Unravelling the essence of physician performance

Calling and Comradeship

Myra van den Goor

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Chapter 1

General introduction

'If you can perform surgery well, you will not necessarily be a better doctor; if you behave as a bastard in the OR, putting your team on edge in an attempt to achieve so-called good quality, then I consider you a bad doctor, even if you perform the surgery well'

Q: 'What do you need to perform optimally?'

A: 'Appreciation. That's it.'

Q: That's all?

A: 'Yes, when I feel appreciated,
I am prepared to do everything and go that extra mile for my patients.'

Participants in High Performance Study, Chapter 7

PREFACE

He was my age, having young children, just like me. And having metastasised melanoma. He had always been in control of things, having a responsible job as a CEO. He did not have any control over his disease obviously, and that was very difficult for him. We talked a lot about that, about acceptance and letting go. However, he could manage the final phase of his life, choosing his moment to go, and he needed to know whether I would be there for him. Of course I would. So we talked about that, about the formal procedure, but most of all about emotions, his and his wife's. How difficult it was for him, letting go of life knowing who he would leave behind. And for her, to have the strength to let her loved one go. Intense conversations, very confronting for me, being in the same stage of life, couldn't help identifying with them, this could be me as well, and how would I feel in such a situation?

Thinking about that, talking and sharing my emotions, at home and with colleagues. The moment came, 'the date' was set. He scheduled family and friends to share last time and words. And I woke up every morning, hoping that maybe he would have died naturally. And at the same time feeling guilty of thinking that. Didn't I wish him to have his goodbye just as he lived, just as I probably would if I was in his situation? Yes I did, very much so. But at the same time, I was frightened as hell by the idea that I was the one going to be responsible for his death. Something about conflicting interests in my head with the concept of 'first do no harm'.

Wasn't it the same as increasing medication that had the same effect? No, it definitely felt different. This time I would inject medication not with the aim of relieving symptoms but with the purpose of letting my patient die. Mercy killing, despite the 'mercy' still contains the word 'killing', and I would be the one doing just that. Afterwards I would have to call the coroner since it obviously would not be a 'natural death'. And inform the police inspector and fill out all the forms to prove that I had handled it according to all procedures.

All went exactly as my patient had planned, and I was there at the heart-breaking moment of the final goodbye. Being engaged while keeping a professional distance is what 'the books' say your attitude as a doctor should be, but could somebody please tell me what that exactly means in a situation like this? Talks, tears and drinks were needed for me that night to deal with my own confusing emotions. Six weeks later and a few pounds lighter, I received the 'verdict' that I had handled it correctly and would not be prosecuted.

Although this euthanasia (my first) took place about twenty years ago, I can still recall all of my emotions very vividly.

Few professionals appeal to our imagination as doctors do; they are often placed on a pedestal by outsiders; looked upon as these strong men and women, heroes making life and death decisions on a daily basis, highly trained and educated. Few professions experience such a high degree of purpose and meaning as the medical profession does; nothing is more fulfilling than being able to help others and being appreciated for doing exactly that.

Such a privileged position comes with responsibilities since society's expectations are high and so are the stakes. Only insiders see and feel the vulnerability resulting from these responsibilities; being the one that has to make decisions that can have a huge impact, doubting whether you made the right decision, staying awake at night pondering whether you did the right thing. 'Every doctor has his own graveyard' is a well-known pronouncement that mirrors this combination of responsibility and vulnerability.

Working with doctors, I observe the struggle between being privileged and being vulnerable on a daily basis. I see extremely motivated and dedicated doctors, working crazy hours and going that extra mile for their patients. I also see frustrated and irritated professionals, unable to deliver the care that they feel they should and feeling powerless to do anything about it. Too often, I see very fragile doctors, balancing their time and energy, dealing with the impact of intense situations or a disciplinary complaint. How do you perform on a high level under such dynamic, intense and constantly changing conditions? That question has been the driver of my academic quest.

I intended to put the doctors in my scientific spotlight, listening to what they had to say, collecting their stories ... and so my journey started.

INTRODUCTION

In a field as complex, dynamic, resource-intensive and with such high stakes as healthcare, physician performance is vital for delivering high quality patient care. However, physicians today encounter increasing demands related to the care they feel they should give to their patients. Changing healthcare systems, changing market forces, societal pressure and increasing bureaucracy all add to the challenging tasks that physicians are faced with these days in trying to perform to the best of their ability (Askitopoulou & Vgontzas, 2017; Bonfrer et al., 2018, Levey 2015; Wallace et al., 2009). In the literature that addresses physician performance, this topic is mostly discussed on the individual level. The discourse covering performance-related aspects such as wellbeing and burnout (Hall et al., 2016; Shanafelt et al., 2015; Wallace et al., 2009) and poor performance (Bismark et al., 2013; Grace et al., 2014; Lens & van der Wal, 1995; Rosenstein & O'Daniel, 2008; Wachter, 2012) tend to focus on the individual physician. In competence-based frameworks, expected knowledge and skills are similarly described from an individual physician perspective (Frank & Danoff, 2007).

However, the work context, and especially peer interaction, is a known driving force for individual performance (Valentine et al., 2014). Adding to this, teamwork and a collaborative mind-set have increasingly become cornerstones in modern healthcare, with physicians increasingly performing in teams rather than individually (Weller et al., 2014). Thus, good interpersonal peer-relationships are essential in facilitating good teamwork, individual performance and the quality of patient care (Valentine et al., 2014; Welp et al., 2016). Teamwork expert Amy Edmondson emphasises psychological safety as critical for effective collaboration, especially in environments involving dynamic teams, high stakes and significant interdependencies, terms that fit well with the hospital environment (Edmondson, 1999, 2004, 2012).

The abovementioned discussion highlights that physician performance is increasingly about teamwork, in which interpersonal connection becomes essential to good performance. However, the literature seems to predominantly present an individual perspective. Consequently, in my research, I attempt to build a scientific bridge between the individual physician and the team.

Thus, the overall aim of this thesis is " *to unravel the essence of physician performance by exploring (i) how peer-interaction affects individual physician performance, and (ii) how the individual physician perceives performance".*

Through exploring these issues, I intend to enhance understanding of physician performance, inform on how to support doctors in increasing their performance and, ultimately, contribute to the quality of the patient care they provide.

Before discussing how I intend to achieve these aims, I will first explain the methodological rationale of this thesis and the practical setting in which this research takes place. Following this, I will introduce the concepts driving this thesis and share the general understanding of what is known regarding physician performance, about having a calling as being a crucial aspect of performance, and about psychological safety as the red line of team performance.

SETTING THE STAGE

This thesis has physician performance at its heart. In an era that breathes personalised healthcare, I believe that a personalised approach is appropriate for this scientific research. For me, capturing physicians' stories and exploring opinions and reflections is the foundation in understanding physician performance. Thus, I turn to doctors themselves for answers. Being interested in their perceptions, feelings, behaviour, relations to, and interactions with, each other, this thesis relies heavily on qualitative research involving hospital-based physicians.

The studies in this thesis are set in a Dutch hospital setting. A characteristic in the Netherlands is the variety in physicians' employment status within the same hospital organisation. Physicians may be either employed by the hospital or organised in independent entrepreneurships. Most hospitals have both employed physician groups on the hospital's payroll and various independent entrepreneurships autonomously responsible for their "mini enterprises" within hospitals. Within a hospital, all the hospital-based physicians come under a medical board as a counterpart to the hospital board. The role of the medical board is to stand up for and maintain the interests of all physicians in their hospital, regardless of their employment status. For example, quality and performance issues are regulated by the medical board on behalf of all physicians.

BACKGROUND LITERATURE AND THEORETICAL CONCEPTS

I will now introduce the concepts that drive this thesis, first by sharing existing knowledge from the literature on physician performance. Furthermore, the concept of having a

calling and its relationship with performance will be explained. Then we turn from the individual physician to the team by dipping into psychological safety as a core concept of high-performing physician teams.

Individual physician performance

The high stakes in healthcare ensure that many stakeholders become involved with, and have opinions on, the topic of 'physician performance'. These implicit ideas are made explicit in numerous charters and guidelines, all having roots extending back to the classic and oldest of all codes of conduct: the Hippocratic Oath (Royal Dutch Medical Association, 2004; Sritharan et al., 2001). Despite the remarkable changes in medical science, the Hippocratic Oath has survived as an ideal for almost 2500 years, inspiring physicians to reinvent and uphold valued ethical principles regarding their performance (Askitopuolou & Vgontzas, 2017). It captures the core values of the medical profession, centring on the duty to help sick people and avoid harm (Everdingen & Horstmanshoff, 2005; Hurwitz & Richardson, 1997).

Since healthcare is a human activity, these professional values are still considered fundamental to compassionate, ethical and patient-centred care and thus to a physician's performance (Cassel et al., 2015; Lesser et al., 2010; Medical Professionalism Project, 2002; Relman, 2007; Rider et al., 2014). Many documents translate these values into more hands-on guidelines and formulate good medical practice in concrete terms of knowledge, skills, communication, teamwork and maintaining trust and safety (General Medical Council, 2013; Medical Board of Australia, 2014; Royal Dutch Medical Association, 2007). At the most practical level, competence frameworks describe the actual knowledge, skills and abilities that physicians should have in order to provide high quality patient care (Frank & Danoff, 2007; Ten Cate et al., 2010).

Defining physician performance is complex since it encompasses all the aforementioned perspectives ranging from values to actual competences. Incorporating all these elements leads to definitions of professional performance as 'a physician committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behaviour' (Frenk et al., 2010). From a more practical perspective, physician performance can be viewed as that what physicians are actually seen to do in practice, being a reflection of their adherence to values and the necessary skills and competences (Lombarts, 2014).

Calling; amidst physician performance

Being a doctor is primarily a people business, helping others in their most vulnerable

hour of need. In a profession so strongly rooted in in the fundaments of human values, a work-related sense of meaning and purpose seems self-evident. Having a meaning is assumed to influence important work-related outcomes such as performance, and therefore we turn to what is known about the concept of calling (Dik & Duffy, 2009).

Despite the growing popularity of this topic in everyday life, the literature on 'calling' is still in its infancy and only recently been seen in the medical domain (Borges et al., 2013; Duffy & Dik, 2013; Goodin et al., 2014). A variety of definitions exist for 'calling' to a vocation. Dik and Duffy's seems to well reflect the general tone in defining a calling as a career that (i) involves an external summons, (ii) provides a sense of meaning or purpose, and (iii) is used to help others in some capacity (Dik & Duffy, 2009).

The first component states that motivation comes from an external source, intentionally leaving the source undefined since this may range from God to the needs of society to serendipitous fate. The second aspect posits that one's efforts should fit into a broader framework of purpose and meaning in life; a process that is believed to help people find stability and coherence in life. The third element draws on the historic interpretation that the purpose and meaningfulness should contribute (directly or indirectly) in some positive way to "the common good" or wellbeing of society (Dik & Duffy, 2009).

In an extended overview, Duffy and Dik conclude that, between 2007 and 2017, approximately 40 studies have been completed examining how a sense of calling links to work-related and general wellbeing outcomes, including increased career maturity, academic satisfaction, job satisfaction, career commitment, life meaning and life satisfaction (Duffy et al., 2011; Duffy & Dik, 2013; Duffy et al., 2017). Research in the medical domain has been limited to medical students, and indicates that first-year students feel strongly that medicine is the career they are called to, and that students interested in primary care most strongly express the presence of a calling (Borges et al., 2013). Having a calling also bolsters medical students who have lower levels of self-efficacy and it is positively correlated with career commitment (Goodin et al., 2014).

If, and how, physicians perceive this calling after graduation is still unknown. In terms of living out a calling, it is suggested that individuals actively craft their job to make it more meaningful or prosocial (Berg et al., 2013). Despite these positive outcomes, over-investing in one's work has a potential dark side so it is advisable to ensure a healthy pursuit of any calling (Duffy & Dik, 2013; Lysova et al., 2018). Given the often extreme working hours and workloads of physicians, this could be a dark side to take seriously.

From the individual to the team: psychological safety as the core concept of team-performance

Physicians increasingly perform in teams rather than individually. When addressing team or teamwork, the general consensus in the research literature is that a team consists of two or more individuals who have specific roles, perform interdependent tasks, are adaptable and share a common goal (Salas et al., 2005). Specifically in a healthcare setting: teamwork is the ongoing process of interaction between team members as they work together to provide care to the patients (Clements et al., 2007).

In this thesis, when referring to teams, I specifically mean teams of physicians. Turning to the teamwork literature, a plethora of studies highlight the benefits and importance of teamwork, and specifically in healthcare. Teamwork has been associated with a higher level of job satisfaction (Colette, 2004; Gifford et al., 2002; Rafferty et al., 2001), a higher quality of care (Grumbach & Bodenheimer, 2004; Mickan & Rodger, 2000; Wheelan et al., 2003), an increase in patient safety (Firth-Couzens, 2001; Morey et al., 2002) and greater patient satisfaction (Meterko et al., 2004). The extensive literature on healthcare teams has identified interpersonal-related topics including mutual respect and trust, collaboration, conflict resolution, participation and cohesion as required underpinning conditions for staff satisfaction and team effectiveness (Lemieux-Charles & Mc Guire, 2006; Thomas, 2011). Given the highly interdependent nature of physician teams, high quality peer-relationships are even more crucial in achieving high quality physician performance, both on the individual and a group level.

In this thesis, I therefore turn to the concept of psychological safety, extensively expounded upon by Amy Edmondson as the most important aspect of high performing teams (Edmondson, 1999, 2004, 2012; Edmondson & Lei, 2014). Organisational research has identified psychological safety as a critical factor in understanding phenomena such as voice, teamwork and team learning. Edmondson defines psychological safety as 'the shared beliefs that a team is safe for interpersonal risk taking and such environment exudes a sense of confidence that the team will not embarrass, reject, or punish someone for speaking up' (Edmondson, 1999). Translated to daily practice, interpersonal risk-taking means the willingness to bring up tough issues, ask questions, seek help, admit errors, back each other or simply say 'I'm not sure, I don't know' within your team (Edmondson 1999, 2012).

Teams whose members feel comfortable speaking honestly with each other, even when expressing contrarian perspectives, are the teams most likely to try new things and outperform others. Specifically, a dynamic, contact-intensive and interdependent

environment, such as healthcare, is likely to benefit from physicians feeling psychologically safe within their teams. Every interpersonal encounter contains a possibility to either build or destroy psychological safety, since it is really about what happens every time at that micro-level. It is in essence about questioning yourself: if I do or say this here, will I be hurt, embarrassed or criticised? A negative response indicates psychological safety and so you can proceed. This also means that actions unthinkable in one setting, can be readily taken in another owing to different beliefs about the probable interpersonal consequences. This phenomenon is called 'tacit calculus': 'the assessment of interpersonal risk associated with a given behaviour against the particular interpersonal climate' (Kramer & Cook, 2004).

In a more tangible form, individual supportive behaviour encompasses being accessible and approachable, admitting when you do not know something, willing to show fallibility, being inclusive instead of punishing, encouraging the embracing of error and, when others cross boundaries, set in advance, and fail to perform up to these standards, holding them accountable fairly and consistently (Nawaz et al., 2014). It can be argued that this interpersonal risk taking is especially important in the field of physician performance since this is a field of frequent peer-interaction under often limited time and resources combined with heavy workloads.

CHALLENGES ADDRESSED IN THIS THESIS

Having discussed the two driving concepts of physician performance (i.e. having a calling and psychological safety within the team) we will now explain our decision to split our main goal, unravelling the essence of physician performance into two challenges. In doing so, we aim to add a more detailed understanding of physician performance.

In the first challenge we focus on peer-interaction and how this interaction shapes the performance of the individual physician. Since physicians increasingly perform in teams, rather than individually, where interpersonal connection is an essential element in performing well, we argue that, in order to unravel the essence of physician performance, it is important to focus in on the peer-interaction aspect. This will contribute to realising the goal of this thesis by explaining in which way the individual doctor is influenced (either stimulated or discouraged) by peers.

The second challenge involves exploring physicians' perceptions of performance. As

we are interested in the essence of physician performance, we consider it essential to explicitly bring in the perceptions and experiences of physicians on this topic. This exploration will contribute to achieving the overall research goal by exposing expectations and activities that can influence performance in either a constructive or a destructive manner. The outline below provides further information on how these challenges are addressed in this thesis.

THESIS OUTLINE

We address the two challenges introduced above in Chapters 2-7 of this thesis, as shown in Figure 1.

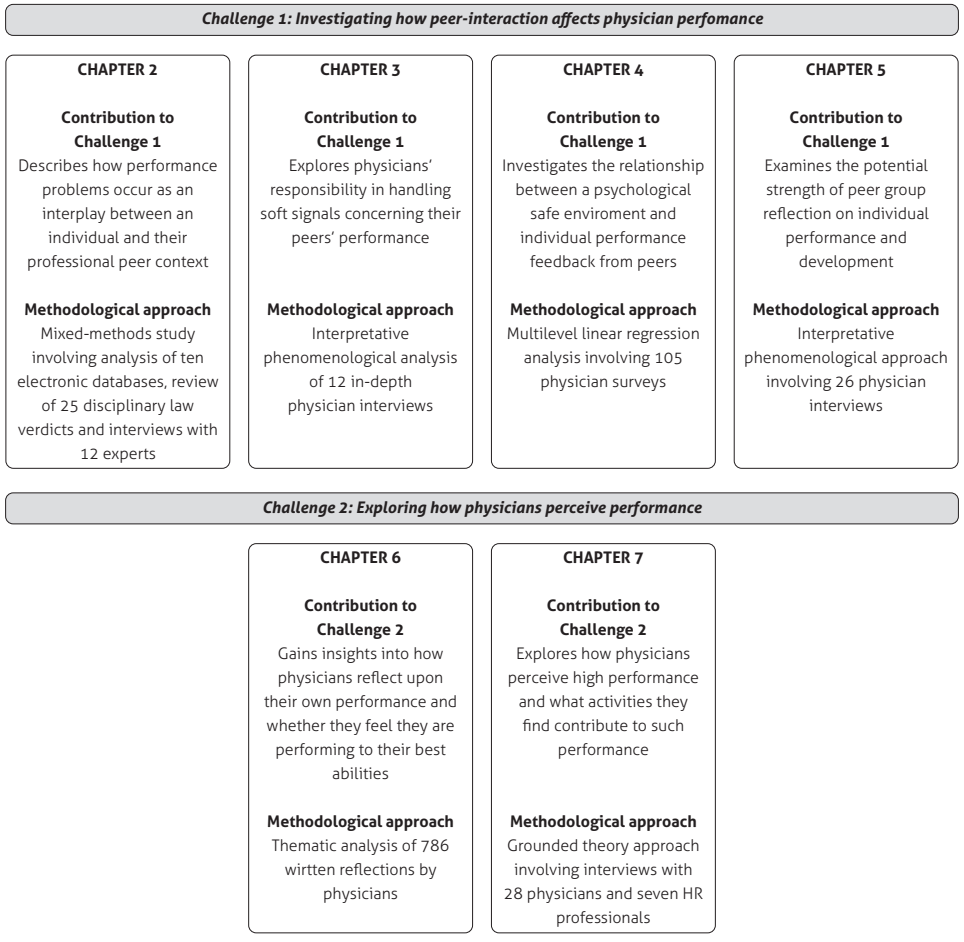

Figure 1. Overview of the challenges and the methodological and analytical approaches employed in this thesis

First, Chapter 2 is descriptive in nature with a focus on the 'downside' end of the performance spectrum, i.e. poor performance. Information is provided regarding the present situation with performance problems in the Netherlands. In contrast to the existing literature, we explicitly discriminate between individual characteristics and influential elements at the onset and in the continuation of poor performance.

In Chapter 3, I subsequently build on the knowledge of performance issues as an interplay between the individual and their professional context, and of forewarning signals that are available. I explore how physicians perceive, detect and react when confronted with these so-called 'soft signals' by their peers.

Chapter 4 dips deeper into the importance that physicians place on peer-relationships and social support, combined with the, also mentioned, challenging aspect of speaking up and addressing each other. Here, the relationship between a psychologically safe environment among peers and its effect on individual performance feedback that is given to each other is investigated.

In Chapter 5, individual performance feedback sets the stage for a peer group reflection. I explore the effect of reflecting with colleagues on the professional growth of the individual physicians.

Chapter 6, after unravelling the influence of peers on performance, shifts the focus to the individual doctor. I investigate physicians' personal reflections to better understand how they view their own performance, how they translate this into daily practice and what hinders optimum performance.

Chapter 7 offers a deeper exploration of the concept of high performance. I capture physicians' perceptions of high performance and retrieve doctors' definitions and crucial elements of high performance. I also identify HR practices that boost performance.

Chapter 8 discusses the findings of this thesis and what they mean for both theory and practice. It also addresses the limitations of this research and outlines directions for future work.

TERMINOLOGY

The variations in the terminology used to describe the abovementioned concepts can be confusing. To support its readability, I include the terminology that guided me in this thesis:

Physician performance

Physician performance is that what a physician actually does in daily practice, reflecting their adherence to values and the necessary medical, communicative and collaborative skills and competences.

Teamwork

The process of working collaboratively with a group of people in order to achieve a goal. In a medical setting, the ongoing process of interaction between physicians as they work together to provide care to their patients.

Psychological safety

A situation in which physicians feel safe to take interpersonal risks, meaning the willingness to bring up tough issues, ask questions, seek help, admit errors, back each other or simply say 'I'm not sure, I don't know' within the team.

Calling

A sense of purpose and meaning that this is the work one was meant to do, reflecting a belief that one's career is a central part of a broader purpose in life and should be used to help others.

REFERENCES

Askitopoulou H & Vgontzas AN (2017). The relevance of the Hippocratic Oath to the ethical and moral values of contemporary medicine. Part 1: The Hippocratic Oath from antiquity to modern times. *European Spine Journal* Oct 27. doi: 10.1007/s00586-017-5348-4. [Epub ahead of print].

Berg JM, Dutton JE, Wrzesniewski A (2013). Job crafting and meaningful work. *In B. J. Dik, Z. S. Byrne & M. F. Steger (Eds.), Purpose and meaning in the workplace,* pp. 81-104. Washington, DC: American Psychological Association.

Bismark MM, Spittal MJ, Gurrin LC et al. (2013). Identification of doctors at risk of recurrent complaints: a national study of health care complaints in Australia. *British Medical Journal of Quality & Safety,* 22(7):532-540.

Borges NJ, Manuel RS, Duffy RD (2013). Specialty interests and career calling to medicine among first-year medical students. *Perspectives on medical education*, 2:14-17.

Bonfrer I, Figueroa JF, Zheng J et al. (2018). Impact of financial incentives on early and late adopters among US hospitals: observational study. *British Medical Journal* Jan 3;360:j5622. doi: 10.1136/bmj.j5622.

Cassel CK, Hood V, Bauer WA (2015). A Physician Charter: The 10th Anniversary. *Annals of Internal Medicine,* 157(4):290-1.

Clements D, Dault M, Priest A (2007). Effective teamwork in Healthcare: Research and Reality. *Healthcare Papers,* 7, 26-34.

Colette JE (2004). Retention of nursing staff- a team-based approach. *Australian Health Review*, 28(3): 349-356.

Dik BJ & Duffy RD (2009). Calling and vocation at work. *The counseling psychologist,* 9;37:424–45.

Duffy RD, Dik BJ, Steger MF (2011). Calling and work-related outcomes: Career commitment as a mediator. *Journal of Vocational Behavior,* 78; 210-218.

Duffy RD, Allan BR, Dik BJ (2011). The presence of a calling and academic satisfaction: Examining potential mediators. *Journal of Vocational Behavior,* 79; 74-80.

Duffy RD & Dik BJ (2013). Research on calling: What have we learned and where are we going? *Journal of Vocational Behavior*, 83; 428-436.

Duffy RD, England JW, Douglass RP et al. (2017). Perceiving a calling and well-being: Motivation and access to opportunity as moderators. *Journal of Vocational Behavior*, 98;127-137.

Edmondson AC (1999). Psychological Safety and Learning Behavior in Work Teams. *Administrative Science Quarterly,* 44(2), 350-383.

Edmondson AC (2004). Learning from mistakes is easier said than done: group and organizational influences on the detection and correction of human error. *The Journal of Applied Behavioral Science,* 40(1), 66-90.

Edmondson AC (2012). Teaming: how organizations work, learn, innovate, and compete in the knowledge economy. San Fransisco, John Wiley & Sons.

Edmondson AC & Lei Z (2014). Psychological Safety: The History, Renaissance, and Future of an Interpersonal Construct. *Annual Review of Organizational Psychology and Organizational Behavior,* 1:23-4.

