

Appendix 1: Development of the leadership-focused MSF questionnaire

Background

Since 2013, a validated model for multi-source feedback (MSF) has been in use in postgraduate medical education (PGME) in all hospitals in the Northern educational region in Denmark [1]. The model covers four of the seven roles of physicians [2]: Communicator, Collaborator, Manager/administrator/organiser and Professional. The increased focus on leadership in medical education and practice has demonstrated the need to refine the MSF model to shed more light on the role of Manager/administrator/organizer, hence the need to revise the questionnaire that is applied late in PGME. The 10 roles of leadership as conceptualised by Mintzberg was used as the theoretical framework for leadership [3].

Methods

The questionnaire was developed with a more extensive focus on leadership by the project group and was based on:

- 1) The definition of the role Manager/administrator/organiser defined by the Danish Health Authorities (SST)
- 2) A literature search
- 3) One-to-one telephone interviews with health care leaders (7 hospital medical directors, 1 hospital director, 4 informants with special knowledge in leadership and 2 directors of PGME)
- 4) Two focus group interviews with 12 heads of departments from 6 hospitals, representing 8 specialties
- 5) Two focus groups with 12 medical specialists with special responsibilities in PGME (consultants responsible for education, postgraduate associate professors in medical education, directors of PGME in hospitals, experienced multi-source feedback facilitators)
- 6) A workshop with 40 junior doctors in specialist training where discussions centered on the leadership tasks they had in their daily practice and how they were trained to manage these tasks.

The one-to-one interviews and the focus group interviews were audio-recorded and transcribed verbatim. During the focus group discussions, a co-moderator made notes and these were used as supplemental material to the transcriptions in the analysis. In the workshop for junior doctors, the output was flip-overs with suggestions of tasks and education. All data were analysed using thematic content analysis, and a list of leadership themes emerged [4]. These themes were clustered into the 12 final overall themes (in alphabetical order):

- Analytical skills
- Contributions to development and quality
- Drive / initiative
- From “me” to “we” (teaming)

- Leadership of special tasks
- Personal competences (e.g., sense of propriety, receptiveness, inspiring confidence, listening, responsibility, engagement, openness, loyalty)
- Psychological safety
- Seeing other’s perspectives / putting into perspective
- Seeing the patient’s perspective
- Self-management
- Facilitating development
- Understanding one’s own position in the organization

From these themes, questions were developed into a questionnaire containing 52 questions/statements that reflected 9 themes. The questionnaire was commented on by experienced feedback facilitators, heads of departments, specialists and junior doctors. After minor revisions due to the comments, a pilot test was conducted with 6 experienced feedback facilitators and 12 junior doctors. All feedback facilitators and 7 out of 12 junior doctors were interviewed (one-to-one, telephone interviews) regarding the relevance and usability of the new questionnaire. Psychometric analysis showed that the questionnaire was reliable and valid (convergent and discriminant).

Following suggestions from the pilot test, the final questionnaire was further developed. The questionnaire has 44 questions/statements divided into 8 themes. The statements are answered on a 7-point Likert scale from 1 = completely disagree to 7 = completely agree. After each theme, respondents can add additional comments on that specific theme. The questionnaire ends with respondents having the possibility to advise on the junior doctors’ contribution to the department.

Results

Questionnaire with focus on the role of manager/administrator/organiser			
Role		Q. no.	
	Motivation and responsibility		
<i>Professional, collaborator, communicator</i>		Shows engagement	1
		Uses own resources	2
		Takes responsibility for daily work tasks	3
		Knows own limitations	4

		Appears as a good role-model	5
		Relational competence	
		Appears confidence-inspiring	6
<i>Professional, communicator, manager/ administrator organiser</i>		Appears authentic	7
		Has a sense of propriety	8
		Enters into dialogue in case of disagreement	9
		Is curious about other people's perspectives	10
		Makes demands of others when relevant	11
		Leading working tasks	
<i>Manager/administrator/organiser, collaborator</i>		Takes on leadership in daily work	12
		Includes knowledge of colleagues in daily work	13
		Constructively enters into collaboration across specialties/departments/sectors	14
		Prioritises tasks	15
		Delegates tasks to others when appropriate and relevant	16
		Follows up on delegated tasks	17
		Keeps overview under pressure	18
		Decision-making	
<i>Collaborator, manager/ administrator/organiser, communicator</i>		Involves relevant collaborators in decisions	19
		Makes leadership decisions in daily work	20
		Turns decisions into actions	21
		Communicates decisions clearly	22
		Follows up on decisions	23
		Is loyal to decisions of superiors	24

