Each of the seven roles is graded as being less, possibly or clearly qualified. 1-7 point global score
Otorhino-laryngology	None	East	Application and interview	Yes	0-26 point scale for application. Based on interview score is multiplied by 1, 1.25 or 1.5. Up to 3 extra point for determination
Paediatrics	All regions	All regions	Application and interview	Yes	0-120 point scale (application 0-72, MMI 0-48)

MMI = multiple mini interview is an interview format that uses many short independent assessments, typically in a timed circuit, to obtain an aggregate score of each applicant's competencies; PMTS = postgraduate medical training secretariat.

a) In general practice, both the Region of the Capital and the Region of Zealand under PMTS = East organise application interviews. Only the Region of Zealand uses score sheets.

### Definition of roles

The level of detail in the description of individual roles varied considerably between the specialties. There also seemed to be a difference between specialties as to how individual roles were defined. This was most apparent for the professional role. The differences in the definitions of the roles between the specialties were also highlighted in a recent report by the Danish Health and Medicines Authority, which suggests a redefinition of the seven roles, particularly the professional role [6].

### Ranking of roles

Only nine profiles ranked the roles by importance, and we know from members of appointment committees that the roles are ranked for some of the other 29 specialties. For example, for gynaecology and obstetrics (East), the medical expert and scholar roles are ranked highest and, although not specified in the profile, this information is made available by the organisation for young gynaecologists and obstetricians and their parent society. Also, the practice of only describing some of the seven roles in professional profiles could be regarded as implicit ranking. Thus, our method may have underestimated the use of ranking. However, and more importantly, this essential information is not publicly available to applicants or in some cases, it is available only in additional material. This is an issue as some applicants may be unaware of how roles are ranked.

### Score sheets

Score sheets were used in seven specialties, and five specialties used global scores. In three cases, informa-

tion on websites did not agree with what was actually being used by appointment committees. The complexity of score sheets differed between specialties from using a single three-point ranking scale for each role during an interview to using an MMI or cumulating a global score for a maximum of up to 122 points. General practice used a different scoring system in each region, and the weight of the interview in the total score ranged from 50% to 83%.

Use of score sheets may be an indirect way of ranking the roles by importance. Thus, in some cases, different maximum scores were used for each role (e.g. in otorhino-laryngology; scholar up to seven points and health advocate up to one point). However, for other specialties (anaesthesiology, orthopaedic surgery and neurology), all roles had a similar weighting of the roles according to their score sheets, while they were ranked differently according to their professional profile.

Furthermore, other committees may use "unofficial" score sheets at their own discretion and available score sheets could be used in a different way than intended. While score sheets give transparency with regard to the criteria by which applicants are assessed, they also introduce several issues. None of the score sheets identified in our study were validated and score sheets may also prevent committees from giving credit to competencies not comprised by the sheets.

### Revision of professional profiles

Since professional profiles have received attention in the medical community [8] due to what has been perceived as a less transparent method for selection of specialist

candidates, we were surprised to see that only four specialties had revised the original professional profiles. The lack of revised professional profiles may simply reflect that it is clear to members of the specialist appointment committees what each role in the professional profile represents. However, there is a need for a revision of many of the professional profiles in light of the fact that 15 of the professional profiles did not use all seven roles, 29 did not describe how the roles were ranked and 31 did not present information on how they practically assess applicants. As a consequence of the inadequate description of roles, it may be difficult for applicants to target their application and descriptions may be less useful as guides to more long-term career planning [5]. Interestingly, all four of the revised professional profiles included detailed information on all seven roles.

The lack of awareness about the problems characterising some of the profiles may be due to the fact that profiles are developed by the specialist societies, not by the appointment committees. Even though there is some overlap with regard to the people involved in societies and committees, feedback to specialty societies may still be lacking. Even when feedback is adequate, the necessary resources for revision of the professional profiles may be unavailable. Thus, professional profiles are not continuously updated as the needs arise and each medical specialty evolves. Organisations such as the pedagogical development function at the PMTS may help societies with revision of their professional profiles [9].

## CONCLUSION

In conclusion, almost two-thirds of the specialties described all seven roles. However, only nine specialties reported how the roles were ranked and just six had publicly available score sheets. Only four professional profiles had been updated since the initial introduction, and we found considerable room for improvement in many of the other profiles. We suggest that specialties seek inspiration for updating of the professional profiles using content from all specialties at [fagligeprofiler.dk](http://fagligeprofiler.dk).

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