Firth-Couzens J (2001). Cultures for improving patient safety through learning: the role of teamwork. Qual Health Care, 10(2):26-31.

Frank JR & Danoff D (2007). The CanMEDS initiative: implementing an outcomes-based framework of physician

competencies. *Medical Teacher*, 29(7):624-647.

Frenk J, Chen L, Bhutta ZA et al. (2010). Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *Lancet*, 376(9756):1923-1958.

General Medical Council (2013). Good Medical Practice; Working with doctors working for patients. Available at: https://www.gmc-uk.org/ethical-guidance/ethical-guidance-for-doctors/good-medical-practice

Gifford BD, Zammuto RF, Goodman EA (2002). The relationship between hospital unit culture and nurses' quality of work life. *Journal of Health Care Management*, 47(1), 13-25.

Goodin JB, Duffy RD, Borges NJ et al. (2014). Medical students with low self-efficacy bolstered by a calling to their medical speciality. *Perspectives on Medical Education*, 3:89-100.

Grace ES, Wenghofer EF, Korinek EJ et al. (2014). Predictors of physician performance on competence assessments: findings from CPEP, the centre of personalized education for physicians. *Academic Medicine*, 89(6):912-919.

Grumbach K & Bodenheimer T (2004). Can health care teams improve primary care practice? *JAMA*, 291(10):1246-1251.

Hall LH, Johnson J, Watt I et al. (2016). Healthcare staff wellbeing, burnout, and patient safety: a systematic review. *Plos One*, 11(7): e0159015.

Hurwitz B & Richardson R (1997). Swearing to care: the resurgence in medical oaths. *British Medical Journal*, 315:1671-4.

Kramer RM & Cook KS, editors. (2004). Trust and distrust in organizations. Dilemmas and approaches. Chapter 10 Psychological Safety, Trust and Learning Organizations; a Group Level lens, 239-272.

Lemieux-Charles L, Mc. Guire WL (2006). What do we know about healthcare team effectiveness? A review of the literature. *Medical Care Research and Review*, 63(3),263-300.

Lens P,& Van der Wal G (1995). An investigation into malfunctioning od specialists in Dutch Hospitals. *International Journal of Risk and Safety in Medicine*, 7(3):191-201.

Lesser CS, Lucey CR, Egener B et al (2010). A Behavioral and Systems View of Professionalism. *Journal of the American Medical Association*, 304(24):2732-37.

Levey NN (2015). Medical professionalism and the future of public trust in physicians.*Journal of the American Medical Association*, 313(18):1827-1828.

Lombarts K (2014). Professional Performance van artsen, tussen tijd en technologie. 2010uitgevers.

Lysova EI, Jansen PGW, Khapova SN et al (2018). Examining calling as a double-edged sword for employability. *Journal of Vocational Behavior*, 104;261-272.

Medical Board of Australia (2014). Good Medical Practice: a Code of Conduct for doctors in Australia. Available at: https://www.medicalboard.gov.au/Codes-Guidelines-Policies/Code-of-conduct.aspx

Medical Professionalism Project (2002). Medical Professionalism in the new millennium: a physicians' charter. *The Lancet*, 359:520-22.

Meterko M, Mohr DC, Young GJ (2004). Teamwork culture and patient satisfaction in hospitals. *Med Care.* 2004;42(5):492-498.

Mickan S, Rodger S (2000). Characteristics of effective teams: a literature review. *Australian Health Review*, 23(3):201-208.

Morey JC, Simon R, Jay GD et al. (2002). Error reduction and performance improvement in the emergency department through formal teamwork training: evaluationmresults of the Med Teams Project. *Health Services Research*, 37(6):1553-1581.

Nawaz H, Edmondson AC, Tzeng TH et al (2014). Teaming: An Approach to the Growing Complexities in Health Care: AOA critical issues. *The Journal of Bone and Joint Surgery*, 96(21):e184(1-7) http://dx.doi.org/10.2106/JBJS.M.01268.

Rafferty, A.M., Ball, J., Aiken, L.H. et al. (2001). Are teamwork and professional autonomy compatible, and do they result in improved hospital care? *BMJ Quality & Safety*, 10:ii32-ii37.

Relman, A.S. (2007). Medical Professionalism in a Commercialized Health Care Market. *Journal of the American Medical Association*, 298(22):2668-70.

Rider, E.A., Kurtz, S, Slade D, et al.(2014). The International Charter for Human Values in Healthcare: An interprofessional global collaboration to enhance values and communication in healthcare. *Patient Education and Counseling*, 96(3):273-80.

Rosenbaum, L. (2019). Cursed by Knowledge- Building a culture of Psychological Safety. *New England Journal of Medicine*, 380(8), 786-790.

Rosenstein, A.H., O'Daniel, M.A. (2008). A survey of the impact of disruptive behaviors and communication defects on patient safety. *Joint Commission Journal on Quality and Patient Safety*, 34(8):464-471.

Royal Dutch Medical Association (2004). Nederlandse artseneed. Available at: https://www.knmg.nl/web/file?uuid=90993000-e3b8-4713-9e8d-28a7d85eb918&owner=5c945405-d6ca-4deb-aa16-7af2088aa173&contentid=1571&elementid=1149672

Royal Dutch Medical Association (2007). Medical Professionalism Manifesto. Available at: https://www.knmg.nl/web/file?uuid=90993000-e3b8-4713-9e8d-28a7d85eb918&owner=5c945405-d6ca-4deb-aa16-7af2088aa173&contentid=1571.

Salas, E., Sims, D.E., Burke, C.S. (2005). Is there a "Big five" in teamwork? *Small Group Research*, 36(5),555-599.

Shanafelt, T.D., Hasan, O., Dyrbye, L.N. et al. (2015). Changes in burnout and satisfaction with work-life balance in physicians and the general US working population between 2011 and 2014. *Mayo Clinic Proceedings*, 90(12):1600-1613.

Sritharan, K., Russel, G., Fritz, Z. et al. (2001). Medical Oaths and Declarations: A Declaration Marks an Explicit Commitment to Ethical Behavior. *British Medical Journal*, 323(7327):1440-144.

Ten Cate, O., Snell, L., and Carracio, C. (2010). Medical competence: the interplay between individual ability and the health care environment. *Medical Teacher*, 32(8):669-675.

Thomas EJ (2011). Improving teamwork in healthcare: current approaches and the path forward. *BMJ Quality & Safety*, 20(8):647-650.

Valentine MA, Barsade S, Edmondson AC et al. (2014). Informal Peer Interaction and Practice Type as Predictors of Physician Performance on Maintenance of Certification Examinations. *Journal of the American Medical Association Surgery*, 149(6):597-603.

Van Everdingen EEJ & Horstmanshoff HFJ (2005). De nieuwe Nederlandse artseneed. *Nederlands Tijdschrift voor Geneeskunde*, 149(19):1062-1067.

Wachter RM (2012). Disciplining doctors for misconduct: character matters but so does competence. *BMJ Quality & Safety*, 21(12):976-978.

Wallace JE, Lemaire JB, Ghali WA (2009). Physician wellness: a missing quality indicator. *Lancet,* 374(9702):1714-1721.

Weller J, Boyd M, Cumin D (2014). Teams, tribes and patient safety: overcoming barriers to effective teamwork in healthcare. *Postgraduate Medical Journal,* 90(1061):149–154.

Welp A, Meijer LL, Manser T (2016). The interplay between work, clinicians' emotional exhaustion and clinician-rated patient safety: a longitudinal study. *Critical Care*, 20:110. DOI 10.1186/s13054-016-1282-9.

Wheelan SA, Burchill CN, Tilin F (2003). The link between teamwork and patients' outcomes in intensive care units. *Am J Crit Care*, 2(6):527-534.

Chapter 2

Poor physician performance in The Netherlands: Characteristics, causes, and prevalence

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'It is very important that you can trust your colleagues unconditionally, otherwise things might go wrong. Conflicts within a group always come at the expense of the patients' safety. This is literally a life-threatening issue, teams and trust within the team is incredibly important'

Participant in High Performance study, Chapter 7

ABSTRACT

The purpose of this chapter is to describe poor physician performance in The Netherlands from a perspective broader than the individual. In the current discourse of poor performance, the terminology characteristics and causes seem to be used synonymously and individual elements prevail. That motivates us to explicitly discriminate individual characteristics from potential other elements contributing to the onset and continuation of individual performance issues.

To provide a variety of informational sources, we choose a mixed methods study involving literature review of ten electronic databases, review of disciplinary law verdicts and twelve expert interviews to investigate this topic.

The article concludes that characteristics of poor performance are assigned to the individual physician, referring to deficits in knowledge, skills and behaviour. However, contextual elements serve as soil for potential problems to thrive to full blown poor performance. Poor collaboration, poor communication, lack of criticism, insufficient leadership and lack of professional development all play a pivotal role in the onset and continuation of poor performance. Therefore we argue that poor performance should be considered on a system level rather than viewed as a pure individual physician issue.

INTRODUCTION

In spite of its top ranking in the Euro Canada Health Consumer Index (Erikkson & Björnberg, 2009; Björnberg, 2013) the Dutch health care system also has its share of professional high-stake misconduct cases in the media, focusing public and policy attention on patient safety and putting the subject of physician performance emphatic in the spotlight of both the public and the medical community. The impact of poor performance is profound and extends from the actual harm done to the patient (first victim), the emotional distress of the physician or team involved (second victim), the negative effect on the health care facility (third victim), to undermining society's trust in the health care system (Ullström et al,2013). Internationally, a variety of definitions have been used to describe poor performance, illustrated in Table 1 (College of physicians and surgeons in Ontario, 2008; General Medical Council 2014; House of Delegates of the Federation of State Medical Boards of the United States, 2012; Royal Dutch Medical Association, 2012).

Table 1. Overview of various definitions regarding poor / substandard performance

Authoritative Source	*Definition*
Royal Dutch Medical Association (The Netherlands)	Poor performance is a structural situation of poor quality of care, in which a patient is harmed or at risk of being harmed and whereby the concerning physician is not able or willing to deal with the problem himself/herself.
Federation of State Medical Boards (USA)	'Incompetence' means lacking the requisite abilities and qualities (cognitive, non-cognitive and communicative) to perform effectively in the scope of the physician's practice.
Federation of State Medical Boards (USA)	'Dyscompetence' means failing to maintain acceptable standards of one or more areas of professional physician practice.
General Medical Council (United Kingdom)	A poorly performing doctor is a physician whose competence, conduct or behavior poses a potential risk to patient safety or to the effective running of a clinical team.
General Medical Council (United Kingdom)	Performance concern: a concern about a doctor's practice can be said to have arisen where an incident causes, or has the potential to cause, harm to a patient, staff or the organization; or where the doctor develops a pattern of repeating mistakes, or appears to behave persistently in a manner inconsistent with the standards described in Good Medical Practice.

In this study, the operational definition, published by the Royal Dutch Medical Association, is followed, defining poor performance as a situation in which (i) a pattern of poor quality of care exists, (ii) patients are harmed or at risk of being harmed, and (iii) the

concerning physician is unable or unwilling to deal with the situation himself or herself (Royal Dutch Medical Association, 2012). Although the relevance of physicians' poor performance is undisputed, research addressing the subject is still scant, presumably because of the sensitivity of the subject (Donaldson et al., 2013; Walshe & Shortell, 2004). The amount of attention that this topic has received in the media suggests it to be a large-scale issue. In the Netherlands, the most recent study reports 970 preventable adverse events in hospitals per year (Langelaan et al., 2013). It is plausible that poor physician performance may be accountable for a number of these adverse events.

Performance problems seem to be of multifactorial origin (Donaldson et al., 2013; Walshe & Shortell, 2004, Wenghofer et al., 2009) including features related to the individual physician, his or her work environment, and degree of professional development (Leape & Fromson, 2006; Lens & Van der Wal, 1995; Wenghofer et al., 2009). On the individual level, elements such as physical and mental health, behaviour, and competence are mentioned in previous research (Bismark et al., 2013; Donaldson, 1994; Leape et al., 1991; Leape et al., 2012; Rosenstein & O'Daniel, 2008; Wachter, 2012). The influence of the work environment is described in the literature focusing on high-stake poor physician performance cases, showing common causes such as a culture of secrecy and protectionism, failing management systems, and incompetent leadership (Dixon-Woods et al., 2013; Donaldson et al., 2013; Walshe & Shortell, 2004). The importance of professional development is reflected by research linking professional behaviour and professional attitude (DesRoches et al., 2010; Lombarts et al., 2014; Roland et al., 2011). Thus, diverse conditions seem to be influential in either improving or declining the performance level of the individual physician (Figure 1), which can eventually lead to a situation of poor performance.

Determining the prevalence of poor performance seems complicated. In the international literature, prevalence rates vary from 0.5% to 12%, depending on the method of identification as well as the definition used (Donaldson et al., 2013; Lens & Van der Wal, 1995; Van Diemen-Steenvoorde, 2013; Williams, 2006). In previous research, 'characteristics' and 'causes' seem to be used synonymously in addressing poor performance and do not seem to be considered as separate elements. Causes of poor performance have been predominantly described using individual-related aspects such as burnout, lack of (social) skills, or substance use (Donaldson et al., 2013; Leape et al., 2012; Lens & Van der Wal, 1995). Within the work environment, poor management systems, disregarded warning signals, and protectionism have been mentioned as causes in major failure cases (Dixon-Woods et al., 2013; Wachter, 2012; Walshe & Shortell, 2004). In the Netherlands, the Dutch Healthcare Inspectorate entrusted an inventory of

the extent of poor performance in 1994, resulting in a prevalence rate of 0.9% (Lens & Van der Wal, 1995). To update and broaden their view on poor performance, the Health Care Inspectorate issued new research in 2013. The results of this study were taken into account in tuning their current policy (Van Diemen-Steenvoorde, 2013). The aim of this study was to describe (i) characteristics of poor performance, (ii) causes contributing to the onset and continuation of poor performance, and (iii) the prevalence of poor performance among physicians in the Netherlands. We considered characteristics to be the actual features of poor performance, causes to be the triggers that could possibly evoke these characteristics, and prevalence to be the frequency of occurrence.

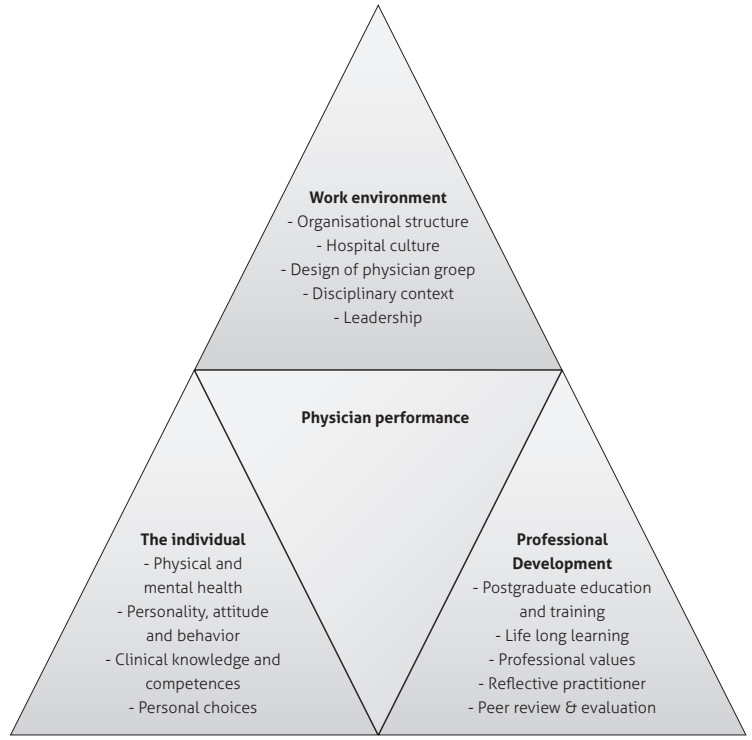


Figure 1. The Performance triangle; conditions that can influence the performance level of the individual physician.

METHODS

Study Design

Because the literature addressing poor performance is still scant, it could be expected that relying solely on the literature to contribute to the aim of our study would not be sufficient. Therefore, in addition to conducting a literature review, we added a review of disciplinary law verdicts and expert interviews, to provide as much information as possible on characteristics, causes, and prevalence of poor performance.

Literature Review

The primary data sources for the literature review were electronic databases PubMed, CINAHL, Sociological Abstracts, Cochrane Library, Social Science Network, NIVEL catalogue, Driver, Picarta, Oaister, and Narcis. Databaseswere searched from the period 2002 to 2012, whereby physicians of all specialties (practicing in the Netherlands) were included. The search terms included professional misconduct, physicians/legislation and jurisprudence, problem doctors, disruptive behaviour, poorly performing doctors, dysfunctional physicians, and unprofessional behaviour. Articles included reviewed definition, characteristics, extent, cause, and/or consequences of poor performance. Titles were independently reviewed by 2 researchers to judge their relevance. Abstracts of selected articles were reviewed based on the formulated inclusion and exclusion criteria. Finally, the full text of selected articles was read to determine ultimate inclusion. Differences in opinion were discussed between the researchers until consensus was reached.

Review of Disciplinary Law Verdicts

Under Dutch law, disciplinary complaints are judged according to medical professionalism guidelines laid down in the Medical Professionalism Manifesto.27 Therefore, disciplinary rulings can be expected to hold relevant information on the subject of poor performance. We examined published disciplinary verdicts of Regional Disciplinary Boards from 2010 to mid-2012. Given that accurate accessibility of these was only available since 2010, we used a restricted period of 2010 to 2012. Feasibility required inclusion of only 25 most recent verdicts. These verdicts were reviewed based on the main elements of the definition of poor performance as described by the Royal Dutch Medical Association (Central Board of the Dutch Medical Specialists, 2008; Royal Dutch Medical Association, 2012). Information regarding characteristics and causes of poor performance were extracted from each verdict and described per case.

Expert Interviews

To provide more in-depth information on the subject of poor performance, we consulted

people who are professionally engaged in preventing, signalising, mediating, or solving issues of poor physician performance in the period from May to August 2012. We purposefully invited people from different backgrounds and professional perspectives, including 5 (former) physicians with additional experience in either management or training and education, 3 law professionals, and 4 professionals with a (quality) management background including a chairman of a hospital board. In addition, the researchers used input from their own extended networks to evaluate whether all angles of incidence were reviewed. The previously mentioned 12 experts were approached, and all agreed to participate. A protocol was available to guide the semi-structured interviews. Categories included professional expertise, concept exploration, estimated prevalence, knowledge of characteristics of poor performance, and causes contributing to the onset and/or continuation of poor performance. The interviews were audio recorded and analysed by coding, using templates of categories of characteristics, causes, and extent. Results were reviewed and discussed within the research group.

RESULTS

The variety and combination of the 3 methods used contributed to the comprehension of characteristics, causes, and extent of poor performance.

Characteristics of Poor Performance

Literature review with reference to poor physician performance in the Netherlands produced 2869 hits. After focusing on publications in the Netherlands during 2002 to 2012 and deduplication, 1064 articles remained. Selection based on title and abstract resulted in 66 publications, of which 28 articles were eventually included in the description of the results (Supplementary File 1). Articles included medical file research, surveys, literature review, disciplinary file research, and adverse event discussions (Supplementary File 2). Studies showed that characteristics of poor performance were predominantly expressed by incorrect evaluation or treatment (Cuperus-Bosma et al., 2006; Drewes et al., 2009; Gaal et al., 2011; Hout et al., 2005; Leape et al,. 1991; Leusden-Donker et al., 2006;Mahdavian Delavary et al., 2010; Stolper et al., 2010; Van Noord et al., 2010) and, to a lesser extent, poor social interaction and inappropriate behaviour (Leusink & Mokkink, 2004; Meijman, 2004), illustrated in Table 2.

Review of disciplinary law verdicts indicates 15 of the 25 examined disciplinary law verdicts against physicians relating to incorrect treatment or diagnosis, including incorrect record keeping (Table 2). Inappropriate behaviour occurred more frequently in

the group of general practitioners (20%) compared with other specialists (4%).

Expert interviews were conducted with 12 professionals, after which saturation was reached. In their opinion, poor performance can be related to the 7 roles as defined by the CanMEDS (the Canadian Medical Education Directives for Specialists), namely, medical expert, scholar, communicator, professional, collaborator, manager, and health advocate. In their opinion, characteristics of poor performance hold aspects such as denial in keeping medical records accurate and up to date, not keeping up registrations, poor transfer of patient information during shifts, not being available or not showing up when needed, and non-responsiveness regarding agreements (Table 2).

Causes of Poor Performance

Literature review points out the following causes contributing to the onset and continuation of poor performance: collaboration / communication problems among physicians and /or among physicians and the hospital board (Langelaan et al., 2013; Meulemans, 2016; Smits, 2009; Zwaan, 2012), insufficient intervention from physician groups or the medical board with reference to poor performance(Rosingh et al., 2012), lack of opportunities for adequate peer evaluation (Renckens, 2003), as well as personal problems such as depression/addiction/burnout and working on a solitary basis (Gevers et al., 2010; Prins et al., 2010; Twellaar et al., 2008; Visser et al., 2003),illustrated in Table 2.

Review of disciplinary law verdicts indicated inadequate anamnesis or physical examination, refusing to consult a patient, or poor communication with patients or family as causes of poor performance. Not being able or not taking the time to adequately inform patients about what they can expect or refusing to keep patient files correct and up to date also resulted in disciplinary verdicts.

In the opinion of the interviewed experts, causes of poor performance could be divided into aspects related to the individual, the work environment, and (lack of) professionalism. Personal aspects include an absence of critical self-reflection. Non-receptiveness regarding feedback from the professional environment is a significant component in both onset and continuation of poor performance. The reverse situation, over self-criticism, poses an increased risk of burnout, which can also subsequently cause poor performance. Both physical and mental illnesses (depression, burn-out, addiction) are risk-enhancing triggers.

Table 2: Overview of characteristics and causes of poor performance

Study element	*Characteristics*	*Cause*	*Prevalence*
Literature review	• Incorrect evaluation • Incorrect treatment • Poor communication skills • Inappropriate behavior	• Imperfect collaboration / communication between professionals • Insufficient intervention from group / medical board • Impaired peer evaluation • Personal problems: - Depression - Burn out - Addiction • Working solitary	Literature did not contain enough information to label poor performance according to the definition of the Royal Dutch Medical Association. In international literature prevalence rates vary from 0,5 -12%
Disciplinary law verdict review	• Incorrect diagnosis • Incorrect treatment • Inadequate record keeping • Inappropriate behavior	• Inadequate information • Inadequate anamnesis • Poor communication • Inadequate record keeping • No show	Disciplinary law verdicts could not label poor performance according to the definition of the Royal Dutch Medical Association. Law verdicts lacked information about recurrence of a situation and information about objectionable behavior
Expert interview	• Medical-technical • Poor shift transfer • Inadequate record keeping/registration • Unattainability • Non-responsiveness regarding agreements	Personal aspects: - Poor self-reflection - Non responsiveness to feedback - Burn out - Depression - Addiction Work environment aspects: - Poor collaboration and communication - Lack of criticism - Lack of addressing under performance - Insufficient leadership - Insufficient responsibility hospital board - Distance between 'blunt end' and frontline - Indistinct legal context Professional development aspects: - Lack of postgraduate professional development - Lack of peer review an evaluation - Lack of reflection in general	The often mentioned 5% seemed an adequate estimation according to the experts

Regarding the work environment, a specific and strong professional hospital culture is, in the experts' view, a significant aspect in both the onset and continuation of poor performance. Particularly lack of criticism, poor collaboration and communication, and lack of addressing underperformance by peers were mentioned. The indistinct legal context of poor performance, lack of management leadership, and perceived distance between "the blunt end"—that is, where policies/regulations and incentives are generated—and the frontline, were mentioned as contributors to the continuation of poor performance. Lack of postgraduate professional development is another cause in the onset and continuation of poor performance. In the experts' opinion, postgraduate professionalization is generally limited to technical aspects rather than focusing on professional values and performance.

Experts stated that poor performance mostly occurs as an interplay of the individual physician and the context in which he or she performs.

Prevalence of Poor Performance

The reviewed literature could not provide an estimated prevalence rate of poor performance. The literature shows the type of physicians' actions that lead to complaints but it does not contain enough information to label poor performance. Specifically, the element of "a pattern" as posed in the Royal Dutch Medical Association's definition could not be judged.

Review of disciplinary law verdicts also lacked information about recurrence of a situation as well as information about objectionable behaviour. Therefore, they cannot be labelled as "poor performance" according to the Royal Dutch Medical Association's definition. The only exceptions were cases concerning inappropriate sexual related behaviour; the gravity of such behaviour is regarded poor performance, even if it only happens once.