<i>Communicator, professional</i>	Patient involvement and continuity of care		
		Is receptive to patients' perspectives	25
		Actively involves the patient in planning of care and treatment	26
		Takes co-responsibility for continuity of care of the individual patient	27
		Contributes to development and optimisation of continuity of care	28
		Contributes to the creation of continuity of care	29
<i>Collaborator, professional, scholar/ researcher/teacher</i>	Quality and development		
		Is curious and poses relevant questions to daily practice	30
		Addresses critique constructively – in right place and to relevant party	31
		Contributes with suggestions to improvement and development of practice	32
		Actively contributes to implementation of new initiatives	33
		Uses the department's resources with thoughtfulness	34
	Learning environment		
<i>Scholar/ researcher/ teacher, communicator</i>		Takes co-responsibility for the learning environment in the department	35
		Contributes to education and training of relevant professions	36
		Uses opportunities to give feedback	37
		Gives feedback constructively	38
	Collegiality and job satisfaction		
<i>Professional, collaborator or</i>		Seeks feedback	39
		Communicates own doubt and uncertainty	40
		Speaks openly about own errors and near-misses	41

		Takes care of own well-being	42
		Takes care of colleagues	43
		Contributes positively to well-being in the workplace	44

Supplemental comments:

What is this junior doctor's specific contribution to the department?

This doctor should continue to....

This doctor should stop...

This doctor should start to...

Other comments...

References

1. Eriksen G. Valideret model for 360 feedback i den lægelige videreuddannelse er gennemførlig og acceptabel. *Ugeskrift for læger*. 2015;17:654.
2. Danish Health and Medicines Authority. *The seven roles of physicians*. 2014. <https://www.sst.dk/en/news/2013/~media/39D3E216BCBF4A9096B286EE44F03691.ashx>
3. Mintzberg H, Mintzberg H. *Mintzberg on management: Inside our strange world of organizations*. 3rd ed. The Free Press; 1989.
4. Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative research in psychology*. 2006;3(2):77-101.

Appendix 2: Interview guides

Interview guide after 1-2 weeks

1. What did you gain overall from completing the new MSF process?
2. What has the MSF process given you?
3. The MSF process includes several steps:
 - a. a self-assessment
 - b. you receive a report with feedback from all respondents
 - c. a dialogue with a certified feedback facilitator
 - d. you work out a development plan
4. Is there a part of the process that was especially beneficial? – Is there anything in particular in the process that you would like to highlight as positive with respect to what you gained from the MSF process?
5. Was the content of the feedback dialogue about leadership relevant for where you are now in your leadership development/education?
 - a. If yes – can you elaborate?
 - b. If no – why not?
6. What were the two most important leadership-related themes (areas) that you discussed in the conversation (with the feedback facilitator)?
 - a. How do you plan to work with these themes/areas?
7. Did you make a development plan with your feedback facilitator (or afterwards)?
 - a. If yes – have you thought about how to use it?
 - i. Would you like to describe the development plan, or what you and your feedback facilitator discussed?
 - ii. Is there anyone at the department who can help/support you?
 - b. If no – why didn't you make a development plan?
8. Has the process given rise to reflections about management, organization or leadership?
 - a. If yes – how?
 - b. If no – why not?

Other comments/reflections – is there anything else about which you think: “Why am I not asked about...?”

Interview guide after 12 weeks

1. Now it has been 3 months since we last talked. Thinking back, what have you gained from completing the MSF process, and how did you work with the feedback from the feedback dialogue and the feedback report?
2. In your opinion, has it made sense to conduct a MSF process with focus on leadership in light of where you are now in your education and thus in your own leadership development?
 - a. If yes – would you elaborate?
 - b. If no – why not?
3. Has the timing of the MSF process been appropriate regarding the time you have left in your PGME - i.e., has there been time for you to work with and implement the areas/themes from your feedback?
 - a. Do you find that the MSF process has helped you – in terms of taking on a broader leadership role - which is part of your transformation to becoming a specialist?
 - i. If so- how?
4. When we last talked, you had:
 - a. Worked out a development plan in connection with the feedback dialogue – have you been working with your development plan?
 - i. If yes – how have you been working with it?
 - ii. If no – why not?
 - b. Plans to work out a development plan – did you work out a development plan?
 - i. If yes – how have you been working with it?
 - ii. If no – why not?
 - c. If you had not worked out a development plan, did you work out a development plan after we last talked?
 - i. If yes – how have you been working with it?
 - ii. If no – why not?
5. Do you feel you have achieved the objectives/goals you noted in the development plan?
 - a. If no – do you plan to continue to work on it? How?
6. Did you experience any barriers/obstacles in regard to achieving your development objectives? (personal, professional etc.)?
7. Did you have a formal follow-up dialogue with your supervisor or facilitator (or others) regarding the objectives in your development plan?
 - a. If yes – was it useful?

- b. If no – have you felt the need to follow up on the development plan?
8. Since we last talked, has the process given rise to (further) reflections on management, leadership and organization in your daily practice – or in other contexts?
- a. If yes – how?
 - b. If no – why not?

Other comments/reflections – is there anything else about which you think: “Why am I not asked about...?”

Appendix 3: Development plan

Development plan

Date: ____ / ____ / ____

PGY1 PGY2 Regis

Name: _____

Department: _____