The interviewed experts are not aware of an exact rate of poor performance. According to them, the often mentioned prevalence of 5% seems to be an adequate estimation. In their view, there is no evidence of an increase in underperformance during the last 20 years.

DISCUSSION

Main Findings

This study explored characteristics, causes, and prevalence of poor performance using literature review, review of disciplinary law verdicts, and expert interviews (Table 2).

Characteristics of poor performance are described, by all 3 methods, on individual physician level with topics such as inadequate evaluation; diagnosis or treatment, including poor record keeping; and poor communication skills or inappropriate behaviour.

Causes contributing to the onset and continuation of poor performance include cultural, organizational, and professionalism aspects; lack of addressing poor performance, insufficient intervention from medical or hospital board, and lack of postgraduate professional development are of importance.

The extent of poor performance could not be captured in a prevalence rate. The often mentioned prevalence of 5% seems to be an adequate estimate in the experts' opinion.

Explanation of the Findings

Our findings describe characteristics of poor performance mostly on the individual physician level with topics including deficit in knowledge and skills and inappropriate behaviour (Figure 1).

These findings echo the international literature addressing complaints such as deficits in clinical care and communication (Bismark et al., 2013; Cuperus-Bosma et al., 2006; Royal Dutch Medical Association, 2007), disruptive behaviour including angry outbursts, verbal threats, and unwanted physical contact (Leape et al., 2012); and professional misconduct such as sexual misconduct and inappropriate medical care (Alam et al., 2012; Bismark et al., 2013; Elkin et al., 2011; Wachter, 2012). To our knowledge, no studies so far differentiated explicitly between characteristics and causes of poor performance. Emphasis on the individual aspects regarding characteristics of poor performance could possibly be explained by the focus of the Dutch definition. A challenging aspect in this definition is the fact that, to be considered a poor performer, a physician has to meet all three elements of the definition as follows: (i) pattern of poor quality of care, (ii) risk of patient harm, and (iii) unwillingness or inability to solve the problem. The broader American and British definitions contain additional elements such as potential risk to patient safety or to the effective running of a clinical team (General Medical Council, 2014) and lacking the qualities to perform effectively in the scope of the physician's

practice (College of Physicians and Surgeons in Ontario, 2008; House of Delegates of the Federation of State Medical Boards of the United States, 2012), illustrated in Table 1. In their recent policy statements, the Dutch regulatory bodies have focused on performance improvement and prevention of poor performance (Central Board of the Dutch Medical Specialists Organization, 2013; Van Diemen-Steenvoorde, 2013;). As a result, the Dutch Health Care Inspectorate has recently extended its definition of poor performance to include issues such as collaboration and communication more emphatically (Dutch Health Care Inspectorate, 2014).

Although characteristics of poor performance are captured on the individual physician level, our study suggests that causes contributing to the onset and continuation of poor performance also include organizational and cultural aspects as well as aspects related to professional development. In our study, expert interviews contained the most in-depth information on causes of poor performance. Elements that were described as causes of poor performance also led to its (often long-standing) continuation. This study gives ample support for the finding that poor performance almost always seems to occur as an interplay of an individual and his or her professional context, that is, collaboration with the physician group, medical staff, and hospital board. This resonates with the international literature labelling elements such as poor management systems, barriers to disclose and investigate, conflicts and confusion from the "blunt to sharp end," and communication or collaboration problems of importance concerning the onset of major failures (Cochran & Elder, 2014; Dank et al., 2014; Dixon-Woods et al., 2013; Nyberg, 2014; Walshe & Shortell, 2004; Wenghofer et al., 2009).

Surprisingly similar features of major failures exist in different countries—including the Netherlands—such as long incubation periods during which warning signs were discounted, a culture of secrecy, protectionism, and denial of uncomfortable information (Dixon-Woods et al., 2013; Wachter, 2012; Walshe & Shortell, 2004). It is remarkable that causes and characteristics are similar in different countries with varying health care organization and funding. This may suggest that causes contributing to the onset and continuation of poor performance are deeply embedded in the system, culture, and behaviour of clinical practice and the health care profession (Dixon-Woods et al., 2013; Leape et al., 2012; Walshe & Shortell, 2004). An unanticipated result was the influence of (lack of) professional development on the onset and continuation of poor performance as indicated by the experts in our study. This outcome seems to be in line with reports expressing continuous investment in lifelong learning of competence and skills as well professional values as essential in resolving issues of poor performance (General Medical Council 2012; Kaigas, 2000; Lombarts et al., 2003). The professionalism

literature underpins the importance of the role of professional behaviour in detecting or reporting incompetent physicians (DesRoches et al., 2010; Hickson et al., 2007; Wynia, 2010). Conclusively, when talking about poor performance, a focus broader than just the individual physician could be considered.

Unravelling the exact prevalence of poor performance seems to be complicated. Internationally, the extent of poor physician performance is predominantly based on estimations,26 echoing the reported estimated prevalence rate of 5% by the interviewed experts in this study. Both the literature review and the review of disciplinary law verdicts lacked sufficient information to estimate a prevalence rate. The international estimated rates vary ranging from 0.5% to 12%(Donaldson, 1994; Donaldson et al., 2013; Grace et al., 2014; Leape et al., 2012; Lens & Van der Wal, 1995; Williams, 2006). One of the main reasons for the complexity to estimate the extent of poor performance is the absence of a generally accepted operational definition (Williams, 2006). In the Netherlands, an operational definition is available, suggesting that it should be easier to extract a more exact prevalence. This study however did not meet that expectation. It is conceivable that, besides the existence of an operational definition, actual measurement of poor performance could contribute in acquiring a prevalence rate.

Strengths and Limitations of the Study

The sample of analysed disciplinary law verdicts was relatively small, the wide variety of analysed problems from the literature review and law verdicts could only be divided into broad categories, and it was not possible to extrapolate a prevalence rate. Nevertheless, because of the diverse perspectives that were taken into account, the results do provide a broad view on poor performance in the Netherlands. Furthermore, the study produces a distinct discrimination between its characteristics and causes.

Implications for Policy and Research

To prevent possible patient harm caused by poor performance, focus should be on early identification and prevention of suboptimal performance or first stages of poor performance. Recommendations could include a focus on performance improvement by creating a culture of speaking up, blame-free discussion of performance concerns, and continuous striving for excellence. The use of performance assessments, preferably individual and group oriented, could be instrumental to creating such a culture. We feel that improvement strategies resulting from these assessments should not be without consequences. In addition, in postgraduate medical education, professional development could be emphasized, paying special attention to items such as professional values, self-reflection, feedback, empathy, and professional accountability. Further research

concerning early warning signs of poor performance could contribute to its prevention.

CONCLUSIONS

Poor physician performance has a profound impact on patient safety and society's trust in the health care system. Despite the media spotlight on and concerns of patient safety, the exact frequency of actual poor physician performance is not yet clear. Deficit in individual physician knowledge and skills as well as inappropriate behaviour is described as characteristics of poor performance. Causes contributing to the onset and continuation of poor performance go beyond the individual physician. They encompass work environmental aspects and (lack of) professional development. Therefore, it seems important to also consider the topic of poor performance on a system level rather than solely as an individual issue.

REFERENCES

Alam A, Kurdyak, P, Klemensberg J, et al. (2012). The characteristics of psychiatrists disciplined by professional colleges in Canada. *Plos One,* 7(11):e50558.

Bismark MM, Spittal MJ, Gurrin LC, et al.(2013). Identification of doctors at risk of recurrent complaints: a national study of health care complaints in Australia. *BMJ Qual Saf,* 22:532-540.

Björnberg A. (2013). Euro Health Consumer Index Report. *Health Consumer Powerhouse.*

Central Board of the Dutch Medical Specialists Organization OMS (2008). Model reglement mogelijk disfunctioneren medisch specialist.

Central Board of the Dutch Medical Specialists Organization OMS (2013). Optimaal functioneren van medisch specialisten. Available at: https://www.nvog.nl/wp-content/uploads/2018/02/Visiedocument-Optimaal-functioneren-1.0-01-12-2013.pdf.

Cochran A & Elder WB (2014). A model of disruptive surgeon behavior in the perioperative environment. *Journal of the American College of Surgeons,*219:390-8

College of Physicians and surgeons in Ontario (2008). Guidebook for managing disruptive physician behavior. http://www.docsmbwellness.org/wp-content/uploads/2014/08/Disruptive_Behaviour_GuidebookCPSO.pdf

Cuperus-Bosma JM, Hout FAG, Hubben JH, et al. (2006). Views of physicians, disciplinary board members and practicing laywers on the new statutory disciplinary for health care in The Netherlands. *Health Policy,* 77:202-211.

Dang D, Nyberg D, Walrath JM et al. (2014). Development and validation of the Johns Hopkins Disruptive Clinician Behavior Survey. *American Journal of Medical quality,* 30(5);470-476.

DesRoches CM, Rao SR, Fromson JA et al. (2010). Physicians' perceptions, preparedness for reporting, and experiences related to impaired and incompetent colleagues. *JAMA,* 304:187–93.

Dixon-Woods M, Baker R, Charles K, et al. (2013). Culture and behavior in the English National Health Service: an overview of lessons from a large multimethod study. *BMJ Qual Saf,* 0:1-10.

Donaldson LJ. (1994). Doctors with problems in an NHS workforce. *BM,* 308:1277-82.

Donaldson LJ, Panesar SS, McAvoy PA et al. (2013). Identification of poor performance in a national medical workforce over 11 years: an observational study. *BMJ Qual Saf,* 0:1-6.

Drewes YM, Meesters JP, Gussekloo J, et al. (2009). Tuchtrechtuitspraken over screening en preventieve diagnostiek. *Nederlands Tijdschrift voor Geneeskunde,* 153:A233.

Elkin KJ, Spittal MJ, Elkin DJ, et al. (2011). Doctors disciplined for professional misconduct in Australia and New Zealand, 2000-2009. *MJA,* 194:452-456.

Erikkson D & Björnberg A.(2009). Euro-Canada Health consumer Index. *Health consumer Powerhouse.*

Gaal S, Hartman C, Giesen P, et al. (2011). Complaints against family physicians submitted to disciplinary tribunals in The Netherlands: lessons for patient safety *Annals of Family Medicine,* 9:522-527.

General Medical Council (2013). Ready for revalidation: the Good medical practice framework for appraisal and revalidation. Available at: https://www.gmc-uk.org/-/media/documents/The_Good_medical_practice_framework_for_appraisal_and_revalidation___DC5707.pdf_56235089.pdf

General Medical Council (2014). A guideline for health professionals on how to report a doctor to the GMC. Available at: https://www.gmc-uk.org/-/media/documents/A_guide_for_health_professionals_on_how_to_report_a_doctor_to_the_GMC_0316.pdf_48911924.pdf

Gevers J, Erven P van, De Jonge J et al. (2010). Effect of acute and chronic job demands on effective individual teamwork behaviour in medical emergencies. *Journal of Advanced Nursing,* 66:1573-1583.

Grace ES, Wenghofer EF, Korinek EJ et al.(2014). Predictors of physician performance on competence assessment: findings from CPEP, the center of personalized education for physicians. *Academic Medicine,* 89:912-919.

Health Care Inspectorate IGJ (2013). Aanscherping definitie disfunctioneren. Available at: https://www.igj.nl/documenten/rapporten/2013/12/13/aanscherping-definitie-disfunctioneren

Hickson GB, Pichert JW, Webb LE, et al. (2007). A Complementary approach to promoting professionalism: Identifying, measuring, and addressing unprofessional behaviors. *Academic Medicine,* 82:1040-48.

House of Delegates of the Federation of State Medical Boards of the United States (2012). Essentials of a State Medical and Osteopathic Practice Act. Available at: https://www.fsmb.org/siteassets/advocacy/policies/essentials-of-a-state-medical-and-osteopathic-practice-act.pdf.

Hout FAG, Cuperus-Bosma JM, Hubben JH, et al. (2005). Publicatiepraktijk en –beleid van de tuchtrechtspraak voor de gezondheidszorg. *Nederlands Tijdschrift voor Geneeskunde,* 149:425-429.

Kaigas T. Assessment of the performance of practicing physicians in Canada. *5th International Medical Workforce Conference, Sydney 2000 Session 2: Assessment of Doctors' Performance in Practice.*

Kataria N, Brown N, Mc Avoy P et al. (2014). A retrospective study of cognitive function in doctors and dentists with suspected performance problems: an unsuspected but significant concern. *Journal of the Royal society of Medicine Open,* 5:1-9.

Langelaan M, De Bruine MC, Baines RJ et al. (2013). Monitor Zorggerelateerde Schade 2011/2012. *EMGO+ Instituut/VUmc1,3 en NIVEL.* Available at: https://nivel.nl/nl/project/monitor-zorggerelateerde-schade-bij-ontslagen-patienten-en-overleden-patienten-traject-1-en

Leape LL, Brennan TA, Laird N, et al. (1991). The nature and adverse events in hospitalized patients. Results of the Harvard Medical Practice Study II. *N. Engl. J. Med.,* 324:377-384.

Leape LL & Fromson JA. (2006). Problem doctors: is there a system-level solution? *Annals of Internal Medicine* 2006; 144:107-115.

Leape LL, Shore MF, Dienstag JL, et al. (2012). Perspective: A culture of respect, part 1: The nature and causes of disrespectful behavior by physicians. *Academic Medicine,* 87:845-852.

Lens P & Van der Wal G. (1995). An investigation into malfunctioning of specialists in Dutch hospitals. *Int J Risk Saf Med,* 7:191-201.

Leusden-Donker MB, Vervest HAM, Hubben JH. (2006). Uitkomsten van de tuchtrechtspraak over gynaecologen: vergelijking tussen 1980-1991 en 1992-2003. *Nederlands Tijdschrift voor Geneeskunde,* 159:1528-1532.

Leusink PM & Mokkink HG (2004). Seksueel contact tussen huisarts en patiënt: prevalentie en risicofactoren. *Nederlands Tijdschrift voor Geneeskunde,* 148;778-782.

Lombarts MJ & Klazinga NS. (2003). Supporting Dutch medical specialists with the implementation of *visitatie* recommendations: a descriptive evaluation of a 2-year project. *Int J Qual Health Care,* 15:119-129.

Lombarts MJMH, Plochg T, Thompson CA et al. (2014). Measuring Professionalism in Medicine and Nursing: Results of a European Survey. *PLOS One,* 9(5):e97069.

Mahdavian Delavary B, Cremers JEL, Ritt MJPF. (2010). Hand and wrist malpractice claims in The Netherlands: 1993-2008. *The Journal of Hand Surgery (European Volume),* 35:381-384.

Meijman FJ (2004). Seksueel contact tussen arts en patiënt. *Nederlands Tijdschrift voor Geneeskunde,* 148:765-767.

Meulemans EWM (2006). De disfunctionerende hulpverlener; behoeft de dokter behandeling? *Tijdschrift voor gezondheidsrecht,* 30:184-204.

Nyberg D. (2014). An organizational assessment of disruptive clinician behavior. *Journal of Nursing Care Quality,* 28:110-121.

Prins JT, Van der Heijden FMMA, Hoekstra-Weebers EHM et al. (2010). Burnout and engagement among resident doctors in The Netherlands: a national study. *Medical Education,* 44:236-247.

Renckens CNM (2003). Medisch wetenschappelijke verenigingen, kwaliteitscontrole en disfunctionerende artsen. *Nederlands Tijdschrift voor Geneeskunde,* 147:1749-1752.

Roland M, Rao SR, Sibbald B, et al. (2011). Professional values and reported behaviours of doctors in the USA and UK: quantitative survey. *BMJ Qual Saf,* 20:515-520.

Rosenstein AH & O'Daniel M (2008). A survey of the impact of disruptive behaviors and communication defects on patient safety. *The Joint Commission Journal on Quality and Patient Safety,* 34:464-471.

Rosingh J, Kemenade-van der Veur M, Sijmons J. (2012). Disfunctioneren tijdig aangepakt. *Medisch Contact,* 67:264-267.

Royal Dutch Medical Association (2007). Medical Professionalism manifesto. Available at: https://www.knmg.nl/web/file?uuid=90993000-e3b8-4713-9e8d-28a7d85eb918&owner=5c945405-d6ca-4deb-aa16-7af2088aa173&contentid=1571&elementid=1149672.

Royal Dutch Medical Association (2012). Quality framework 'Commitment to Quality'. Available at: https://www.knmg.nl/web/file?uuid=29246d80-9295-4e08-bdc0-fb6e4c88379f&owner=5c945405-d6ca-4deb-aa16-7af2088aa173&contentid=700&elementid=139521.

Smits M. (2009). Unintended events in hospitals; causes and the role of patient safety culture. *Thesis,* Amsterdam/VUmc. Available at: https://research.vumc.nl/ws/files/514307/9035.pdf

Stolper E, Legemaate J, Dinant GJ. (2010). How do disciplinary tribunals evaluate the 'gut feelings'of doctors? An analysis of Dutch tribunal decisions. *J Law med,* 18:68-75.

Twellaar M, Winants Y, Houkes I (2008). How healthy are Dutch general practitioners? Self-reported (mental) health among Dutch general practitioners. *European Journal of General Practice,* 14:4-9.

Ullström S, Sachs MA, Hansonn J et al. (2013). Suffering in silence: a qualitative study of second victims of adverse events. *BMJ Qual Saf,* 0:1-7.

Van Diemen-Steenvoorde R (2013). Staat van de Gezondheidszorg: op weg naar aantoonbaar verantwoord functionerende beroepsbeoefenaren in de zorg**.** *Dutch Health Care Inspectorate IGJ.* Available at: https://nvavg.nl/wp-content/uploads/2014/03/2013-Staat-van-de-Gezondheidszorg-1.pdf

Van Noord I, Eikens MP, Hamersma AM, et al. (2010). Applications on root cause analysis on malpractice claim files

related to diagnostic failures. *Qual Saf Health Care* 19:e21.

Visser MRM, Smets EMA, Oort FJ et al. (2003). Stress, satisfaction and burn out among Dutch medical specialists. *CMAJ*, 168:271-275.

Wachter RM. (2012). Disciplining doctors for misconduct: character matters, but so does competence. *BMJ Qual Saf*, 21:967-978.

Walshe K & Shortell M (2004). When things go wrong: how health care organizations deal with major failures. *Health Affairs*, 23:103-111.

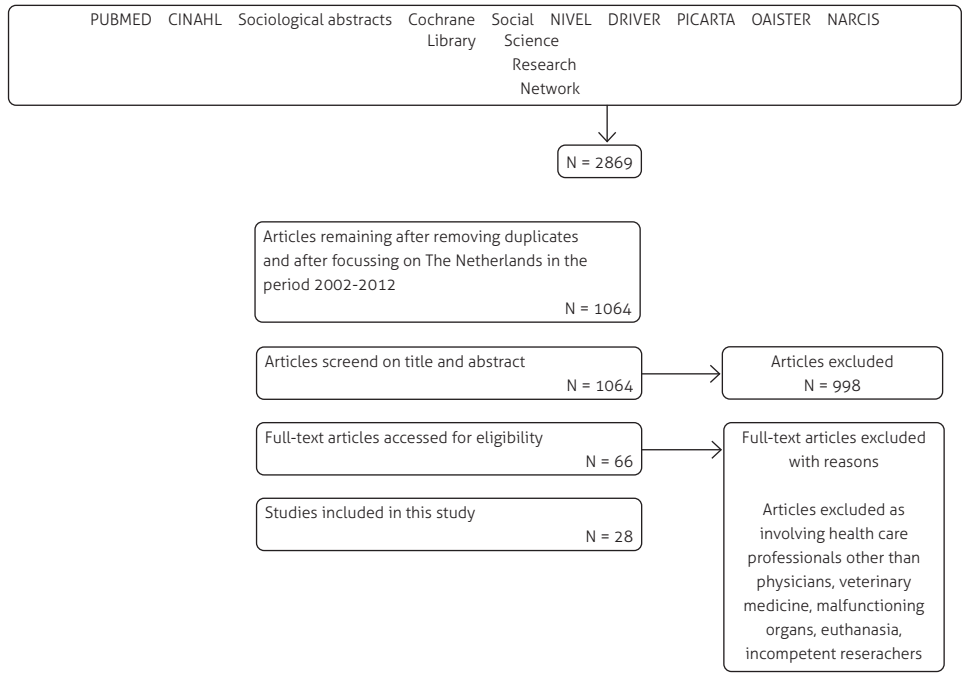
Wenghofer EF, Williams AP, Klass DJ (2009). Factors affecting physician performance: implications for performance improvement and governance. *Healthcare Policy*, 5:e141-e160.

Williams BW (2006). The prevalence and specific educational requirements of dyscompetent physicians. *The Journal of Continuing Education in the Health Professions*, 26:173-191.

Wynia MK (2010). The role of professionalism and self-regulation in detecting impaired or incompetent physicians. *JAMA*, 304:210-212.

Zwaan L (2012). Diagnostic reasoning and diagnostic error in medicine. *Thesis*, Amsterdam/VUmc. Available at: https://research.vu.nl/en/publications/diagnostic-reasoning-and-diagnostic-error-in-medicine.

SUPPLEMENTARY FILES



Supplementary file 1: Flowchart literature review

Supplementary file 2: Overview of literature review studies

Study	*Type of study*	*Study object*	*Sample size*
De Vries et al 2010	Medical file research	Malpractice claims regarding incidents during surgery	N = 294
Elshove-Bolke et al, 2004	Medical file research	Malpractice claims regarding Emergency Room	N = 256
Gaal et al 2011	Medical file research	Complaints against General Practitioners	N = 250
Mahdavian et al,2010	Medical file research	Malpractice claims concerning hand- and wrist injury	N = 743
Van Leusden-Donker et al 2006	Medical file research	Medical complaints concerning gynecologists	N = 611
De Reuver et al 2007	Survey	Personal injury claims regarding treatment of bile-duct lesion	N = 278
De Reuver et al 2008	Survey	Negligence Expert witness opinion on negligence	N = 13
Visser et al 2003	Survey	Work related stress experienced by medical specialists	N = 1435
Leusink et al 2004	Survey	Sexual contact in doctor -patient relationship as experienced by general practitioners	N = 1250
Gevers 2007	Literature review	Legal remarks regarding claims against surgeons	N = 19
Meulemans 2006	Literature review	Legal perspective of poor performing physicians	NA
Clausen 2011	Literature review	Duty to report poor performance	NA
Smit 2012	Interview	Physician collaboration	NA
Crommentuyn 2009	Event discussion	Approach poor performance	NA
Renckens 2003	Event discussion	Poor performing physicians	NA
Rosingh 2012	Event discussion	Approach poor performance	NA
Drewes et al 2009	Disciplinary file research	Disciplinary rulings regarding screening and preventive diagnostics	N = 28
Hout et al 2004	Disciplinary file research	Rulings from disciplinary committees	N = 4980
Hout et al 2005	Disciplinary file research	Published rulings of medical disciplinary committees	N = 323
Hout et al 2007	Disciplinary file research	Disciplinary complaints treated by disciplinary committees	N = 13228
Hubben et al 2004	Disciplinary file research	Medical claims	N = 4058
Mook van et al 2012	Disciplinary file research	Filed medical complaints	N = 140
Stolper et al 2010	Disciplinary file research	Disciplinary law events regarding the 'gut feeling' of health care professional	N = 34
Noord van et al 2010	Claim file research	Claim files from diagnostic errors in emergency departments	N = 50
Cuperus et al 2010	Survey	Expert opinions on the medical disciplinary law system	N = 1731
Gevers et al 2010	Survey	Work related stress as experienced by emergency physicians and nurses	N = 56
Dute 2005	Literature review	Debate on no fault compensation	NA
Faure 2004	Literature review	Economic perspective of medical malpractice	NA

Chapter 3

Investigating physicians' views on soft signals in the context of their peers' performance

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'if I have doubts, I check with a colleague: do you know whether something is going on, is there anything that we should do, how can we help?'

Participant in Soft Signals Study, Chapter 3

ABSTRACT

In this chapter we build on the knowledge that performance concerns are an interplay between the individual and his/her professional context, forewarning signals are available, and peers are presumably the first to notice such signs. Since it is unknown how physicians perceive those signals, the purpose of this research is to explore how physicians perceive, detect and (re)act when confronted with these so called 'soft signals' by their peers.

Being interested in their feelings and emotions, we conduct in-depth interviews with 12 hospital-based doctors from various specialties and institutions. We found out that soft signals are observable deviations from a peers' normal behaviour, appearance, or communication. This change in pattern provokes an overarching feeling that 'something is going on' with this person and questions of what can be done to help.

Thus soft signals are personal-related concerns, being indicators of wellbeing and collegiality. Physicians strongly feel it their responsibility to be sensitive to and deal with expressed signals. Social support and looking after one another will contribute to building a psychological safe culture in which signals are actively picked up and addressed.

INTRODUCTION

Providing high quality of care is the number one goal for healthcare organizations. Unfortunately, every healthcare system has its own high stake poor performance- or failure case. Hindsight analyses learn that the development of such events often show a long -incubation- period where forewarning is potentially available (Turner, 1976). Reviewing literature, various descriptions are mentioned, pointing to such forewarning: 'performance related concerns' (Donaldson et al., 2014), 'unheard concerns and warning signs'(Martin & Dixon-Woods, 2014), 'signal and widespread unease'(Walshe & Shortell, 2004), 'warning signs'(Dixon-Woods et al., 2014), 'concerns and signals'(Jones & Kelly,2014), 'signs and signals'(Van Mook et al., 2015) and 'early warnings and weak signals' (Macrae, 2014). Apart from the performance related concerns mentioned by Donaldson, 'situations difficult enough to seek external help', (Donaldson et al., 2014), the other terms are not specified. To add to this list, in Dutch terminology we refer to these fuzzy, intuitive, intangible and possibly not (yet) measurable signs as soft signals. If indeed these signals are related to under- or even poor performance, preventative actions could potentially be taken in order to contribute to optimal physician performance and the safety of patient care; an important issue since at least one third of physicians will experience a period of underperformance during their career(Leape & Fromson, 2006).

It seems that thus far signs were in retrospect designated as early warnings or weak signs. In the continuous search of comprehending professional performance, the understanding of soft signals could be a next piece of the puzzle. Therefore, the purpose of this study was to tap into the current knowledge void and prospectively investigate these signals. Specifically from the perspective of the physicians involved, since prior research indicates performance related information is mainly known 'off the record', by peers and through informal communication(Jones & Kelly, 2014; Lawton & Parker, 2002; Perez et al., 2014; Walshe & Shortell, 2004).

Much damage may be prevented if it were possible for physicians and administrators to act upon 'soft signals'. This can only happen if these signals are indeed identified as 'soft signals' to begin with. Therefore, our aim was to investigate whether these so called soft, weak or early signals were indeed, picked up as 'a signal' and viewed in the sphere of physician (under)performance. This led to the following research questions: what do physicians perceive as soft signals in the context of performance of their peers and how do they react upon identified signals?

METHODS

Study design

Being interested in understanding the phenomenon of soft signals by physicians' lived experiences, we chose an interpretative phenomenological research approach (IPA) (Finlay & Ballinger, 2006; King et al., 2002). The IPA approach allowed us to investigate individual experiences and accounts of physicians while constructing an overall impression of their perception of soft signals(Bunnis & Kelly, 2010; Starks & Brown Trinidad, 2007). We drew from the epistemological stance that persons are self-interpretative beings, therefore knowledge is subjective and there is no one ultimate truth (Wojnar & Swanson, 2007). According to this approach, it is only through a process of interpretation that meanings can be understood. It explicitly acknowledges and accepts the importance of the researchers' interpretation and embraces the assumption that preunderstanding and co-creation by the researcher and the participants are what makes interpretations meaningful (Finlay & Ballinger, 2006; Wojnar & Swanson, 2007). To assess the methodological quality, we used the COREQ (consolidated criteria for reporting qualitative research) checklist (Tong et al., 2007). This checklist includes 32 items pertaining to aspects in the reporting of qualitative studies.

Setting and participants

We conducted this study in the Netherlands, where physicians are either employed by the hospital or organized in independent entrepreneur partnerships. We invited in total 13 hospital-based physicians from various specialties and (non-)academic institutions to participate. They were purposively sampled to provide a heterogeneous participant group in terms of medical specialty, age, and gender (table 1).

Table 1. Overview participants

Characteristics of participating physicians	*N = 12*
Type of specialty	5 x surgical 4 x non-surgical 3 x supportive
Gender	7 x male 5 x female
Age	Range: 32- 66; Mean 49 year

We initially informed participants by email and telephone regarding the nature and purpose of the study and subsequently invited them to consider participation. Upon acceptance of the invitation, we requested an individual consent. The Ethical Review Board of our Academic Medical Center waived ethical approval for this study.

Interviews and data collection

We held individual interviews to focus on in-depth exploration, allowing the participants to talk freely without interference from others. An open ended interview guide was constructed based on our research questions. The interviewer (MvdG) imposed direction as little as possible, enabling the participants to tell their own soft signals story. She gave no specific introduction on soft signals and the interview guide started with an empty words cloud stimulating the participant to write down first impressions, ideas, words coming to mind when thinking of 'soft signals'. Drawing on these perceptions, we covered more specific items like feelings, thoughts and reactions as well as a concrete example ('Can you describe an actual situation that you perceived as a soft signal?'). We conducted a pilot interview solely with the purpose of gathering feedback on the content of the initial interview guide as well as the interview technique. The first author, a medical doctor with ten years of experience as a GP and currently working as a management consultant, conducted all interviews between May 2015 and March 2016. Interviews lasted approximately one hour and were conducted in the privacy of the physician's office or home whereas confidentiality was assured at the start of the interview. All interviews were audio-recorded, transcribed verbatim and reviewed by the participants using the member-check technique.

Data analysis

We used a template approach in analyzing the transcripts. In this technique, a coding template is constructed during analysis, comprising codes representing themes that are identified in the data. In line with the template analysis approach, the research team discussed and defined a number of themes a priori, representing the major topics in the interview guide: perception of soft signals, feelings, thoughts and reaction (King & Caroll, 2002). Secondly, the first author coded the first four interviews. After discussing these two steps within the research team, we defined three top-level codes, each consisting of one or two sublevels. The original themes were renamed to better fit the underlying codes. In addition, we identified two themes of influence to the main themes. The themes coded in the template are shown in Table 2, including illustrative quotes.

Table 2. Coding template with accompanying quotes

Top level code	*Second level code*	*Third level code*	*Accompanying quotes*
Observation	Deviation in behaviour		'different-from-usual-behaviour, the deviation from what you usual observe with that individual'(P4)
	Deviation in appearence		'when you notice someone is very tired, looks like he has no energy anymore, seems stressed, well, then you worry about that person'(P11)
	Deviation in communication		'losing patience, being agitated and unfair, harsh in reactions, not valuing a joke but rather feeling attacked, that sort of thing'(P6)
Evaluation	Internal evaluation	Thoughts	'then I think to myself: do I understand this, verifying, forming my own judgement'(P2)
		Emotions	'that I would want to do something, but I don't know what or how'(P5)
	External evaluation	Consulting peers	'if I have doubts, I check with a colleague: did you also notice this, was it out of proportion or is it me. Do you know whether something is going on, is there anything that we should do?'(P12)
Reaction	Active reaction	Keeping an extra eye	'at some point you get triggered, then you start to take a closer look, see if it is going to be a pattern' (P3)
		Speaking up	'there doesn't need to be a solution for everything, I said, come on, let's go and have a cup of coffee and discuss what's going on' (P12)
		Offering help	'shouldn't we do something about the situation, do we need to take a look at your schedule, see if we can adjust it fort he time-being, that sort of thing' (P10)
	Passive reaction	Accepting	'that in your mind you make up: if I start this converstion, it could be a difficult one. So, never mind, I'm not even starting it.'(P10)
		Distancing	'I could address it, but then I think: I cannot bear to actually do that'(P1)

NOTE: themes of influence were personal aspects (observer sensitivity and distance to the colleague sending soft signals) and contextual aspects (group support and hospital reputation)

Previous transcripts were recoded and subsequent original transcripts were coded accordingly by the first author. To further develop the template, the fifth through tenth interview were discussed by the research team based on the first and second level codes. Another researcher (MS) independently coded four transcripts during the coding process and two researchers (MvdG, MS) joined in listening to three partial interviews. All aspects of coding were discussed until consensus was reached in order to establish credibility in the interpretation of data. Results, progress and data saturation were regularly discussed within the research team during the process. We used the qualitative data analysis software RQDA to support the template analysis approach.

RESULTS

We interviewed seven men and five women, ranging in age from 32 to 66 years, who represented ten different specialties and nine (academic and non-academic) hospitals (Table 1). One physician agreed to participate but did not answer the second invitational email. The majority of participants were interviewed during off duty hours. Saturation was reached at the point where interview eleven and twelve did not yield any new input or interpretation for our template.

Soft signals were perceived by all participants as an observable and often subtle deviation from a colleague's normal behaviour, appearance or communication style. They were perceived in the context of collegiality rather than in the context of -poor-performance or patient safety. All participants related soft signals to concerns about a colleague's health, wellbeing or happiness. Signals of poor performance or signals leading to (potential) harm of a patient were not considered 'soft' signals, as illustrated in figure 1.

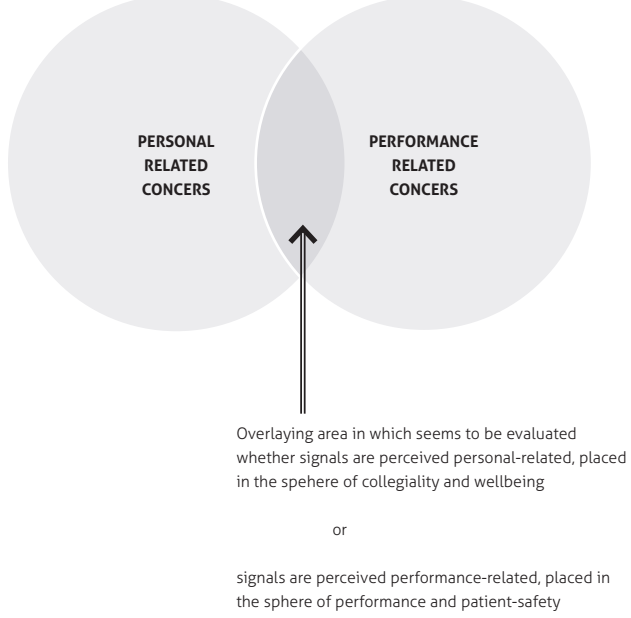

Figure 1. Personal-related concern versus performance-related concern

Evaluating what signal is considered soft and at what point it is not regarded soft anymore was perceived difficult, as P5 formulates:

> *it all comes back to patient safety, but that's a difficult one, because it seems you can only tell afterwards if patient safety has been at stake.*

Or as P4 described:

> *the amplitude matters: a signal is soft when someone sends it and in the noise it is noticed by only a few people. And that is exactly the challenge I think: to recognize the soft signals in the noise.*

The 'soft signals perceiving process' followed three sequential phases: (i) observation (physicians' observations of soft signals) (ii) evaluation (physicians' judgement of the observation), and (iii) reaction (physicians' response to soft signals). This process was influenced by personal and contextual aspects, as illustrated in figure 2 and discussed more in detail below.

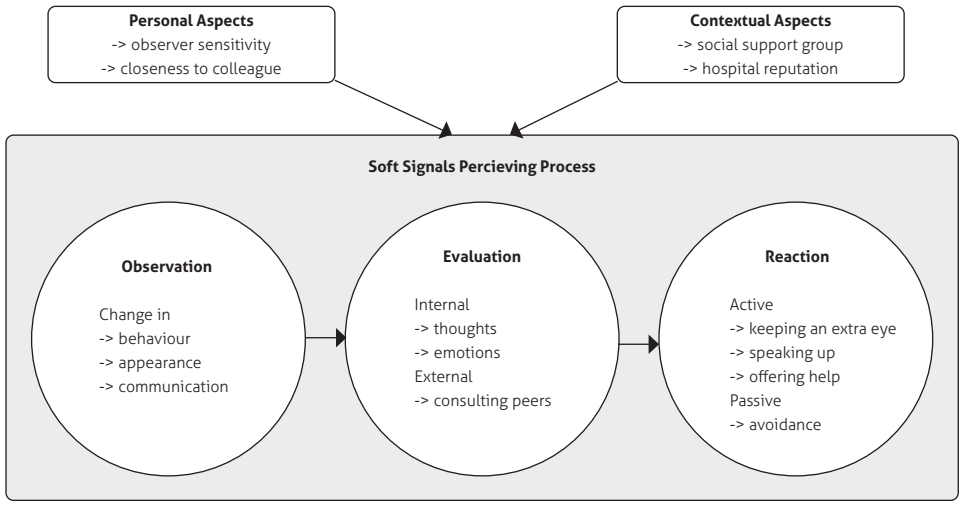

Figure 2. Soft signals overview

Observation

All participants reported that they perceived soft signals as a change in pattern: a deviation in the behaviour, communication style or appearance from what they were used to from the colleague expressing these signals. They described as the central element of observing a soft signal 'something is different'; 'change in behaviour, specific for that individual;

> *something that you normally would not expect from him or her* (P7).

Participants recognized a peer's withdrawal, whether physical or emotional, as a common denominator, as P5 stated:

> *retrieving from the group, keeping a distance, less participation in conversation and activities.*

In terms of communication, the change seemed to be particularly noticeable in negative emotions such as anger, short-temperedness and cynicism. Participants however, also associated soft signals with positive aspects like enthusiasm and energy flow;

> *when you notice team spirit, you're in a flow together and everything is so much easier and better, people are happy and cheerful* (P10).

On the level of appearance, respondents ascribed observations as energy loss and fatigue to soft signals. Observing the above mentioned signs, would lead all participants to pose overarching questions such as 'what is going on with you?', 'are you doing okay?'.

Evaluation

Participants used internal and external evaluation strategies when evaluating the observed signals. Internal evaluation involved thoughts and emotions. Thoughts such as considerations to determine the momentum of possible interference, as P7 formulated:

> *evaluating all the time: is it up to me to do something, is this the right time, what do I try to achieve, that sort of thing.*

Confrontation with soft signals lead to emotions for all interviewees, whereas concern for the colleague sending these signals and a powerless feeling were most stated;

> *if you notice someone is very tired or stressed, than you worry about him* (P10).

Other emotions included irritation about the deviant behavior, as stated by P1:
then I think this is ridiculous, why is he doing that

and confrontation, as described by P3:

> *if this can happen to her, it can happen to anyone, it could happen to me as well.*

External evaluation contained checking whether or not other colleagues agreed with ones' observation, as P9 said:

> *I would consult a colleague, do you know if something is the matter, because I have a gut feeling that he is not doing fine.*

Reaction

During the evaluation process, physicians seemed to take several aspects into account to guide their reaction. Participants always reacted, using either an active or a passive approach. The most reported active approach was speaking up to the individual involved;

> *then you talk about it, and it gets clear, a cynical comment or being grumpy, why that happened* (P3).

Offering a helping hand and keeping an extra eye on the colleague were also mentioned, as expressed by P5:

> *I just stood by him, letting him know that I was there if he needed me.*

Avoidance was the reported passive approach, as said by P11:

> *that in your mind you make up: if I start this conversation, it could be a difficult one. So, never mind, I'm not even starting it.*

Personal aspects

All interviewees noticed a certain 'observer-sensitivity' being constructive in detecting changes at an early stage. They stated that this sensitivity was influenced by their experience over the years;

> *I think it also has to do with learning to see signals, learning to watch and being attentive, I think it depends on you as a person, your history and your interest* (P4).

Furthermore, the perceived distance to the colleague sending soft signals seemed to be crucial in order to make the choice for an active approach. Physicians mentioned speaking up and helping in particular when they had a closer connection to the person involved, as expressed by P1:

> *well, if it involves someone that feels close to me, I go talk to that person, see how I can help.*

When they perceived more of a distance, it was easier to either choose a passive approach or bounce the action to another colleague, as stated by P8:

> *If it is someone that I am not so close to, I think about it, whether I am going to do something at all.*

Contextual aspects

The importance of social support from the members of their physician group was mentioned by all participants. They considered it a group responsibility to take care of one another, to make an effort to keep all colleagues 'on board':

> *I think that the power of the culture of a group is, that you can keep the group together, based on relationships, if everybody has a buddy in the group, then you are strong and keep an eye on each other* (P1).

P10 mentioned another contextual aspect, the effect of hospital reputation:

> *having one poor performing physician does not implicate that all the physicians working in this hospital are at risk of performing poorly; the organization needs to seriously consider the wound that this one person has inflicted.*

Limitations

Our study was limited to The Netherlands so the findings reported may not generalise beyond the Dutch health care system. It is known that the context of care may influence how professional values are expressed and the extent to which behaviours are in line with stated values(Lombarts et al., 2014; Roland et al., 2011). Prior research however, also indicates remarkable similarities between countries with different ways of organizing health care including the United States, the United Kingdom and The Netherlands (Walshe & Shortell, 2004). The medical background of the principal investigator has likely influenced this study, being both a limitation and a strength. Although this is in line with the IPA approach, we sought diversity within background of the research team to strengthen data analysis and interpretation.

DISCUSSION

Main findings

Physicians define soft signals as observable deviations from a colleague's normal behaviour, appearance or communication style. They do not view soft signals in the light of problematic performance, that is, signals potentially leading to patient harm are not considered soft signals but performance-related concerns. Instead, soft signals are seen as personal-related concerns about a peer's health, wellbeing or happiness and emphasize the importance of social support and taking care of one another. Physicians thus perceive soft signals in the context of wellbeing and collegiality. Dealing with soft

signals is a three step process: observing, evaluating and reacting. Physicians' reactions on soft signals depend on their relation with the colleague concerned; they either actively help their peer or passively turn away.

Explanation of the findings

Our results indicate that, despite the literature based interpretation of signals in the context of performance problems (Dixon-Woods et al., 2014; Donaldson et al., 2014; Van Mook et al., 2015), physicians themselves do not view soft signals in the sphere of poor performance or patient safety. When openly exploring, physicians perceive soft signals as the feeling that 'something is different'; changes, mostly very subtle, in a colleague's normal presentation, leading to concern: is this colleague doing okay? This could imply that, in thinking about performance, we might also consider shifting our attention to physicians' wellbeing, since wellbeing is known to affect performance and could be indispensable for delivering high quality of care (Lases et al., 2016; Wallace et al., 2009; Walliams & Flanders, 2016). Physicians putting soft signals in the sphere of collegiality rather than future performance problems, could also be fostered by a described culture of protectionism and reluctance of disclosure and reporting (DesRoches et al., 2010; Leape & Fromson, 2006; Perez et al., 2014; Walshe & Shortell, 2004).

Our findings show physicians expressing collegiality in the strong belief that they have a responsibility to take care of their peers, thus most of them actively pick up on soft signals by speaking up or offering a helping hand. This underscores research calling for physicians to take a responsible role in supporting professional behaviour and creating a psychological safe environment (Edmondson, 1999; Leroy et al., 2012; Nawaz et al., 2014; Roland et al., 2011). Such environment will foster better valuing of signs and reinforce a needed culture of speaking up and organizational learning (Ginsburg, 2015; Jones & Kelly, 2014). Some physicians however, choose to avoid potentially difficult situations, reflecting literature showing reluctance to confront or report behavioural and competence issues (Leape & Fromson, 2006; Lombarts et al., 2014; Roland et al., 2011). According to our findings, the perceived -emotional- connection to a peer determines which approach is chosen.

Our findings characterize soft signals as indicators of wellbeing and collegiality. Consequently, there is no direct indication that soft signals announce a threat to patient safety. However, a threat to physicians' wellbeing may indirectly affect their professional performance and thus the quality of care. This study can therefore not exclude the situation that soft signals, if not dealt with adequately, could eventually develop into a situation related to performance problems. Specifically since the professional

realm is known to be the last area for difficulties to manifest (Van Mook et al., 2015). Given that soft signals may indicate doctors' threatened wellbeing, we feel that their adequate follow-up is needed to restore or maintain doctors being -physically, mentally and emotionally- fit to practice. Only when soft signals are incorporated in facilitating doctors' wellbeing, they may contribute to optimal performance and potentially prevent underperformance.

Physicians perceive soft signals as signs related to wellbeing and collegiality, not indicators of potential performance problems. They underline their own responsibility in actively picking up on these signals, hence it should be their priority to contribute to a psychologically safe environment. Given that soft signals expose doctors' threatened wellbeing, these signs require serious follow-up since low levels of well-being have indeed been associated with suboptimal performance and a decrease in quality of patient care.

Implications

In adequately picking up and dealing with soft signals, physician groups and administrators should make soft signals an important issue on their performance agenda. Specialist groups could periodically discuss their individual and group performance and pay attention to issues as inspiration and empathy. Hospital boards could facilitate evaluation and reflection of performance, as is currently mandatory in The Netherlands. Stimulating a clear procedure of how to act upon soft signals could also be beneficial. A focus on openly discussing the above mentioned topics could be helpful in creating and supporting a culture of psychological safety, collegiality and speaking up.

CONCLUSIONS

Physicians perceive soft signals as signs related to wellbeing and collegiality, not indicators of potential performance problems. They underline their own responsibility in actively picking up on these signals, hence it should be their priority to contribute to a psychologically safe environment. Given that soft signals expose doctors' threatened wellbeing, these signs require serious follow-up since low levels of well-being have indeed been associated with suboptimal performance and a decrease in quality of patient care.

REFERENCES

Bunniss S & Kelly DR (2010). Research paradigms in medical education research. *Medical Education,* 44:358-366.

DesRoches CM, Rao SR, Fromson JA, et al. (2010). Physician's perceptions, preparedness for reporting, and experiences related to impaired and incompetent colleagues. *JAMA,* 304-187-193.

Dixon-Woods M, Baker R, Charles K, et al. (2014). Culture and behaviour in the English National Health Service: overview of lessons from a large multimethod study. *BMJ Qual Saf,* 23:106-115.

Donaldson LJ, Panesar SS, Mc Avoy PA, et al. (2014). Identification of poor performance in a national medical workforce over 11 years: an observational study. *BMJ Qual Saf,* 23:147-152.

Edmondson A (1999). Psychological Safety and Learning Behavior in Work Teams. *Administrative Science Quarterly,* 44(2):350-83. doi: 10.2307/2666999.

Finlay L & Ballinger C (2006). Qualitative Research for Allied Health Professionals – Challenging Choices. Copyright by John Wiley & Sons Ltd. ISNB 0-470-01963-8;139-155.

Ginsburg L (2015). 'Speaking up' climate; a new domain of culture to measure and explore. *BMJ Qual Saf,* 24:661-663.

Jones A & Kelly D (2014). Deafening silence? Time to reconsider whether organisations are silent or deaf when things go wrong. *BMJ Qual Saf,* 23:709-713.

Jones A & Kelly D (2014). Whistle-blowing and workplace culture in older peoples' care: qualitative insights from the healthcare and social care workforce. *Sociology of Health & Illness,* 36:986-1002.

King N, Carroll C, Newton P, et al. (2002). 'You can't cure it so you have to endure it': The experience of adaptation to diabetic renal disease. *Qualitative Health Research,* 12:329-346.

Lases SS, Lombarts MJ, Slootweg IA et al.(2016). Evaluating Mind Fitness Training and its Potential Effects on Surgical Residents' Well-Being: A Mixed Methods Pilot Study. *World J Surg,* 40:29–37.

Lawton R & Parker D (2002). Barriers to incident reporting in a healthcare system. *Qual Saf Health Care,* 11:15-18.

Leape LL & Fromson JA (2006). Problem doctors: Is There a System-level Solution? *Annals of Internal Medicine,* 114:107-115.

Leroy H, Dierynck B, Anseel F, et al. (2012). Behavioral integrity for safety, priority of safety, psychological safety, and patient safety: A team-level study. *Journal of Applied Psychology,* 97(6):1273.

Lombarts KM, Plochg T, Thompson CA, et al. (2014). Measuring Professionalism in Medicine and Nursing: Results of a European Survey. *Plos One,* 9:e97069.

Macrae C (2014). Early warnings, weak signals and learning from healthcare disasters.*BMJ Qual Saf,* 23:440-445.

Martin GP, Dixon-Woods M (2014). After Mid Staffordshire: from acknowledgement, through learning, to improvement. *BMJ Qual Saf,* 23:706-708.

Nawaz H, Edmondson A, Tzeng T, et al. (2014). Teaming: An Approach to the Growing Complexities in Health Care. *J Bone Joint Surg Am,* 96:e184(1-7).

Perez B, Knych Sa, Weaver SJ et al. (2014). Understanding the barriers to physician error reporting and disclosure: a systemic approach to a systemic problem. *J Patient Saf,* 10:45-51.

Roland M, Rao SR, Sibbald B, et al. (2011). Professional values and reported behaviours of doctors in the USA and UK: quantitative survey. *BMJ Qual Saf,* 20:515-521.

Starks H & Brown Trinidad S (2007). Choose Your Method: A Comparison of Phenomenology, Discourse Analysis and Ground Theory. *Qualitative Health Research,* 17:1372-1380.

Tong A, Sainsburry P, Craig J (2007). Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int. J. Qual. Health Care,* 19:349-57.

Turner BA (1976). The organizational and inter-organizational development of disasters.*Administrative Science Quarterly,* 21:378-97.

Van Mook WN, van Luijk SJ, Zwietering PJ, et al. (2015). The threat of the dyscompetent resident: A plea to make the implicit explicit. *Adv in Health Sci Educ Theory Pract,* 20: 559-574.

Wallace JE, Lemaire JB, Ghali WA (2009). Physician wellness: a missing quality indicator.*The Lancet* 2009;374: 1714-1721.

Walshe K & Shortell M (2004). When things go wrong: how health care organizations deal with major failures. *Health Affairs,* 23:103-111.

Williams BW & Flanders P (2016). Physician health and wellbeing provide challenges to patient safety and outcome quality across the careerspan. *Australas Psychiatry,* 24:144–147.

Wojnar DM & Swanson KM (2007). Phenomenology: An Exploration. *Journal of Holistic Nursing,* 25:172-180.

Chapter 4

Physicians' perceptions of psychological safety and peer performance feedback

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'for me, this meeting lowers my threshold for speaking up, since we talked about our insecurities and bottlenecks. That makes it easier to refer to this session and mention such things in the future. Normally it would be difficult for me to do so and I would probably not do it at all'

Participant in Group Reflection Study, Chapter 5

ABSTRACT

In this chapter we dive deeper into the potential benefits of a psychological safe environment on the professional development of the individual physician. We know from previous research that a psychological safe environment encourages professionals' proactivity in learning and knowledge sharing. Performance feedback is another mechanism associated with professional development en encourages performance improvement.

Because psychological safety has not yet been studied in relation to peers' performance feedback, the purpose of this research is to investigate this relationship. We therefore collect 105 physician surveys from seven different specialties. Physicians evaluate psychological safety using Edmondson's 7-item validated scale and performance feedback using the adapted 4-item feedback subscale of the validated System for Evaluation of Teaching Qualities (SETQ), including corrective and positive feedback, explanations of feedback and suggestions for improvement from peers.

We uncover that physicians experiencing a higher level of psychological safety receive more -positive and corrective- feedback from peers and they also have a more positive attitude towards their feedback. Based on this finding, we advise medical teams to invest in psychological safety, by optimizing social -peer- support for example by teambuilding, working towards common goals or social activities. Such efforts contribute to improve the quality of their interpersonal relations and building trust in their peer group. And by doing so, performance feedback from peers is encouraged, which, in turn supports physicians' professional development.

INTRODUCTION

In modern medical practice physicians are expected to adapt and update their professional performance continuously to new developments in patient care, science and society (Grol, 2001; Holmboe et al., 2006; Lindgren & Gordon, 2006). This illustrates the need for physicians to invest in their continuous professional development (CPD) – a process in which physicians maintain and enhance their performance by proactively engaging in educational and developmental activities, ranging from workshops to learning in practice (Melnick, 2004). Research shows CPD activities, as well as continuing medical education, to result in physicians' improved knowledge, performance, and even better patient outcomes(Goulet et al., Mansouri & Locker, 2007).

Physicians' performance is most likely to improve when CPD activities are tailored to individual performance gaps and learning needs (Melnick, 2004). Physicians can identify these by assessing (and reflecting on) their own performance, yet research proves accurate and reliable self-assessment to be difficult (Davis et al., 2006; Sargeant et al., 2008). Therefore external feedback is a widely accepted and validated method to review performance and identify improvement opportunities (Sargeant et al., 2008; Sargeant et al., 2013; Silver et al., 2008). External feedback is most likely accepted and applied to practice when it originates from a credible source. Research has found that physicians consider their peers as credible and valuable sources for feedback (Lockyer et al., 2011). Peers' expert knowledge and inside experience enables them to provide critical performance evaluations and to uncover improvement opportunities. Indeed peers are able to provide multiple examples of both high- and low-scoring performance behaviors of physicians (Lipner et al., 2007; Sargeant et al., 2011).

However, research showed that peers experience tensions in addressing improvement opportunities for a physician's performance (Chen et al., 2013; Okuyama et al., 2014). As reported by research, nearly half of physicians under study experienced difficulty in providing feedback on improvement opportunities of a peer's performance (Aasland & Førde, 2005). Peers can be inhibited to express feedback on a professional's performance, for example because of concerns for the responses of professionals, or even conflict (Eppich, 2015). In overcoming these possible concerns, a literature review pointed to the importance of psychological safety (Okayama et al., 2014). Psychological safety involves the degree to which people perceive their work environment as safe to take interpersonal risks (Edmondson, 1999) Psychological safety fosters the trust of professionals to express concerns or feedback without negative consequences. That is, these professionals trust they will not be viewed as having 'crossed the line' but rather as

colleagues who aim to contribute to improved practice (Edmondson et al., 2004). Indeed psychological safety is associated with improved practice in terms of professionals' openness about treatment errors (Leroy et al., 2012). In medical education specifically, residents perceiving more psychological safety appear more likely to report adverse events to their supervisors (Appelbaum et al., 2016).

In addition to its potential in facilitating openness about treatment errors and adverse events, psychological safety has shown to stimulate proactive learning and knowledge sharing with peers (Edmondson, 1999; Kessel & Schultz, 2012). This resonates with findings showing psychological safety to positively affect the quality of performance feedback from peers, as shown in diverse professions (Van der Rijt et al., 2012). In the medical profession, psychological safety may support a team climate in which performance feedback from peers is common practice. It is, however, unclear how psychological safety and performance feedback are associated among physicians. In the current study, we investigated the association between physicians' perceptions of psychological safety and the performance feedback received from their peers.

METHODS

This study was conducted in an academic medical center in the Netherlands from April 2014 to April 2015. We invited physicians of cardiology, gastroenterology, obstetrics and gynecology, otorhinolaryngology, pulmonology, neurology and neurosurgery to participate in our survey. We informed these physicians (N=121) about the study by email and asked them to complete a web-based survey. Participation was voluntary and anonymity and confidentiality were safeguarded. The institutional ethical review board of the participating medical center waived ethical approval for this study.

Measures

The web-based survey included questionnaires on physicians' perceptions of psychological safety and performance feedback received from their peers. Psychological safety was evaluated using Edmondson's 7-item psychological safety scale. This scale was developed based on theory, observations, interviews and pilot-testing (Edmondson 1999). The psychometric properties of the scale provided evidence for high reliability, internal consistency and discriminant validity in different professions including health care professionals (Edmondson 1999; Kessel &Schultz, 2012; Leroy et al., 2012). An example item of the scale is: 'Members of this team are able to bring up problems and tough issues'. Items could be completed on a 5-point Likert-scale ranging from 1 for "strongly disagree" to 5 for "strongly agree".

Physicians' perceptions of their peers' performance feedback were measured using the adapted performance feedback scale from the System on Evaluation of Teaching Qualities (SETQ) (Arah et al., 2011; Boerebach et al., 2012; Boerebach et al. 2014; Lombarts et al., 2009). The development of the SETQ was based on theory, observations, stakeholder input, pilot-testing and psychometric analyses(Lombarts, 2009). The original *feedback* subscale of the SETQ measures to which extent residents receive performance feedback from attending physicians, including positive and constructive feedback, suggestions for improvement and explanations of the feedback. The validity and reliability of the *feedback* subscale were documented using exploratory factor, reliability coefficient and item-total scale correlation analyses. The *feedback* subscale has robust psychometric properties and yielded valid and reliable evaluations of physicians' feedback sharing (Boerebach et al., 2014). In accordance with previous SETQ work the feedback items were adjusted to reflect the extent to which physicians receive performance feedback from peers, including positive and constructive feedback, suggestions for improvement and explanations of the feedback (Table 2). An example item of the scale is: 'I regularly receive positive feedback from colleague specialists'. All items could be filled out on a 5-point Likert-scale ranging from 1 for "totally disagree" to 5 for "totally agree" (the numbers 1-5 are only exemplary for the minimum and maximum scores as used in the statistical analysis; they were not presented in the survey itself). The items were tested on psychometric properties (see statistical analyses).

The web-based survey also included items on physician characteristics (sex, age, specialty, years since medical school graduation, years since medical specialist registration and months working in the clinic under study). These characteristics were included in the survey to enable descriptive statistics and to adequately adjust the statistical analysis (see statistical analyses).

Statistical analyses

We first positively recoded the negatively phrased items of the psychological safety scale in alignment with the positively phrased items (see Table 2). Then we examined the psychometric properties of the psychological safety and performance feedback questionnaires. Specifically, we checked whether psychological safety and performance feedback were seen by study participants as two distinct constructs by conducting principal components analysis (PCA) with varimax rotation on all items of both scales. We also calculated the inter-scale correlation for performance feedback and psychological safety to quantify the degree of overlap between the scales. Then we assessed the

internal consistency of the separate scales using Cronbach's alpha, considering a value of > 0.7 as acceptable. Item-to-scale correlations were calculated to show the relation of each item to the entire scale. There were no missing data for psychological safety and performance feedback.

We conducted generalized estimated equations (GEE) to model the association between psychological safety and performance feedback, accounting for clustering of physicians within departments. Furthermore, we adjusted our models for physician sex, years since medical specialist registration and months working in the clinic under study, by treating these as covariates in the analyses. The association of psychological safety with performance feedback was reported as the mean difference and 95% confidence interval for a 1-unit increase in psychological safety (on a 5-point scale). All analyses were conducted using SPSS version 23 (IBM Corp).

RESULTS

In total 105 (86.8%) physicians participated in this study, of whom 40 (38.1%) were female (Table 1).

Table 1. Descriptive statistics of the sample of 105 (86%) participating physicians.

		Statistic	
		N	*%*
Sex	Female	40	38.1
Specialty	Cardiology	22	21.0
	Gastroenterology	19	18.1
	Obstetrics and gynaecology	20	19.0
	Otorhinolaryngology	12	11.4
	Pulmonology	9	8.6
	Neurology	17	16.2
	Neurosurgery	6	5.7
		Mean	*SD[a]*
Age (years)		48.03	9.56
Years since medical school graduation		21.51	9.09
Years since medical specialist registration		12.60	9.37
Months working in clinic under study		133.92	110.84

[a]*Standard deviation*

The average age of participating physicians was 48 years, time since medical school graduation was on average 21.5 years and time since medical specialist registration 12.6 years (Table 1). Physicians worked on average 11.2 years in the medical center under study.

The principal components analysis with varimax rotation showed that the items of psychological safety and performance feedback could be discriminated as two different constructs. This was consistent with the moderate inter-scale correlations between the psychological safety and performance feedback scales (Table 2).

Table 2. Psychometric properties of psychological safety and performance feedback scales.

	Mean	*SD[a]*	*Factor loadings*	*Item-to-scale scale correlations*	*Cronbach's alpha*
Psychological safety	3.94	0.54			0.76
If you make a mistake on this team, it is often held against you*	4.03	0.81	0.54	0.56**	
Members of this team are able to bring up problems and tough issues	3.82	0.86	0.63	0.62**	
People on this team sometimes reject others for being different*	4.09	0.79	0.84	0.80**	
It is safe to take a risk on this team	3.52	0.86	0.67	0.67**	
It is difficult to ask other members of this team for help*	4.31	0.81	0.52	0.54**	
No one on this team would deliberately act in a way that undermines my effort	3.91	1.04	0.59	0.63**	
Working with members of this team, my unique skills and talents are valued and utilized	3.89	0.71	0.71	0.68**	
Performance feedback	3.13	0.62			0.80
I regularly receive positive feedback from colleague specialists	3.38	0.84	0.68	0.72**	
I regularly receive corrective feedback from colleague specialists	3.10	0.83	0.84	0.83**	
The corrective feedback is regularly explained	3.24	0.69	0.88	0.85**	
I regularly receive suggestions for improvement from colleague specialists	2.82	0.76	0.79	0.78**	

[a]*SD = standard deviation*

** Negatively phrased item; score was positively recoded before conducting descriptive statistics (e.g. mean) and factor analysis*

When inspecting the psychometric properties of the psychological safety and performance feedback scales separately, internal consistency was found to be acceptable with a Cronbach's alpha of 0.76 for psychological safety and 0.80 for performance feedback. Furthermore both the psychological safety and performance feedback scale showed adequate factor loadings; ranging between 0.52 and 0.84 for psychological safety, and between 0.68 and 0.88 for performance feedback (Table 2). Physicians reported a mean of 3.94 (SD = 0.54) for psychological safety and a mean of 3.13 (SD = 0.62) for performance feedback – both on a 5-point Likert-scale.

We found that physicians' perceptions of psychological safety and performance feedback from their peers were positively associated (B = 0.535, 95% CI = 0.343 - 0.727, P-value <0.001) (Table 3). This positive association was present for all of the four performance feedback items, i.e. psychological safety was positively associated with peers' positive feedback (B = 0.745, 95% CI = 0.523-0.968, P-value <0.001), corrective feedback (B = 0.448, 95% CI = 0.177-0.720, P-value = 0.001), explanations of the feedback (B = 0.587, 95% CI = 0.354-0.821, P-value <0.001) and suggestions for improvement (B = 0.360, 95% CI = 0.149-0.571, P-value = 0.001) (Table 3).

Table 3. Unstandardized regression coefficient (B) and 95 % confidence interval (CI) of the association between psychological safety and overall performance feedback, as well as the separate associations between psychological safety and performance feedback on an item level.

	Overall performance feedback	
	B (95% CI)	*P value*
Psychological safety	0.535 (0.343-0.727)	<0.001
I regularly receive positive feedback from colleague specialists	0.745 (0.523-0.968)	<0.001
I regularly receive corrective feedback from colleague specialists	0.448 (0.177-0.720)	0.001
The corrective feedback is regularly explained	0.587 (0.354-0.821)	<0.001
I regularly receive suggestions for improvement from my colleague specialists	0.360 (0.149-0.571)	0.001

The model was controlled for physicians' sex, years since being certified as a specialist and months working in the clinic under study.

DISCUSSION

Main findings

This study revealed positive associations between physicians' perceptions of psychological safety and their peers' performance feedback. Physicians experiencing higher levels of psychological safety more likely reported to receive performance feedback from peers.

Explanation of findings

Performance feedback from peers has been shown to foster continuous professional development, CPD (Overeem et al., 2010), and to successfully encourage performance improvement (Norton et al., 2004). However, our study findings indicate that receiving performance feedback from peers is not necessarily common practice in the physicians under study (see results and Table 2). Our study findings do show that peers' performance feedback is more positively perceived by physicians who experience more psychological safety in their team. Specifically these physicians reported that they received more

positive and corrective feedback from peers, as well as more explanations of the feedback and suggestions for improvement from their peers. These varying aspects of feedback have been considered supportive for professionals in improving aspects of their (under) performance. For example, receiving and explaining corrective feedback are important to know whether and how to improve, and positive feedback has shown to facilitate the conservation and reinforcement of qualities (Hattie & Timperley, 2007).

The level of psychological safety in our study sample showed to be comparable to psychological safety levels in other study samples in health care settings (Appelbaum et al., 2016; Leroy et al., 2012). Psychological safety enhances the trust that issues can be openly discussed without negative consequences (Edmondson 1999), which may clarify the positive association with peers' performance feedback. Also, in other (non-medical) professional settings, a positive association between psychological safety and peers' performance feedback has been reported (Van der Rijt, 2012). Peers who provided feedback to colleagues showed their willingness to invest in learning and quality improvement at their department. In that regard, our finding on the positive association between psychological safety and peers' performance feedback resonates with previous research insights: psychological safety promotes learning and engagement with quality improvement in organizations (Carmeli & Gitell, 2009; Edmondson 2004; Nembhard & Edmondson, 2006). This was also acknowledged by residents, as psychological safety was positively associated with residents' satisfaction with the learning climate, supervision and learning of medical errors at the department (Torralba et al., 2016). This underscores the importance for physicians and residents to work and learn in a psychologically safe clinical environment, both for their own CPD as well as for aspects of patient safety (i.e. learning from medical errors). Surprisingly, previous research reported psychological safety as not being associated with seeking more feedback (Van der Rij, 2012). This could be explained by time limits following from high work pressure – the focus on finishing tasks may hinder professionals in taking time to ask and seek feedback (Van der Rijt, 2012). Work pressure is typically high in medical practice and should be taken into account in future studies investigating psychological safety in relation to feedback-providing and feedback-seeking behaviors of physicians.

Limitations

This first study on psychological safety and performance feedback in a medical setting, included a high response rate (86.6%) and a wide variety of specialties. We naturally encourage the generalizability of the current findings to be enhanced in a multicenter, (inter)national study (Sauver et al., 2012), and future research should also account for possible differences between academic and non-academic medical centers. Furthermore,

for the cross-sectional design of the current study, we underscore the importance of nuanced statements about causality. This study found an association between psychological safety and performance feedback, yet the causal mechanism should be unraveled in prospective and longitudinal research (Little & Rubin, 2000). The current study findings are yet consistent with previous research demonstrating psychological safety to be positively associated with diverse learning and feedback behaviors (Carmeli & Gitell, 2009; Dollard & Bakker, 2010; Edmondson 1999; Edmondson et al., 2004; Frazier et al., 2016). In addition, the validated instruments in this study showed robust psychometric properties for psychological safety and performance feedback measures. The reported association between psychological safety and performance feedback was defined by individual physicians' perceptions; current insights could be extended in future research to also examine this topic at the team level. In addition, we now inspected physicians' perceptions of the received feedback from peers and future research on psychological safety could also adopt peers' perceptions of providing feedback.

Implications

Our findings are aligned with previous research showing positive associations between psychological safety and learning and safety behaviors (Appelbaum et al., 2016; Carmeli & Gitell, 2009; Edmondson 1999; Hirak et al., 2012), in this case revealed in peers' performance feedback. When medical departments invest in psychological safety, research shows they should focus both on the leader and the team (Appelbaum et al, 2016; Frazier et al., 2016). At the team level, investing in role clarity and peer support could benefit psychological safety (Frazier et al., 2016). Peer support is directed at helping a colleague in coping with medical errors or adverse patient events, and implementation of this method at departments could promote psychological safety (Hu et al., 2012). Aside from peer support for specific medical errors or adverse events, medical teams should, in general, invest in optimizing social support between peers, for example by team-building, working towards common goals, actively inquiring staff feedback on management, or planning social activities together (Arnetz, 2001; Shanafelt et al., 2003). These efforts could improve the quality of interpersonal relationships and build interpersonal trust in teams, which has shown to promote psychological safety and subsequently, learning from errors in efforts to continuously improve patient care (Carmeli & Gitell, 2009; carmeli et al., 2009).

For leaders of medical teams, research shows the leader inclusiveness style, characterized by direct invitation and appreciation of team members' contributions, to be associated with more psychological safety in health care teams (Nembhard & Edmondson, 2006). Therefore current and future medical leaders and program directors could proactively

initiate leader inclusiveness behaviors, i.e. words and deeds that indicate an invitation and appreciation for others' contributions, proactively asking for others' views and opinions in discussions and decisions (Nembhard & Edmondson, 2006).

Lessons for practice

- Although the relevance of performance feedback for CPD is widely acknowledged, receiving performance feedback from peers is not yet common practice in the medical profession.
- Physicians experiencing more psychological safety, were more likely to receive performance feedback from peers, i.e. both positive and corrective feedback, as well as suggestions for improvement and explanations of the feedback.
- Medical teams should consider investing in psychological safety to support performance feedback from peers and CPD of physicians.

CONCLUSIONS

This study uncovered a positive association between physicians' perceptions of psychological safety and peers' performance feedback. Physicians experiencing more psychological safety were more likely to receive positive and corrective feedback from peers, as well as explanations of the feedback and suggestions for improvement from their peers. Ultimately, performance feedback from peers supports CPD of physicians, and their ongoing efforts to provide patient care of the highest quality.

REFERENCES

Aasland O & Førde R (2005). Impact of feeling responsible for adverse events on doctors' personal and professional lives: the importance of being open to criticism from colleagues. *Qual Saf Health Care,* 14(1):13-17.

Appelbaum NP, Dow A, Mazmanian PE et al. (2016). The effects of power, leadership and psychological safety on resident event reporting. *Med Educ,* 50(3):343-350.

Arah OA, Hoekstra JB, Bos AP (2011). New tools for systematic evaluation of teaching qualities of medical faculty: results of an ongoing multi-center survey. *PLoS One,* 6(10):e25983.

Arnetz BB (2001). Psychosocial challenges facing physicians of today. *Soc Sci Med,* 52(2):203-213.

Boerebach BC, Arah OA, Busch OR et al. (2012). Reliable and valid tools for measuring surgeons' teaching performance: Residents' vs. self evaluation. *J Surg Educ,* 69(4):511-520.

Boerebach BC, Lombarts KM, Arah OA (2014). Confirmatory factor analysis of the system for evaluation of teaching qualities (SETQ) in graduate medical training. *Eval Health Prof,* 0163278714552520.

Carmeli A & Gittell JH (2009). High-quality relationships, psychological safety, and learning from failures in work organizations. *J Organiz Behav,* 30(6):709-729.

Carmeli A, Brueller D, Dutton JE (2009). Learning behaviours in the workplace: The role of high-quality interpersonal relationships and psychological safety. *Syst Res Behav Sci,* 26(1):81-98.

Chen J, Xu J, Zhang C et al., (2013). Medical professionalism among clinical physicians in two tertiary hospitals, China. *Soc Sci Med,* 96:290-296.

Davis DA, Mazmanian PE, Fordis M (2006). Accuracy of physician self-assessment compared with observed measures of competence: a systematic review. *JAMA,* 296(9):1094-1102.

Dollard MF & Bakker AB (2010). Psychosocial safety climate as a precursor to conducive work environments, psychological health problems, and employee engagement. *J Occup Organiz Psych,* 83(3):579-599.

Edmondson A (1999). Psychological Safety and Learning Behavior in Work Teams. *Admin Sci Quart,* 44(2):350-383.

Edmondson AC, Kramer RM, Cook KS (2004). Psychological safety, trust, and learning in organizations: A group-level lens. *Trust Distr Organiz,* 12:239-272.

Eppich W (2015). "Speaking Up" for Patient Safety in the Pediatric Emergency Department. *Clin Pediatr Emerg Med,* 16(2):83-89.

Frazier ML, Fainshmidt S, Klinger RL et al. (2016). Psychological Safety: A Meta-Analytic Review and Extension. *Personnel Psych,* 70(1):113-165.

Goulet F, Gagnon R, Gingras MÉ (2007). Influence of remedial professional development programs for poorly performing physicians. *J Contin Educ Health Prof,* 27(1):42-48.

Grol R (2001). Improving the quality of medical care: building bridges among professional pride, payer profit, and patient satisfaction. *JAMA,* 286(20):2578-2585.

Hattie J & Timperley H (2007). The Power of Feedback. *Rev Educ Res,* 77(1):81-112.

Hirak R, Peng AC, Carmeli A et al. (2012). Linking leader inclusiveness to work unit performance: The importance of psychological safety and learning from failures. *Leadership Quart,* 23(1):107-117.

Holmboe ES, Meehan TP, Lynn L et al., (2006). Promoting physicians' self-assessment and quality improvement: the ABIM diabetes practice improvement module. *J Contin Educ Health Prof,* 26(2):109-119.

Hu Y, Fix ML, Hevelone ND et al. (2012). Physicians' needs in coping with emotional stressors: The case for peer support. *Arch Surg,* 147(3):212-217.

Kessel M, Kratzer J, Schultz C (2012). Psychological safety, knowledge sharing, and creative performance in healthcare teams. *Creat innov Manag,* 21(2):147-157.

Leroy H, Dierynck B, Anseel F, et al.(2012). Behavioral integrity for safety, priority of safety, psychological safety, and patient safety: A team-level study. *J Appl Psych,* 97(6):1273.

Lindgren S & Gordon D (2012). Lifelong quality improvement. *Med Educ,* 46(1):11-12.

Lipner RS, Blank LL, Leas BF et al. (2002). The value of patient and peer ratings in recertification. *Acad Med,* 77(10):S64-S66.

Little RJ & Rubin DB (2000). Causal effects in clinical and epidemiological studies via potential outcomes: concepts and analytical approaches. *Ann Rev Pub Health,*21(1):121-145.

Lockyer J, Armson H, Chesluk B et al. (2011). Feedback data sources that inform physician self-assessment. *Med Teach,* 33(2):e113-e120.

Lombarts KM, Bucx MJ, Arah OA (2009). Development of a system for the evaluation of the teaching qualities of anesthesiology faculty. *Anesthesiology,* 111(4):709-716.

Mansouri M & Lockyer JA (2007). A meta-analysis of continuing medical education effectiveness. *J Contin Educ Health Prof,* 27(1):6-15.

Melnick DE (2004). Physician performance and assessment and their effect on continuing medical education and continuing professional development. *J Contin Educ Health Prof,* 24(S1).

Nembhard IM & Edmondson AC (2006). Making it safe: The effects of leader inclusiveness and professional status on psychological safety and improvement efforts in health care teams. *J Organiz Behav,* 27(7):941-966.

Norton PG, Ginsburg LS, Dunn E et al. (2004). Educational interventions to improve practice of nonspecialty physicians who are identified in need by peer review. *J Contin Educ Health Prof,* 24(4):244-252.

Okuyama A, Wagner C, Bijnen B (2014). Speaking up for patient safety by hospital-based health care professionals: a literature review. *BMC Health Serv Res,* 14(1):1.

Overeem K, Driessen EW, Arah OA (2010). Peer mentoring in doctor performance assessment: strategies, obstacles and benefits. *Medic Educ,* 44(2):140-147.

Sargeant J, Mann K, Van der Vleuten C (2008). "Directed" self-assessment: Practice and feedback within a social context. *J Contin Educ Health Prof,* 28(1):47-54.

Sargeant J, Macleod T, Sinclair D et al., (2011). How do physicians assess their family physician colleagues' performance? Creating a rubric to inform assessment and feedback. *J Contin Educ Health Prof,* 31(2):87-94.

Sargeant J, Bruce D, Campbell CM (2013). Practicing physicians' needs for assessment and feedback as part of professional development. *J Contin Educ Health Prof,* 33(S1).

Sauver JLS, Grossardt BR, Leibson CL et al.)2012). Generalizability of epidemiological findings and public health decisions: an illustration from the Rochester Epidemiology Project. *Mayo Clin Proc,* 87(2):151-60.

Shanafelt TD, Sloan JA, Habermann TM. (2003). The well-being of physicians. *Am J Med,* 114(6):513-519.

Silver I, Campbell C, Marlow B et al.(2008). Self-assessment and continuing professional development: The

Canadian perspective. *J Contin Educ Health Prof,* 28(1):25-31.

Torralba KD, Loo LK, Byrne JM, et al. (2016). Does Psychological Safety Impact the Clinical Learning Environment for Resident Physicians? Results From the VA's Learners' Perceptions Survey. *J Grad Med Educ,* 8(5):699-707.

Van der Rijt J, van de Wiel MWJ, Van den Bossche P et al. (2012). Contextual antecedents of informal feedback in the workplace. *Hum Res Devel Quart,* 23(2):233-257.

Chapter 5

Sharing reflections on multisource feedback in a peer group setting: (How) does it stimulate physicians' professional performance and development?

This chapter is based on: Elisa Bindels, Myra van den Goor, Albert Scherpbier, Sylvia Heeneman, Kiki Lombarts. Feedback conversations in a peer-group setting. *Manuscript under revisions*

'This meeting provided an outstanding opportunity to share personal wishes and ambitions with your colleagues. For my personal development it was important to be explicit about my preferences, within my peer-group and within the organization'

Participant in Group reflection study, Chapter 5

ABSTRACT

Since peers play an important role in the wellbeing, engagement and performance of the individual physician, ongoing professional development can be characterized as both a personal and a social process. Therefore, in order to facilitate physicians' professional development, it makes sense to involve peers in reflective conversations following performance feedback.

Since little is known about how feedback conversations in a peer group setting could support physicians' performance, this chapter aims to fill that knowledge gap. During a guided peer group session, physicians are invited to reflect on their individual performance and development, using personalized outcomes of an individual 360 degrees feedback tool. Within two weeks after this meeting, we conducted in-depth interviews with 26 physicians from various specialties, representing 12 physician groups in 5 Dutch hospitals.

This study uncovers that reflecting collectively on individual feedback adds value as it offers an opportunity for increasing self-awareness and deepening interpersonal relationships through listening and connecting with peers. Reflecting on personal MSF data during a peer group session offered the possibility to discuss and compare self and others' perceptions and assisted in gaining a nuanced insight into one's professional performance. Sharing reflections with others deepened collegial relationships and created a sense of urgency for improvement, being mostly related to interpersonal communication and collaboration issues.

Sharing reflections with others was experienced as a source of social support and was perceived as helpful in realizing actual change. To allow reflection to rise from a personal activity to a social activity, we advocate that it is necessary to invest in a psychologically safe environment and to involve a trained facilitator for the needed stimulation and structuring of the reflective process.

INTRODUCTION

Inherent in being and remaining a 'good doctor' is the motivation for ongoing learning and the ability to engage in reflection on one's professional performance (Epstein, 1999; Guest et al., 2011). Professional performance' extends beyond the ongoing acquisition of and reflection upon medical knowledge and procedural skills; it also encompasses ongoing development of skills such as interpersonal communication, collaboration and leadership and aspects of personal development and wellbeing (Bindels et al., 2018; Epstein & Hundert, 2002; Ericsson, 2004; Mann et al., 2009). In the context of requirements for both continuous professional development (CPD) and maintenance of certification (MoC) or revalidation, physicians are expected to periodically reflect on their professional performance (Bindels et al, 2018; Mann et al., 2009). In many health care systems, i.e. in the USA, Canada, the UK and the Netherlands, it is common to include the results of multisource feedback (MSF) in this reflective activity (pilgrim et al., 2013; Sargeant et al., 2013). Research on how physicians use MSF, however, has demonstrated that MSF does not self-evidently find its way into physicians' performance change; multiple studies underscore that *facilitation* of reflection is required to achieve actual improvement (Eva, 2012; Sargeant et al., 2009; Sargeant et al., 2008; Sargeant et al., 2015).

Indeed, physicians who have been assessed using MSF approaches have identified that a facilitator is helpful in reflecting on feedback. It can promote a deeper understanding of and insights into one's own behaviors and opinions about factors that could enhance the impact of the feedback (Overeem et al., 2010; Sargeant et al., 2015; Telio et al., 2015). One-on-one sessions have shown to result in clear goal setting and intention to change; the effectiveness of facilitated reflection is dependent on the development of rapport, trust and mutual respect between the physician and the facilitator (Brehaut et al., 2016; Overeem et al., 2009). In addition to one-on-one sessions, also *group* sessions are being explored. During such a group session, which is moderated by a professional facilitator, physicians are invited to reflect on their personal MSF data with same-specialty peers, with whom they work together on a daily basis. The mechanisms through which a group session can impact CPD still need further investigation.

There are obvious pragmatic reasons for choosing for group sessions instead of individual sessions, i.e. group sessions are more time and cost effective. Nevertheless, reasons of principle may also underpin such a choice. Although group sessions have not yet been studied in the specific context of MSF, reflecting on MSF in a peer group setting may provide opportunities for deep engagement in the learning process, as physicians are

learning through their relationships with peers. Furthermore, a peer group setting can create a space for self and peer assessment of a formative kind by providing a context for comparing oneself to others (Boud, 2000). Several authors have indicated that peers can be viewed as instructional resources for one another, sharing learning intentions and criteria for success (Black & William, 2009; Boerboom et a;., 2011; Tigelaar et al., 2008; Van Lierop et al., 2018). Also, sharing personal reflections with colleagues could improve the quality of collegial relationships and increase the chance of real performance improvement (Overeem et al., 2009).

The question arises whether and how these group sessions indeed are helpful for physicians to reflect on their individual professional performance and contribute to their CPD. In this study, we therefore explored three research questions: in the context of (mandatory) CPD in which MSF is used, (i) how do physicians experience participation in group sessions? (ii) how do they perceive the session to contribute to their CPD? and (iii) which factors do they perceive as hindering or helpful in this process? Understanding how peer group sessions could be instrumental in individual physicians' CPD may guide physicians and other stakeholders in choosing the most suitable approach to facilitated reflection on performance feedback.

METHODS

Setting and participants

Within the context of CPD, Dutch medical specialists periodically take part in a formative evaluation of their performance. This process is characterized by maintaining a portfolio and acquiring environmental feedback, which together form the basis for a personal conversation with a trained facilitator. To support this process, formative evaluation systems have been implemented in Dutch hospitals since 2008. As of 2020, participation in this system is mandatory for revalidation. This revalidation requirement dictates the use of MSF and entails three consecutive steps: (1) take part in the collection of MSF every five years, (2) discuss feedback with a trained facilitator with whom there is no hierarchical or otherwise dependent relationship, and (3) define and yearly evaluate a personal development plan (Dutch Federation of Medical Specialists, 2019). Initially only one-on-one sessions with a facilitator were used, but gradually also group sessions are being used. For our study, we conducted individual, semi-structured interviews with physicians from Dutch non-academic hospitals who had participated in a group session.

In our study, MSF data was gathered through an online system collecting anonymous

feedback from three groups of respondents: peers (same-specialty peers and peers from adjacent specialties), residents and supporting staff (e.g. nurses, pharmacists, therapists and secretary staff) (Van der Meulen et al., 2017). The feedback results were collated into a report which was directly made available to the physician. In our study, participants were invited to discuss their personal MSF reports with their peers, belonging to the same medical specialty in the same hospital with whom they shared the same patients and worked together as team members. Oftentimes, at least some of these peers had been invited to provide feedback through the online system. For most participants, it was the first encounter with a group session in the context of revalidation; in previous years, they had discussed their MSF reports with an independent facilitator in a one-on-one session. Participants in this study were obliged to participate in the group session as part of the requirements for revalidation. The use of group sessions instead of one-on-one sessions was the result of a hospital-wide decision taken by the medical staff boards.

Group sessions

One or two professional facilitators would lead the sessions, depending on the group size. The facilitators, ten in total, were all independent consultants from one private firm with experience in the medical specialist workplace. The facilitators had diverse professional backgrounds, including medicine, human resource management, entrepreneurship, economy and disciplinary law, and all shared affinity with the position and corporation of physicians within the hospital setting. Physicians received an invitation from the facilitator for a 2-2,5 hour group session. The facilitator communicated the objectives of the session as follows: (1) sharing with your colleagues which aspects of performance are going well and which aspects need improvement; (2) gaining (better) insight into each other's performance strengths and exploring how the colleague group can learn from this insight; (3) providing opportunities to support each other or explore ways to support each other and (4) determining which topics need concrete action.

During the group session, the facilitator invited every physician to share one or more points from his or her MSF report and elaborate on aspects that they found to be remarkable, recognizable, confronting or amusing. Hereafter, the facilitator invited peers to share their views on what was shared by the physician. The facilitator undertook a great deal of listening and encouraging the participating physicians to talk with one another, thereby aiming for a climate conducive to sharing and learning. Before the start of the session, the facilitator had taken note of all feedback reports; in the event that a physician would remain silent about critical points or important parts of his/her feedback, the facilitator would bring this up in the discussion, albeit in a subtle

way. In the invitation to the group session it was explicitly stated that the session was confidential; no information was disclosed to others inside or outside the hospital.

Sampling strategy and procedure

We used purposive and convenience sampling to compose a diverse sample of participants, representing physicians from various hospitals and specialties, belonging to physician groups that varied in size and team membership. The facilitator informed the physicians taking part in the group session about the current study via email. In this email, they were asked whether they agreed with the presence of the first author (EB) during the group session. It was emphasized that she had not taken notion of the content of the feedback reports. The purpose of her presence was twofold: on the one hand, it was intended to familiarize her with the course of events during a group session and to provide her with an impression of the group to which participants belonged; on the other hand, it was intended to lower the threshold for physicians to participate in an interview with her after the session. We felt that it would benefit the depth of the interview if the first author was familiar with the group context and if physicians had already become accustomed to her presence during the group session. At the end of each group session, the facilitator asked whether physicians were willing to participate in an interview with the first author. Physicians who expressed their initial willingness to participate received an official invitation from one of the supervising researchers (KL) via email. We aimed to conduct two interviews per physician group within two weeks after the group session.

Study design and data collection

Being interested in physicians' experiences with reflection during a group session and their perceptions of its contribution to their CPD, we chose an interpretative phenomenological approach, IPA (Brocki & Wearden, 2006; Smith et al., 2009; Smith, 2011). In the literature, the process of IPA is described as engaging in a double hermeneutic, "whereby the researcher is trying to make sense of the participant trying to make sense of what is happening to him." (Smith, 2011). Since we asked physicians to reflect on the reflective activity in the group session, the research itself is, in fact, a reflective activity. IPA is concerned with the balance of convergence and divergence within the sample, not only by searching for shared themes but also pointing to the particular way in which these themes play out for individuals.

For our study, we collected data by using semi-structured individual interviews. The first author (EB) conducted the interviews between March 2018 and July 2018. Interviews lasted 45-60 minutes and were held in the privacy of the physician's office, where confidentiality was assured at the start of the interview. Based on discussions within the research team, an interview guide with five open-ended questions was designed to structure the interviews. The questions related to (1) the physician's first impression of the group session, (2) the topics that had been shared by the physician and the reactions he/she had received, (3) the physician's experience of the presence of peers/facilitator and the interpersonal dynamics during the session, (4) the perceived contribution of the session to his/her performance and CPD and (5) factors that were perceived as helpful or hindering. All interviews were audio-recorded and transcribed verbatim.

Data analysis

Common to IPA, we adopted an iterative approach: we performed data collection and data analysis simultaneously, whereby insights from previous interviews shaped subsequent data collection. Two researchers (EB, MvdG) independently read and open coded the first three transcripts and compared the naming and interpretation of codes; they discussed and resolved differences through consensus. Next, one researcher (EB) coded the following five transcripts and established the first coding categories. The first round of open coding and categorization was discussed within the research team and emerging themes were identified. The first author coded the following transcripts with these themes in mind and a second researcher (MvdG) double coded parts of the transcripts which the first author (EB) found to be ambiguous. This coding cycle was repeated three times; at the end of each cycle, the coding was extensively discussed within the research team until agreement was reached. Data saturation was reached at the point where further data analysis no longer resulted in new analytical themes. A comprehensive understanding was formulated by the first author in consultation with the research team.

In IPA, the analysis should be pointing to both convergence and divergence, by capturing how participants manifest the same theme in particular and different ways (Smith, 2011). Throughout the entire analytical process, we therefore adopted the strategy of identifying stories of participants who experienced the group session as particularly valuable for their CPD and participants who did not hold these experiences. We sought to track down underlying processes by revising interview questions in the next interviews. During research team meetings and throughout the coding process, the first author (EB) wrote memos to keep track of thoughts and changes in the coding process.

Reflexivity

Since the IPA is an approach in which researchers bring their own backgrounds, researcher roles and assumptions to the analytical process, practicing reflexivity is critical (Smith et al., 2009). In this reflexive spirit, we provide the following contextual information: the

first author (EB) has a background in arts, humanities and psychology; other authors have significant experience in studying medical education, and their own disciplinary backgrounds include medicine, management and consultancy (MvdG), medicine and philosophy (AS), biomedical sciences and competency-based education (SH) and health services research (KL). The diverse backgrounds reflected in various perspectives on the subject of the study; all researchers have been involved in the process of analysis. The second author (MvdG) fulfilled a dual role, given her role as a researcher and professional facilitator of two of the 13 group sessions included in this study.

Ethical considerations

This study was exempt from Institutional Board Review under Dutch law. A waiver of ethical approval was provided by the medical ethics review committee of the University Medical Center in Amsterdam, waiver number W18_089. All participants consented to participate in this study by providing written informed consent.

RESULTS

In total, 26 physicians from 13 mono-specialty physician groups in five Dutch hospitals participated in the interviews. Table 1 shows the details of the participants regarding gender, age, specialty and group size. We identified four themes:

1. *Disclosing and sharing*

Participation was experienced as a process of disclosing and sharing personal reflection with others - potentially eliciting feelings of vulnerability - while striking a balance between interpersonal proximity and distance with peers.

2. *Understanding feedback in a broader perspective*

Although the content of the feedback was mostly not surprising, the session did contribute to insight into own performance. Listening to colleagues' explanation and nuance of feedback led to perceptions of increased meaningfulness of the feedback, prompting participants to open up to the perspectives of others and to feel more connected to them.

3. *Creating urgency for improvement*

The process of sharing reflections and generating interpersonal closeness fueled the urgency for improvement. Improvement goals were mostly related to making adjustments in collaborative practice; to a lesser extent, these goals were related to individual career management.

4. *Influential factors*

Experiences with participation and perceptions of value for CPD were influenced by factors related to the facilitator, the peer group, the individual physician and the context of CPD policy.

In the following, we describe these aspects. To exemplify our findings, we provide quotes identified by a numerical code assigned to the participant and a letter code assigned to the group session (e.g., participant 5, group session C).

Table 1. Participants: gender, age, specialty and group

Participant #	*Gender and age*	*Specialty*	*Group (group size)*
1	Male in his 40s	Emergency medicine	A (5)
2	Female in her 30s		
3	Male in his 50s	Geriatrics	B (4)
4	Female in her 50s		
5	Male in his 40s	Anesthesiology	C (8)
6	Male in his 40s		
7	Male in his 60s	Pulmonology	D (9)
8	Male in his 60s		
9	Male in his 60s	Internal medicine	E (8)
10	Female in her 30s		
11	Male in his 40s		
12	Female in her 30s	Emergency medicine	F (8)
13	Male in his 30s		
14	Female in her 40s	Geriatrics	G (4)
15	Female in her 50s		
16	Male in his 50s	Orthopedics	H (9)
17	Male in his 40s		
18	Female in her 40s		
19	Female in her 30s	Geriatrics	I (4)
20	Male in his 60s		
21	Female in her 50s	Medical rehabilitation	J (4)
22	Male in his 40s		
23	Male in his 40s	Pediatrics	K (9)
24	Male in his 40s	Rheumatology	L (3)
25	Female in her 40s	Gynecology	M (5)
26	Female in her 30s		

1. Disclosing and sharing

Although one participant reported that he and his group members felt comfortable enough to share each other's feedback reports before the start of the session, in most other sessions, this was not the case. In the interviews, physicians noted that they had experienced sharing information from their feedback report as something unfamiliar; most of them reported to have felt a little uncomfortable. Some of them even felt somewhat vulnerable and 'exposed':

> *I noticed that I needed to cross a threshold and I was glad to notice the same in my colleagues. They are all quite 'strong personalities', so seeing them a bit vulnerable too was reassuring.* (13 F)

The display of vulnerability led others to feel encouraged to engage with their peer's story:

> *Because now that I knew about the bottlenecks and uncertainties of my colleague, I felt a bit more free to just say something about that, while I might not do that normally.* (14 G)

Due to the self-disclosure of peers, participants were not only inclined to respond more to what they heard, but they were also more inclined to let their guard down and engage in self-disclosure themselves:

> *You hear about what goes on in others.. it was a slightly different atmosphere than I had expected. I opened up more and revealed more of myself and my own struggles.* (25 M)

Parallel to the increase in sharing reflections and emotions with each other, participants also emphasized their need to be in control of what they shared and how openly it was discussed. They reported the need to strike a balance between proximity and professional distance. Whereas for some participants this process was accompanied by experiencing a certain tension, other participants considered this process to be fairly straightforward, as one of them stated quite explicitly:

> *My colleagues are not my friends; a group of friends at work, I think that's deadly. I need some distance to be able to collaborate with my colleagues in a professional way.* (20 I)

Another participant articulated this need for professional distance as a 'need for self-monitoring': she noted that the high level of self-disclosure of others could be experienced as an implicit expectation to 'return the favor' and share personal information as well. Instead, she chose to stay close to her own gut feeling and only share reflections to the

extent that she felt comfortable enough:

> *For many of my colleagues, the conversation became very personal. But I am just new to the group and therefore I found it a bit more difficult. If you share more than what makes you feel comfortable, you just may feel too vulnerable. I think this session should not be a therapy group; you should only share personal things that are relevant for your functioning as a physician.. but that is of course a grey area.* (26 M)

After all, engaging in self-disclosure in reaction to other people's self-disclosure was a personal consideration. However, as more people remained on the sideline, this could translate into superficial talk, missing a critical undertone and undermining honest and constructive feedback:

> *It was mostly chatting safely about each other's qualities.. it was obvious that some of us preferred not to play off the back foot.* (11 E)

2. Understanding feedback in a broader perspective

Participants indicated that the content of both their personal feedback report as well as the content of the group session was not very surprising – "it would be strange if the feedback would not be recognizable, that would not be a good sign" (22 J). However, participants indicated that the session helped them to understand their feedback in a broader perspective. By listening to colleagues' explanation and nuance of the feedback, participants perceived the feedback as more meaningful and were more inclined to open up to perspectives of others:

> *For me, it was insightful to hear how my colleagues perceive my working style and I too got a better understanding of how their styles developed over time. I feel that if I would have had a one-on-one conversations with the facilitator, I would have missed that because I would have the tendency to grumble about my colleagues; that wouldn't have made things better. I noticed that by discussing this directly, but with the presence of a facilitator, I was more open to their side of the story and I became milder in my feedback towards them.* (24 L)

Participants referred to the group session as an opportunity to re-experience a personal connection, to take time to be 'in real contact', away from the issues of the day, by asking and being asked: "How are you doing, but *really*?" (15 G). The aforementioned process of mutual exchange contributed to an atmosphere in which (hidden) emotions were allowed to emerge. In this way, it was possible to discuss matters that were not enclosed under normal working circumstances, such as feelings of insecurity, overload or misjudgment:

> *I shared more about personal issues than I thought I would. I think my colleagues*

already felt these insecurities of mine beneath the surface… because of their reaction I felt appreciated for who I am. During the session they explored with me what I need to stay on my feet. (25 M)

Overall, many participants mentioned the session's beneficial emotional effects, related to feelings of empathy, recognition, appreciation, solidarity and support. Participants underlined the importance of bonding and feeling connected:

I did not expect to get emotional during the session, but it happened anyway. In my colleagues' reaction, I felt genuine interest, concern and empathy. I mean, patient contact is very important, but so is working with a group of colleagues you feel comfortable and safe with.. that makes up for three quarter of your job satisfaction. (15 G)

3. Creating urgency for improvement

Sharing reflections with others deepened collegial relationships and created a sense of urgency for improvement. During the session, participants formulated improvement goals, related to personal communication habits and professional pitfalls, such as 'leaving more room for nuance during conversations', 'involving others in referral of patients in an earlier stage', 'delegating more/not keeping information to yourself too long', 'letting things take their course' and 'having more confidence in own judgment'. Overall, most improvement goals were related to relational fine-tuning in collaboration:

In this session, I learned about the small irritations of my colleagues towards my way of supervising residents. For me, this does not necessarily mean that I am going to change my way of doing things, but perhaps I can better explain why I do things the way I do them. I think that in the long run, this could help to create a mutual understanding of each other's methods and to open up possibilities for more alignment. (13 F)

Also, participants talked with their peers about their personal and professional challenges, such as work/life balance and wellbeing struggles, and about character traits that are difficult to change but do influence long-term performance, such as perfectionism and fear of failure. In this context, several participants emphasized the importance of being in good touch with one's colleagues in order to support both individual and group performance:

Now that I am back after a period of illness, it is important to discuss with my colleagues how much I can handle. By sharing how you feel in your work, you can – as a group – better choose a strategy in the division of tasks. You can look at what should be done? What should not be done? What should you do? What should I do? The setting in which you share these things helps, because in daily practice we hardly take a moment to do so or have dedicated time for this important thing. (14 G)

Apart from improvement goals related to the improvement of collaborative practice, participants also reported improvement goals related to individual career management, albeit to a much lesser extent. Participants formulated goals such as 'additional specialization', 'updating certain medical knowledge', 'expansion of/profiling within an administrative role' or 'focus on the management of an outpatient clinic'. Implementation of these intended changes in practice were not discussed in detail. Sharing these plans mainly served as a way to inform one's colleagues, so that arrangement issues could be dealt with if necessary.

During a session like this there is opportunity to say – for example – that you'd like to rotate more and see other patients than only 7-year old girls with abdominal aches. Shifting to other activities or investing in individual development is of course something that needs to fit in with the organization and philosophy of your group. Over a longer period you have to ask yourself, do I still fit in with the organization where I work? Does the organization suit me? How am I going to ensure that I will remain challenged and have fun? (9 K)

4. Influential factors

Participants' experiences with the group session and their perceptions of its contribution to CPD were influenced by a number of factors. These factors were related to the facilitator, the peer group, the individual physician and the context of CPD policy/revalidation.

Facilitator

Overall, participants spoke highly appreciative about the facilitator's role as an intermediary. The facilitator's explicit invitation to share experiences or add nuance to a peer's story was noted in particular:

In a normal work setting, I often tend to get defensive, but with the facilitator, things were discussed quietly. She structured the conversation in a pleasant way without being overly present, thereby creating a safe atmosphere. (24 L)

Participants also noted the facilitator's power to let the participants validate each other in their qualities. Some participants highlighted the facilitator's ability to elicit information in a friendly and playful way or to ask in-depth questions to scrape off the varnish.

Peer group

Participants agreed that the context of the group had an impact on the (effects of the) interactional process. Group context factors entailed factors such as size, history and composition of the group. Participants in groups that stood out in terms of homogeneity in terms of age, career stage and years of experience noted the diversity or seniority within their group to be a factor in acquiring insight into own performance:

> *We are all young emergency doctors and sometimes I feel like we have to reinvent the wheel… it would be nice if there were some more experienced doctors in our group, to hear different perspectives, but also to provide us with an overview and offer us some reassurance.* (12 F)

When the group was rather large (seven people or more), participants reported that there was simply not enough quality time to thoroughly discuss individual matters. When the group was rather 'young', for example, because of organizational changes such as a merger, participants indicated that they needed time to get to know each other better:

> *There was too little time for so many people. And besides that, it felt rather superficial because we don't know each other that well yet. It is also a matter of time that people want to show more of themselves.* (16H)

Individual physician

Personal circumstances were recognized as a factor in determining the experiences with participation in the group session. Many participants explicitly mentioned their level of experience and career stage to be of influence:

> *As a young specialist, I still need to get used to this new status and gain more confidence. Thanks to my colleagues' reactions and the way they received me, I felt very much appreciated and respected.* (19 I)

Also, participants differed from each other in terms of overall vulnerability. In the extreme case of a participant who found herself at the edge of a burnout, the group session was a complete overstimulation. This participant experienced the use of a group format as an illustration of the 'pursuit of efficiency in healthcare', undermining an honest and meaningful conversation about performance and development:

> *Even though everyone was nice to me and I know that they have their best interest at heart, the session still had a big impact. Discussing the numbers in my feedback report with my colleagues, the whole thing just did not feel genuine, especially since it was about that theme of professional functioning. There should be more attention to topics such as sustainable employability and career development, but in my opinion, a group session like this is not the way.* (4 B)

Context of CPD policy

Many participants were enthusiastic about the group session; some stated that sessions of this kind should take place more often. However, some of them indicated that – although the session was valuable – it did cost energy and effort and that it should not be 'overdone'. One participant also underlined that physicians should experience autonomy in using group sessions as a tool for performance improvement and continuing development. In this context of professional (self-) regulation, others indicated that they had only participated because it was part of CPD policy and mandatory for revalidation purposes. As one of them cynically remarked:

> *If the profession requires participation in these sessions, I will of course respond to it. However, if these sessions were abolished, I would not slip into a deep depression.* (20 I)

Participants also mentioned that these group sessions took place only once every two years. They wondered how the follow-up on improvement goals could be jointly monitored:

> *How are we going to ensure that this is not just a formality but that something is really going to change? How are we going to notice or measure any changes?* (14 G)

DISCUSSION

Our study provides insight into the importance and (im)possibilities of interpersonal relationships for learning from feedback during a group session. This study revealed that sharing reflections with others rendered feedback more meaningful, deepened collegial relationships and created a sense of urgency for improvement. Conditions for success were an experienced facilitator, longitudinal trusting relationships and a limited group size.

In the following section, we will discuss our findings by elaborating on (i) the interdependence of 'process' and 'outcome' and the role of interpersonal trust; (ii) the use of communication strategies that influence the quality of a group session and (iii) the role of these group sessions in CPD and performance improvement.

Although in our research questions we separated 'process' and 'outcomes', these two elements were difficult to distinguish in our results. Physicians reporting high levels of interpersonal trust and openness during the process also tended to report beneficial (emotional) outcomes. Interpersonal trust and openness seemed to be enacted by the

set-up of the group session as an invitation to co-construct the conversation. Physicians reported that by hearing their peers' personal reflections, they were inclined to respond and share personal reflections as well. This cascade of processes is reminiscent of a mechanism called "the dyadic effect". The notion of the dyadic effect was coined by the psychologist Jourard (1971), which states that if self-disclosure by one person increases (in this case the sharing of personal information or reflections), so does that by the other(Jourard, 1971). Jourard regarded communication as an interpersonal transaction and conceptualized self-disclosure as a deliberate invitation to the other to know and share his/her experiences (Jourard, 1971). Although self-disclosure is a relatively infrequent form of communication, it is claimed to be important in a variety of contexts (Beebe et al., 2000; Egan, 1970; Lanutti et al., 2006; Ledbetter et al., 2011; Schrodt & Phillips, 2016; Wheeless & Grotz, 1977). Several authors have identified individuals' ability and willingness to self-disclose as determinants of their personal health and satisfaction, success in being understood and working competently with others, and the ability to provide communication experiences that others find satisfying and therapeutic (Beebe et al., 2000; Egan, 1970). In communication science, considerable attention has been given toward identifying those characteristics of positive relationships most closely associated with self-disclosure (Beebe et al., 2000; Egan, 1970). Not surprisingly, and in accordance with the findings of our study, several authors refer to interpersonal trust as a key factor for self-disclosure(Argyris, 1962; Beebe et al., 2000; Egan 1970). The findings of our study show that in many cases the exchange of personal reflections went naturally. One physician however noticed an implicit norm of reciprocity: the perception that sharing should be equal among group members. In the light of this experience, physicians emphasized that the group session took place within a professional working context and that the relationship between 'professional' and 'personal' needed attention.

Our study suggests that the quality of relationships is an important factor in opening up to the perspectives of others and generating beneficial (emotional) effects within a peer group setting. This resonates with recent feedback literature in which emphasis is placed on the quality of relationships to realize change in practice (Ramani et al., 2019; Ramani et al., 2019; Sargeant et al., 2015). The findings of our study showed that group members could differ in their willingness to self-disclose and provide others with constructive, honest feedback, creating an atmosphere of 'positive yet superficial talk'. This state of affairs points to the use of so-called politeness strategies (Brown & Levinson, 1978; Ramani et al., 2018). Brown and Levinson's Politeness theory states that in social interactions, positive and negative 'face' play a role. There is positive face when individuals only emphasize positive things during feedback conversations to avoid damaging relationships and the self-esteem of the feedback receiver. There is negative face when constructive feedback is provided with the intention to support an individual's longitudinal growth, but which may be a breach of the norms of expected politeness. A polite or face-saving learning culture may thus have a negative impact on feedback conversations (Ramani et al., 2017). Based on the findings of our study, sharing personal reflections in a group setting more often could be a way to foster openness and meaningful conversation within a physician group.

Apart from trusting relationships, also the application of coaching principles is important to realize change in practice (Ramani et al., 2019; Ramani et al., 2019; Sargeant et al., 2015). Thee latter, however, appears to be a challenge in a peer group setting, especially in larger physician groups as we found in this study. It may be premature to conclude that group sessions fall short in achieving performance improvement and development. As our findings illustrate, physicians reported that the group sessions were felt to be supportive in terms of reflecting on performance and prompted them to compare their views on their own professional performance with the perspectives of others. Physicians noted that sharing reflections could increase a sense of urgency for improvement and foster a community spirit, which might help in implementing intended changes. Performance improvement and development may have a longer lead time, but the effects of the session may be more pervasive as it has taken the group context as the starting point (Argyris, 1962; Brennan et al., 2014). It was striking that improvement goals tended to center around relational fine-tuning in collaborative practice, whereas goals related to individual career management were discussed less extensively. It might be argued that MSF and reflecting on it together with peers predisposes to improvement of collaborative practice and group performance, which also affects individual performance. As noted by the physicians in this study, to bring about real, sustainable change and performance improvement, it is important to invest in (the monitoring) of a follow-up process after group sessions. Future research should take a longitudinal design to look at the effects of group sessions on actual behavior change and practice improvement.

Strengths and limitations of the study

The strength of our study is its exploratory character. Since this feedback initiative is gaining more acceptance in CPD practices, it is important to delve into the experiences of the main stakeholder group, physicians themselves. The involvement of the second author (MvdG) as both a researcher and group facilitator provided a valuable insider perspective. As with any qualitative research, however, we were mindful of the issue – or challenge – of different researcher perspectives. We took steps to carefully manage these differences, primarily through ongoing discussions among the authors to verify our coding scheme and interpretations and by letting the first author (EB) be present at the

group sessions to assist her in forming an understanding of its context. As an additional way to triangulate findings across participants, we performed at least two interviews for each group session. The principal limitation of this study relates to transferability. Our findings represent the collected information of 26 individual interviews over the course of 13 group sessions in five Dutch hospitals. It should be acknowledged that this study was performed in a non-academic hospital setting. We recognize that there are unique national policies, organizational factors and institutional cultures, which may not be transferable to other settings, such as academic settings or hospital settings outside the Netherlands.

Areas for further research

The findings of this study draw attention to several research and pedagogical challenges. Of particular importance is the development of techniques for medical educators and facilitators to increase physicians' awareness of their actual and potential levels of disclosure which characterize their interactions with others. Since high levels of disclosure facilitate group effectiveness, mutual understanding and personal satisfaction, knowledge of self-disclosure should be included in the repertoire of professional competence to improve communication behavior during group sessions.

An important avenue for future research is that of studying the interactional nature of group sessions in various contexts and exploring which interactions may be beneficially affected by a (professional) facilitator or change agent. The question whether and how the emotional effects of the group session are retained and whether and how these effects contribute to a climate of openness and psychological safety requires longitudinal research. Also, more research is needed to explore how the institutional culture can influence the quality and impact of feedback, feedback-seeking, acceptance and performance improvement and development. Understanding socio-cultural factors in various work environments is essential before designing initiatives to promote meaningful feedback exchanges and enhance impact on behavior change and professional development.

Implications for practice

The findings of our study suggest that when facilitating performance feedback in a peer group setting, there are a number of factors that need to be taken into account: the expertise of the facilitator, the size of the group (should not be too large), the presence of longitudinal trusting relationships and the absence of (profound) organizational disturbances or (excessive) personal struggles. It should be recognized that the facilitator's task is challenging in terms of navigating group dynamics and tailoring

the session to the needs of the individual. For young physicians, a group session can be helpful in becoming better aligned with the group, investing in interpersonal relationships and gaining insight in both themselves as well as others. For vulnerable individuals, a group session may generate too much exposure and/or stress. Finally, it is important to provide clarity about the purpose and the design of group sessions in light of CPD policy and its connection to revalidation requirements. Mandatory participation in group sessions could undermine physicians' motivation, as evidenced by the findings of this study as well as literature reporting on 'reflection fatigue' and cynicism about reflection as a 'tick box exercise' (Ng, 2015; Rolfe, 2014). To optimize the facilitation of performance feedback uptake, it is important to keep in mind that it is not about – as expressed by Ramani et al. - following recipes, but about investing in relationships in order to provide an environment in which people are encouraged to disclose, discuss and learn from feedback (Ramani et al., 2019).

CONCLUSION

Reflecting on personal MSF data during a peer group session offered the possibility to discuss and compare self and others' perceptions and assisted in gaining a nuanced insight into one's professional performance. Sharing reflections with others deepened collegial relationships and created a sense of urgency for improvement, being mostly related to interpersonal communication and collaboration issues. Sharing reflections with others was experienced as a source of social support and was perceived as helpful in realizing actual change. Factors influencing experiences with participation and perceptions of its contribution to CPD were related to the expertise of the facilitator, the continuity and quality of collegial relationships, personal vulnerabilities and the context of CPD policy and its connection to revalidation.

REFERENCES

Argyris C (1962). Interpersonal competence and organizational effectiveness.*Homewood, Ill: Dorsey.*

Beebe SA, Beebe SJ, Redmond MV (2000). Interpersonal communication. *Scarborough, Ont: Prentice-Hall Canada.*

Bindels E, Verberg C, Scherpbier A et al. (2018). Reflection revisited: how physicians conceptualize and experience reflection in professional practice – a qualitative study. *BMC Med Educ*, 1:105.

Black P & William D (2009). Developing the theory of formative assessment. *Asse Eval Acc*, 21:5-31.

Boerboom TB, Jaarsma D, Dolmans DH (2011). Peer group reflection helps clinical teachers to critically reflect on their teaching. *Med Teach*, 33:615-623.

Boud D (2000). Sustainable assessment: rethinking assessment for the learning society.*Studies in Contin Educ,* 22(2):151-167.

Brehaut JC, Colquhoun HL, Eva KW (2016). Practice feedback interventions: 15 suggestions for optimizing effectiveness. *Ann Intern Med*, 164:435-41.

Brennan N, Bryce M, Pearson M et al. (2014). Understanding how appraisal of doctors produces its effects: a realist review protocol. *BMJ Open*, 4:e005466.

Brocki JM & Wearden AJ (2006). A critical evaluation of the use of interpretative phenomenological analysis (IPA) in health psychology. *Psychology and Health*, 21(1):87-108.

Brown P & Levinson S (1978). Universals in language usage: Politeness phenomena. *Cambridge: Cambridge University Press*

Dutch Federation of Medical Specialists (2019). Besluit Herregistratie specialisten. Available at: https://www.demedischspecialist.nl/onderwerp/herregistratie.

Egan G (1970). Encounter: Group processes for interpersonal growth. *Belmont, California: Wadsworth.*

Epstein RM (1999). Mindful practice. *JAMA*, 282(9):833-839.

Epstein RM & Hundert EM (2002). Defining and assessing professional competence. *JAMA*, 287;226-35.

Ericsson KK (2004). Deliberate practice and the acquisition and maintenance of expert performance in medicine and related domains. *Acad Med*, 79;70-81.

Eva KW, Armson H, Holmboe E et al.(2012). Factors influencing responsiveness to feedback: On the interplay between fear, confidence, and reasoning processes. *Adv Health Sci Educ Theory Pract,* 17:15-26.

Guest CB, Regehr G, Tiberius RG (2011). The lifelong challenge of expertise. *Med Educ*, 35(1):78-81.

Jourard SM (1971). Self-disclosure: An experimental analysis of the transparent self. New York, Wiley- Interscience, 1971.

Lannutti PJ & Strauman EC (2006). Classroom communication: The influence of instructor self-disclosure on student evaluations. *Communication Quarterly*, 54:89-99.

Ledbetter AM, Mazer JP, De Groot JM et al. (2011). Attitudes toward online social connection and self-disclosure as predictors of Facebook communication and relational closeness. *Commun Res*, 38:27-53.

Mann K, Gordon J, MacLeod A (2009). Reflection and reflective practice in health professions education: A systematic review. *Adv Health Sci Educ Theory Pract*, 14:595-621.

Ng SL, Kinsella EA, Friesen F et al. (2015). Reclaiming a theoretical orientation to reflection in medical education research: a critical narrative review. *Med Educ*, 49(5):461–75.

Overeem K, Wollersheim H, Driessen E (2009). Doctors' perceptions of why 360-degree feedback does (not) work: a qualitative study. *Med Educ*, 43(9):874-882.

Overeem K, Driessen EW, Arah OA et al. (2010). Peer mentoring in doctor performance assessment: strategies, obstacles and benefits. *Med Educ*, 44(2):140-7.

Pelgrim EAM, Kramer AWM, Mokkink HGA et al. (2013). Reflection as a component of formative assessment appears to be instrumental in promoting the use of feedback; an observational study. *Med Teach*, 35(9):772-8.

Ramani S, Post SE, Konings K et al. (2017). "It's just not the culture": A qualitative study exploring residents' perceptions of the impact of institutional culture on feedback. *Teach Learn Med*, 29:153-161.

Ramani S, Konings S, Ginsburg S et al.(2018). Twelve tips to promote a feedback culture with a growth mindset: swinging the pendulum from recipes to relationships. *Med Teach*, 1-7.

Ramani S, Konings K, Ginsburg S et al. (2019). Feedback redefined: Principles and practice. *J Gen Intern Med*, 34(5):744-749.

Ramani S, McMahon GT, Armstrong EG (2019). Continuing professional development to foster behavior change: from principles to practice in health professions education. *Med Teach*, 1-8.

Ramani S, Konings K, Ginsburg S et al. (2019). Relationships as the backbone of feedback: exploring preceptor and resident perceptions of their behaviors during feedback conversations. *Acad Med*, published ahead of print.

Rolfe G (2014). Rethinking reflective education: what would Dewey have done? *Nurse Educ Today*, 34(8):1179–83.

Sargeant J, Mann K, Sinclair D (2008). Understanding the influence of emotions and reflection upon multi-source feedback acceptance and use. *Adv Health Sci Educ*, (3):275-88.

Sargeant JM, Mann KV, Van der Vleuten CP (2009). Reflection: A link between receiving and using assessment feedback. *Adv Health Sci Educ Theory Pract*, 14:399-410.

Sargeant J, Bruce D, Campbell CM (2013). Practicing physicians' needs for assessment and feedback as part of professional development. *JCEHP*, 33:S54-62.

Sargeant J, Lockyer J, Mann K (2015). Facilitated reflective performance feedback: developing an evidence- and theory-based model that builds relationship, explores reactions and content, and coaches for performance change (R2C2). *Acad Med*, 90(12):1698-706.

Schrodt P & Phillips KE (2016). Self-disclosure and relational uncertainty as mediators of family communication patterns and relational outcomes in sibling relationships.*Commun Monogr*, 83:486-504.

Smith JA, Flowers P, Larkin M (2009). Interpretative phenomenological analysis: Theory, method, research. *London: Sage.*

Smith JA (2011). Evaluating the contribution of interpretative phenomenological analysis. *Health Psychology Review*, 5(1):9-27.

Telio S, Ajjawi R, Regehr G (2015). The "educational alliance" as a framework for reconceptualizing feedback in medical education. *Acad Med*, 90:609-14.

Tigelaar DE, Dolmans DH, Meijer PC et al. (2008). Teachers' interactions and their collaborative reflection processes during peer meetings. *Adv in Health Sci Educ*, 13:289-308.

Van der Meulen MW, Boerbach BC, Smirnova A et al. Validation of the INCEPT: a multisource feedback tool for capturing different perspectives on physicians' professional performance. *J Contin Educ Health Prof*, 37(1):9-18.

Van Lierop M, de Jonge L, Metsemakers J et al. (2018). Peer group reflection on student ratings stimulates clinical teachers to generate plans to improve their teaching.*Med Teach,* 40:302-309.

Wheeless LR & Grotz J (1977). The measurement of trust and its relationship to self-disclosure. *Hum Commun Res*, 3:250-7.

Chapter 6

The doctor's heart: a descriptive study exploring physicians' view on their professional performance in the light of excellence, humanistic practice and accountability

This chapter is based on: Myra van den Goor, Benjamin Boerebach, Elisa Bindels, Maas Jan Heineman, Kiki M.Lombarts. The doctor's heart: a descriptive study exploring physicians' view on their professional performance in the light of excellence, humanistic practice and accountability *Manuscript under revisions.*

'*Regarding performance, I predominantly feel a responsibility for the peer-group: you have to be able to show vulnerability, give and receive feedback (and do something with that)'*

Participant in Physicians Reflection Study, Chapter 6

ABSTRACT

In a field as high-stakes as health care, professional values have long been recognized as an essential mediating force for good medical practice. In the current era of changing market forces, anchoring these values in daily practice can be challenging. In this chapter we turn to physicians to hear first-hand how they experience their individual performance and whether they feel they are performing to their best ability amongst these dynamic conditions.

768 Written reflections from 786 hospital-based physicians, representing 35 specialties and 18 hospitals, uncover that physicians feel humanistic practice is the heart of being a doctor. Their motivation and inspiration emerges from the doctor-patient relationship.

They furthermore experience threats to their performance, deriving from heavy workloads and collaboration issues. These threats negatively affects their calling for being a doctor and hampers the ability to be a humanistic practitioner. Based on our findings we advocate the importance of reinforcing humanistic and relational aspects of care, on the individual, peer group and organizational level.

INTRODUCTION

In a field as complex and as high-stakes as health care, professional values have long been recognized as an essential mediating force in patient care (Lesser et al., 2010; Relman, 2007). These values capture the essence of being a doctor and are described in characteristics such as quality of care (excellence, lifelong learning, competence), quality of caring (compassion, empathy, respect), integrity, and accountability (Cassel et al., 2012; Lesser et al., 2010; Medical Professionalism Project, 2002; Rider et al., 2014). How these values may translate into being a good medical practitioner has been documented in various guidelines, and comprises of knowledge, skills, communication, teamwork, and maintaining trust and safety (General Medical Council, 2013; Medical Board of Australia, 2014; Royal Dutch Medical Association, 2007). In the Netherlands, an integrated model for physicians' professional performance was developed by Kiki Lombarts (Lombarts, 2019). In her view, performance can be defined as that which physicians are actually seen to do in practice and suggests that high performance is a reflection of physicians' commitment to the three pillars of professional performance: (i) constantly pursuing excellence, (ii) humanistic practice and, (iii) being accountable for one's professional actions. Additionally, she argues that physicians can only sustainably provide high quality patient care if and when their commitment to the three pillars of performance is anchored in the underlying professional values of the medical profession.

Displaying the desired commitments to the three pillars and practicing professional values in daily practice can be a challenge. Moreover, changes in healthcare systems and settings may actually hamper physicians' ability to perform to their highest possible levels. For example, further marketization of healthcare encourages a shift in focus to productivity and efficiency (Bonfrer et al., 2018; Sinsky et al, 2016), and increased administrative workloads may result in less face-to-face time with patients (Dugdale et al., 1999; Shanafelt et al., 2016; Sinsky et al., 2016). These aspects often result in doctors lacking time, energy or inspiration, and can translate into the diminished commitment to essential professional values and of professional performance. In light of these and many other challenges to physicians' performance, it is in the interest of patients and society that physicians are able and are enabled to act according to their professional values. In this study, we were interested in hearing first-hand from hospital-based physicians about whether they felt they were performing to their best ability.

Therefore, the aim of our study was to gain insight into physicians' perspectives on their own professional performance. This multicentre study used written reflections of nearly 800 medical specialists of multiple specialties. Our research question was: how

do physicians reflect upon their professional performance in terms of the pursuit of excellence, humanistic practice, and accountability?

METHODS

Setting and participants

We conducted this study in the Netherlands, where physicians are either employed by hospitals or organized in independent entrepreneur partnerships. For recertification as a medical specialist, being the equivalent of revalidation in the United Kingdom or maintenance of certification in the USA, all licensed doctors must periodically demonstrate that they are up to date and fit to practice (Dutch Federation of Medical Specialists, 2017; General Medical Council, 2013; Royal Dutch Medical Association, 2015). In this mandatory process, physicians gather feedback from multiple colleagues and also self-assess and reflect on their performance. To guide the assessment and reflection, an assessment tool including a few reflective questions based on the three performance pillars as described in the introduction was provided (Van der Meulen et al., 2017). The reflections were for personal use only and were not shared with colleagues, managers or the revalidation authority. For this study, we used physicians' reflections on their performance, as written in the context of their recertification process. Participants were all hospital-based medical specialists, representing various specialties from several (academic and non-academic) hospitals.

Instrument

As part of performance assessment in the context of the above mentioned recertification process, multisource feedback tools are used to facilitate the reflective process. Physicians collect feedback from multiple colleagues and also self-assess their performance. Hereafter, they reflect on the obtained feedback and formulate professional development goals, often in consultation with a trained facilitator (Ng et al., 2015; Overeem et al., 2012). In The Netherlands, one such assessment tool is the Inviting Co-workers to Evaluate Physicians - Tool (INCEPT) (Van der Meulen et al., 2017). This tool is designed to capture various respondent groups' perspectives on physicians' professional performance and also includes a physician self-assessment questionnaire. The information is collected digitally and anonymously. The self-assessment questionnaire contains reflective open-ended questions to stimulate introspection. The framework of these open ended questions is based on Lombarts' pillars of professional performance: (i) the pursuit of excellent care, (ii) humanistic practice, and (iii) accountability (see supplementary file 1). In this study, we used physicians' written reflections on the following two open-ended questions: (i) when reflecting on your own performance, how do you perceive the balance between the three pillars of professional performance? and (ii) what aspect(s) need(s) your (extra) attention in order to maintain or improve your performance? These two questions were preceded by a definition of professional performance and some sample key words for each of the three pillars, as described in Appendix 1. Physicians were not obliged to answer these questions and their answers did not need to be discussed with a facilitator or anyone else; the written reflections would however be added to their personal portfolio.

Data collection

Data used for this study consist of physicians' written reflections. We included all available written reflections - 786 in total - from hospital-based physicians that used the INCEPT tool between January 2016 and January 2017.

Data analysis

For the purposes of data analysis, we used a thematic analysis approach, an independent and descriptive method particularly useful for large sets of written data (Vaismoradi & Turunen, 2013). Following this approach, we focused on the content of the text, on 'what' is said more than 'how' it is said (Riessmann, 1993). Since researchers bring their own backgrounds to the analytical process, practicing reflexivity is critical. In this reflective spirit, we provide the following contextual information: the lead author (MvdG), is currently working as a management consultant, guiding physicians on performance, reflection and collaboration and also worked as a general practitioner for many years; her collaborators for this research represent various backgrounds including health sciences, education and methodology (BB), art history and clinical neuropsychology (EB), medicine and member of hospital board of directors (MH), and health service research and medical professionalism (KL). The first author (re)coded all reflections and a total of 300 reflections were independently double-coded by a second researcher (BB). All aspects of coding were discussed until consensus was reached in order to establish trustworthiness in the interpretation of the data (Pope et al., 2000). The lead author started with an overall inspection of all reflections to formulate a first understanding, in line with the thematic analysis approach (Braun & Clarke, 2006). After this orientation, the research team chose to translate the two reflective questions into a pre-defined coding template. Four themes thus originated as top-level codes: related to the first question: (i) pursuit of excellence, (ii) humanistic practice, (iii) accountability, and related to the second question, (iv) threats to optimal performance. Further analysis outlined a higher order level emerging from the theme of humanistic practice; this level was defined as the 'calling for being a doctor'. The theme 'threats' could be divided into individual aspects and work related aspects. This

resulted in minimal adjustment of the initial coding template into the following topics: (i) the calling for being a doctor, (ii) translation of the calling into daily practice (comprising pursuit of excellent care, humanistic practice, and accountability of care) and (iii) threats to optimal performance (containing individual- and work-related aspects). The first author recoded previous reflections into the new template and subsequent original reflections were coded accordingly. The themes coded in the final template are shown in Table 1, including exemplar quotations. We used the qualitative data analysis software Dedoose to support the thematic analysis.

Table 1: Coding Template with accompanying quotes

Top level code	*Second level code*	*Third level code*	*Accompanying quotes*
Why: the essence of being a doctor	Doctor-patient relationship		Giving lots of attention and TLC [Tender Loving Care] should be the basis in my opinion, and doing this with optimal effort (P662) I am motivated to help others, ever since I was young; that's why I love my job! (P711)
How: translation of the essence into daily practice	Pursuit of excellent care	Gathering knowledge and competence	I'm always looking to introduce the newest techniques (P670) It is important to study and stay up to date (P724)
		Sharing knowledge and competence	Discussing complex patients or complications, heart team meetings, transfer meetings: that's all part of how we work as a team (P 628)
		Transferring knowledge and competence	Teaching residents also keeps you sharp and up to date, their input is very valuable to me (P387)
	Humanistic practice	Attention, compassion, empathy	I try my best to give my full attention in every consultation (P204)
	Accountability	Being transparent	It gets to me when my diagnosis is too late or not correct; when that happens, I take my responsibility and discuss this openly with my patients (367)
		Register/administer	Registrating and administrating are part of the responsibility that you have and are part of your job; you have to earn the trust (P84)
		Meeting professional standards	It is important to do your best to meet your care to current standards and conditions (P65)
Threats to optimal performance	Work-related	Heavy administrative workload	I [have] distaste [for] these current systems (of checkmarks) that complicate my job and interfere with what's really important: my patients (p 680)
		Collaboration-issues	I would like to have a more inspiring context, our group is full of negativity (P218)
	Individual	Physical well-being	I do hope the arthrsos in my hands will not obstruct my job (P470)
		Mental well-being	Body and mind need maintenance; making time to do so should be possible without feeling guilty about it (P141)

RESULTS

Participants

We collected reflections of 786 physicians (56% female), aged 32 to 66 years, representing 35 different (sub-)specialties at 18 hospitals. A total of 737 physicians (94%) completed the reflective questions, which we subsequently analysed. 38 physicians (5%) used 'not applicable' or comparable short statements of less than 50 characters. Most physicians, however, reflected more extensively. The mean reflection length was 503 characters, ranging from 83 to 2963 characters.

Overall findings

The majority of physicians reflected on all three pillars of professional performance. They described concrete actions in terms of must do's and should do's regarding pursuit of excellence and accountability. Reflections on humanistic practice mainly triggered thoughts about the essence of being a doctor. The professional performance model (Figure 1) captures how physicians perceive their professional performance.

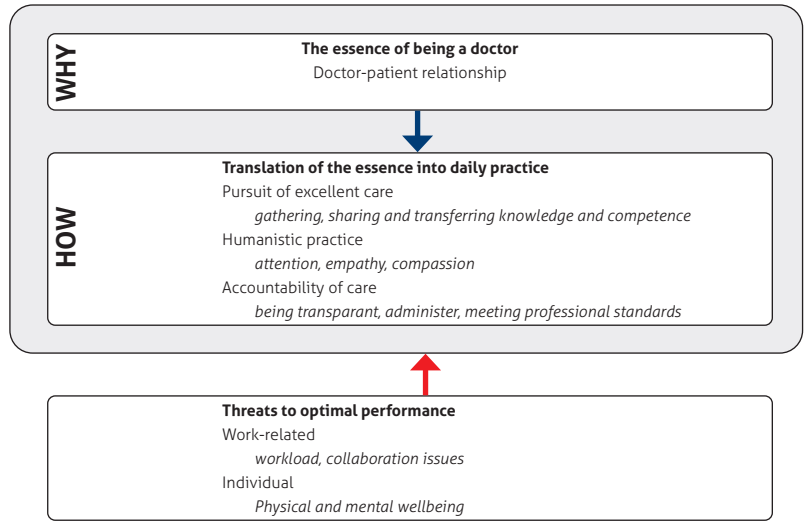

Figure 1: Professional Performance Model

The participating doctors differentiated between their calling of being a doctor, the translation of this calling into daily practice and the threats to their performance, both on an individual and work-related level. Most salient in forming the model was the revelation that physicians felt that humanistic practice was at the heart of their profession, referring

to humanistic practice in terms of their calling, both on a professional (meaning of work) as well as on a personal (purpose in life) level. Physicians also experienced that their ability to perform well is under pressure, and there is a palpable threat to their ability to live up to their calling and to act as a genuinely caring practitioner. We will now describe these findings in more detail.

Why: the calling for being a doctor

Physicians perceive the doctor-patient relationship as the heart of being a doctor. They describe earning a patient's trust as an important foundation for this relationship. Respect, engagement, and genuine interest in the patient as a person are mentioned as key components. Many physicians describe this relationship as the reason why they wanted to become a doctor in the first place and what they still consider as the most important aspect of their job. They experience this relationship as motivating and inspiring, the reason for putting effort in understanding and helping their patients.

> *My heart sends me to the hospital with joy; patients and their families still touch and inspire me every single day and that's exactly what being a doctor is all about for me (P374)*

> *Getting to know the person behind the patient creates understanding, a deeper relationship and motivation to meet the goal for the patient (P107)*

The How: translation of the calling for being a doctor into daily practice

Physicians reflect on all three pillars of professional performance, i.e. (i) the pursuit of excellence, (ii) humanistic practice, and (iii) accountability in terms of concrete actions.

The pursuit of excellence; gathering, sharing, and transferring knowledge and competence

Knowledge and competence are central elements in the pursuit of excellent patient care. It contains aspects such as continuously gathering knowledge and competence by keeping up with new insights, attending courses, and seeking new and innovative techniques. Consulting colleagues, asking each other for help, discussing outcome measures, and reflecting on performance are also mentioned in aspiring toward the best possible care. Transferring knowledge through education and science are also associated with pursuing excellence.

> *I am eager to learn something new regarding my field of expertise every week (P725)*

> *We openly discuss complex situations with each other (P628)*

Humanistic practice; compassion, empathy, and attention

According to the participants, patients deserve their fullest attention at all times. As participants firmly noted, being empathic and attentive seem to be crucial conditions for a compassionate doctor-patient relationship. Physicians perceive humanistic practice as self-evident and an essential condition for being able to be a doctor. Giving patients time and attention, being a good listener, and being open to patients' wishes, ideas, and fears are mentioned as important components.

> *Compassion is self-evident to me since genuine attention for patients' wishes and concerns emerge from this compassion (P352)*

Accountability; transparency, administration and professional standards

Physicians perceive accountability of care delivery as two-faced. They acknowledge their responsibility in and the importance of being transparent, of registering patient information as well as quality measures, and following professional standards. However, the downside of the growth in accountability is frequently mentioned as well since physicians perceive a decline in time and attention for their patients as a result of these bureaucratic requirements.

> *I try to be open about my performance and explain why I do the things I do, so that my colleagues and patients have confidence in me (P349)*

Threats to optimal performance

When reflecting on their performance, many physicians describe situations as posing a threat to their own optimal performance.

Individual aspects; physical and mental wellbeing

Physicians acknowledge the potential negative effect of low levels of personal vitality on their professional performance. They detect the impact of insufficient mental energy in lacking time and attention for oneself as resulting in loss of attention, inspiration, and enthusiasm during their contact with patients and colleagues. Physical inabilities are also mentioned as posing a potential threat to optimal performance.

> *I experience lack of time, miss the attention for myself and I wonder: how am I going to keep up with this and enjoy it? (P83)*

Work related aspects; workload and collaboration issues

The majority of physicians appoint work related factors as threats to optimal performance. They describe the negative effects of their heavy workload, and more specifically the increasing administrative tasks due to accountability and national or local policies. This leads to a lack of time for their patients, creating frustration and diminishing

motivation. The negative impact of hospital mergers is also mentioned as posing a threat to performance. In particular, the purpose of being a doctor and of humanistic practice is described as being under pressure by a heavy work- and administrative load. Collaboration issues within the physician group such as disturbed relationships or negativity are also mentioned as threatening aspects.

> *Being compassionate definitely suffers from time-constraints since adequate communication needs more time than is foreseen in the production-deals (P737)*

DISCUSSION

Main findings

In this study we investigated physicians' reflections on the three pillars of professional performance, defined as excellence, humanistic practice, and accountability. Humanistic practice was found to emerge as physicians' 'why,' that is, the heart of being a doctor. Excellence and accountability were depicted as 'how'; a means to translate the essence of being a doctor in daily practice. Humanistic practice was considered both a means as well as a state of being. Physicians report their ability to optimal performance is put under pressure by heavy workloads and collaboration issues. These threats to high performance in particular affect their ability to live up to their calling for being a genuinely caring doctor.

Explanation of the findings

Our findings illustrate that physicians nowadays still sense the significance of their calling and that their motivation and inspiration primarily originates from this calling. Reflecting on their performance, they extensively reflect upon their essence - the heart - of being a doctor. Physicians consider caring about patients and their families, putting patients' interests and concerns first, and gaining and deserving the patient's trust, as this essence. This is consistent with the humanistic realm of actually being with patients when they are suffering, exactly what many patients want and expect from their doctor (Rider et al., 2018). These statements seem to point out that the universal values of medical professionalism are deeply imbibed by physicians in their views on their profession and performance (Medical Professionalism Project, 2002). This may be considered a reassuring finding, since professional values have long been recognized as fundamental for good patient care (Lesser et al., 2010; Relman, 2007).

In order to live up to their professional performance, physicians cultivate certain professional practices. They attend courses to stay afresh of the latest knowledge, introduce new techniques, participate in consultation and discussion with colleagues, share their knowledge, maintain transparency about choices they make and keep an adequate registration in the patients' interest, including managing electronic patient records and participating in quality assurance registries. However, our results also indicate that physicians experience threats in actually accomplishing these actions in practice. They mention that collaboration issues such as disturbed relationships, feelings of being hold back, insufficient space to voice their opinions and a lack of openness within their peer group negatively influence their performance. This is a disturbing finding, especially since the literature indicates psychological safety and speaking up behaviour as the driving forces for a safe and stimulating learning environment where performance can flourish (Edmondson, 1999; Ginsburg, 2015; Nawaz, 2014).

Physicians furthermore express that they spend time on administration at the cost of (being with) their patients. This is consistent with the outcomes of a recent inventory amongst Dutch physicians indicating that hospital-based doctors spend 40% of their time on administrative tasks, of which they feel at least half is redundant or unnecessary (NRC news, 2017). International research indicating that for every clinical hour spent on face-to-face interactions with patients, physicians spend an additional two hours on administrative tasks, further supports this finding (Sinsky et al., 2016). Physicians thus consider administrative tasks to be a serious threat to their performance, while time and attention for patients are known to be powerful drivers of physician satisfaction and the ability to provide high quality care (Dugdale et al., 2016; Friedberg et al., 2014). Thus, a high clerical burden is challenging high performance not only by taking time from patients but also by potentially disconnecting physicians from their purpose of caring for patients (Wright & Katz, 2018). Fortunately, multiple healthcare stakeholders now seem to take the adverse events of too much administration seriously. In the Netherlands, for example, the Department of Health and Welfare, the Health Care Inspectorate, and the Dutch Federation of Physicians joined hands and published a manifest to de-regulate healthcare (Dutch Department of Health and Welfare, 2018).

Strengths and Limitations

This study provided us with the opportunity to analyse a substantial sample of written reflections from a representative group of hospital-based physicians. Our data were collected in a pre-defined format, coming with the limitation that this method could have potentially narrowed the focus and depth of the reflection process. Another point of consideration is the setting in which the study was conducted. Since the participants were all hospital-based physicians in The Netherlands, the findings reported may not

be transferable to practices and physicians outside the hospital environment and/or the Dutch healthcare system. Lastly, researchers bring their own backgrounds to the analytical process, therefore this study might have been influenced by the medical and consultancy background of the principal author, being both a potential limitation and a strength. To strengthen data analysis and interpretation, we sought diversity within the background profiles of the research collaborators.

Implications/ recommendations

Since humanistic practice is considered to be at the heart of being a doctor and indispensable for high quality care in the future, humanism should be at the top of physicians' priority list when practicing medicine. Because the lack in research on supporting and increasing humanistic practice in healthcare professionals, there is a need for more research on this topic (Lown et al., 2011). Further research could focus on the aspects hampering professional performance, for example by unravelling the grounds on which physicians base their decisions in challenging day-today situations. In practice, physicians should pay attention to their personal well-being, since research indicates a relationship between physician well-being and the quality of patient care (Scheepers et al., 2015). On the organizational level, investments could be made to create a psychologically safe environment by facilitating (peer) reflection and discussion regarding engagement, vitality, and humanistic practice. Rider et al. have recently underscored the importance of reinforcing humanistic and relational aspects of care on an organizational level (Rider et al., 2018). Focus on decreasing the actual clinical burden will be constructive in creating such an environment. Lastly, the profession could pay specific attention on aspects such as the essence of being a doctor and professional values during training and in clinical practice.

CONCLUSION

This large inventory of physicians' reflections indicates that being a humanistic practitioner is at the heart of professional performance, referred to in terms such as calling, meaning or purpose. Physicians translate this calling further into everyday practice by explicit focus on striving for excellence, humanistic practice and accountability. They feel their high performance is hindered by threats deriving from a perceived extensive administrative workload as well as collaboration issues. These threats negatively affect the calling for being a doctor and hamper the ability to be a humanistic practitioner.

REFERENCES

Bonfrer I, Figueroa JF, Zheng J et al. (2018). Impact of financial incentives on early and late adopters among US hospitals: observational study. *BMJ*, Jan 3;360:j5622. doi: 10.1136/bmj.j5622.

Braun V & Clarke V (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3:77-101.

Cassel CK, Hood V, Bauer WA (2012). Physician Charter: The 10th Anniversary. *Ann Intern Med*, 157:290-1.

Dugdale DC, Epstein R, Pantilat SZ (1999). Time and the patient-physician relationship. *J Gen Intern Med*, 14:S34-40.

Dutch Department of Health and Welfare (2018). (De)Regulate Healthcare. Available at: https://www.rijksoverheid.nl/documenten/publicaties/2018/05/23/actieplan-ontregel-de-zorg

Dutch Federation of Medical Specialists (2017). Vision Document Medical Specialist 2025; ambition, trust cooperation. Available at: https://www.demedischspecialist.nl/sites/default/files/FMS_visiedoc_MS2025(eng)_2017_PL_v02(lr).pdf

Edmondson A (1999). Psychological safety and learning behavior in work teams. *Administrative* Sci Q, 44(2):350-383.

Friedberg M, Chen PG, Van Bussum KR et al. (2014). Factors affecting physician professional satisfaction and their implications for patient care, health systems and health policy. *Rand Health Quarterly*, Winter, 3(4):1.

General Medical Council (2013). Ready for revalidation; the Good medical practice framework for appraisal and revalidation. Published March 2013, Manchester, United Kingdom.

General Medical Council (2014). Good Medical Practice; Working with doctors working for patients. published March 2013, updated April 2014.

Ginsburg L (2015). "Speaking up" climate; a new domain of culture to measure and explore. *BMJ Qual Saf*, 24:661-663.

Lesser CS, Lucey CR, Egener B et al. (2010). A Behavioral and Systems View of Professionalism. *JAMA*, 304:2732-37.

Lombarts K (2019). Physicians' Professional Performance between Time and Technology. 2010Uitgevers, Rotterdam. ISBN 978-94-90951-53-5.

Lown BA, Rosen J, Marttila J (2011). An agenda for improving compassionate care: a survey shows about half of patients say such care is missing. *Health Aff*, 30(9):1772–8.

Medical Board of Australia (2014). Good Medical Practice: a Code of Conduct for doctors in Australia, issued March 2014.

Medical Professionalism Project (2002). Medical Professionalism in the new millennium: a physicians' charter. *The Lancet*, 359:520-22.

Nawaz H, Edmondson A, Tzeng T et al. (2014). Teaming: An approach tot he growing complexities in health care. *J Bone Joint Surg Am*, 96:e184.

Ng SL, Kinsella EA, Friesen F et al. (2015). Reclaiming a theoretical orientation to reflection in medical education research: a critical narrative review. *Med Educ*, 49:461-75.

NRC (2017). Available at:https://www.nrc.nl/nieuws/2017/11/17/arts-is-40-procent-van-tijd-kwijt-aan-

formulieren-14080419-a1581684, accessed 17 November 2017.

Overeem K, Wollersheim HC, Arah O et al. (2012). Evaluation of physicians' professional performance: an iterative development and validation study of multisource feedback instruments. *BMC Health Serv Res*, 12:80.

Pope C, Ziebland S, Mays N (2000). Qualitative research in health care. Analyzing qualitative data. *BMJ*, 320:114-6.

Relman AS. Medical Professionalism in a Commercialized Health Care Market. *JAMA*, 298:2668-70.

Rider EA, Kurtz S, Slade S et al. (2014). The International Charter for Human Values in Healthcare: An interprofessional global collaboration to enhance values and communication in healthcare. *Patient Educ Couns*, 96:273-80.

Rider EA, Gilligan MAC, Osterberg LG et al. (2018). Healthcare at the crossroads: the need to shape an organizational culture of humanistic teaching and practice. *J Gen Intern Med*, 33:1092-9.

Riessmann CK (1993). Narrative analysis (Qualitaive Research Methods Series). California: SAGE Publications, Volume 30.

Royal Dutch Medical Association (2007). Medical Professionalism Manifesto. Available at: https://www.knmg.nl/web/file?uuid=90993000-e3b8-4713-9e8d-28a7d85eb918&owner=5c945405-d6ca-4deb-aa16-7af2088aa173&contentid=1571&elementid=1149672.

Royal Dutch Medical Association (2015). Decision recertification medical specialists. Published september 2015.

Scheepers RA, Boerebach BCM, Arah OA et al. (2015). A systematic review of the impact of physicians' occupational well-being on the quality of patient care. *International Journal of Behavioral Medicine*, 22(6), 683-698.

Shanafelt TD, Dyrbye LN, Sinsky C, et al. (2016). Relationship Between Clerical Burden and Characteristics of the Electronic Environment With Physician Burnout and Professional Satisfaction. Mayo Clin Proc, 91(7): 836-848.

Sinsky C, Colligan L, Li L et al. (2016). Allocation of Physician Time in Ambulatory Practice: A Time and Motion Study in 4 Specialties. *Ann Intern Med*, 165:753-760.

Van der Meulen MW, Boerebach BCM, Smirnova A et al. (2017). Validation of the INCEPT: A Multisource Feedback Tool for Capturing Different Perspectives on Physicians' Professional Performance. *J Contin Educ Health Prof*, 37:9-18.

Vaismoradi M & Turunen H (2013). Content analysis and thematic analysis: implications for conducting a qualitative descriptive study. *Nursing& Health Sciences*, 15:398-405.

Wright AA & Katz IT (2018). Beyond burnout – redesigning care to restore meaning and sanity for physicians. *N Engl J Med*, 387:309-311.

SUPPLEMENTARY FILE

Supplementary file 1: Framework pillars of Professional Performance

Professional Performance

Professional performance is considered what you as a physician do in daily practice. Good professional performance comprises continuous striving for excellent care, being a humanistic practitioner, and being accountable for one's performance.

Pillar one: Striving for excellent care

Key words: intrinsic motivation, being curious, being open to other opinions, knowing one's limitations, reflection, life-long learning and self-improvement.

Pillar two: Humanistic practice

Key words: a quality instead of a competence, 'looking with your heart', full attention, being patient-centered, empathy and compassion.

Pillar three: Accountability

Key words: patients' trust in the competence and expertise of the doctor, trust that patients wishes will be respected, trust that patients' interest is the ultimate priority, being transparent about one's performance.

Chapter 7

People management in hospitals: where doctors and HR do (not?) meet.

This chapter is based on: Myra van den Goor, Tanya Bondarouk, Anna Bos-Nehles. People-management in Hospitals: where doctors and HR do (not?) meet. *Manuscript submitted.*

'I think it's about a human need to be seen and to be acknowledged in your sorrow or anger as a patient, and as a doctor to be able to show that it gets to you as well when things went wrong. This attitude is not mentioned anywhere as a performance indicator'

Participant in High Performance Study, Chapter 7

ABSTRACT

This cross-disciplinary interview study explores how physicians perceive high performance and what activities they find contribute to such performance. Drawing on HR and healthcare literature on performance, we analysed in-depth interviews with 28 physicians and 7 HR professionals and hospital management representatives, positioning the discussion within the sphere of humanistic and relational values.

The article concludes that physicians perceive dedication and collaboration as the two vital dimensions of high performance. These dimensions are unmistakably interweaved with achieving a balance between high quality medical care and optimum patient satisfaction, components that are defined by doctors as constituting high performance. According to them, to contribute, HR practices should pay attention to physicians' individual development and a culture of trust and safety.

Based on our findings, we argue that high performance can only flourish when doctors are seen as committed professionals, with strong humanistic values rather than just as providers of medical care. The results of this research indicate that people management is critical, and we recommend this should be executed through close collaboration of all those responsible. This article contributes to a deeper understanding of high physician performance and performance enhancing HR practices, and it provides input for further reflections on the current misunderstandings between the two worlds of HRM and doctors and the importance of bridging this gap.

INTRODUCTION

It goes without question that, in a field as complex, high-stakes and resource-intensive as healthcare, optimum physician performance is vital for delivering high quality patient care. Although Human Resource (HR) activities are known to stimulate and enhance performance, the management of HR has often been overlooked in the hospital sector, and especially concerning physicians (Townsend et al., 2013). Despite this, healthcare is undoubtedly a people business, depending heavily on the knowledge, skills and motivation of those responsible for delivering health services (Kabene et al., 2006; World Health Report, 2000). On this basis, we concur that effective Human Resource Management (HRM) could, and should, play an essential role in enhancing physician performance (Kabene et al., 2006).

In the HRM literature, the AMO framework, originally developed by Appelbaum et al. (Appelbaum et al., 2000), is a widely used concept to explain the linkage between HR practices and individual and/or organizational performance. We utilize this framework and argue that physicians should be able to perform as the hospital organization expects of them provided their Abilities, Motivation and Opportunities within their work environment are "shaped" in line with those expectations (Bos-Nehles et al., 2013; Marín-García & Tomas, 2016). If all three characteristics are aligned with organizational intentions, then individual performance is likely to be enhanced. Each of these three factors are supposedly manageable by HR activities. The Ability dimension is usually associated with knowledge, skills and abilities (KSA), and ability-improving practices address aspects such as training and recruitment (Kroon et al., 2013; Raidén et al., 2006). Motivation-enhancing practices include providing incentives that address both intrinsic and extrinsic motivation (Hyde et al., 2009; Munteanu, 2014; Raidén et al., 2006). The opportunity aspect takes individual characteristics as well as the work environment into consideration, and HR practices in this dimension target aspects such as individual empowerment and collaboration (Gerhart, 2005; Kroon et al., 2013). Marín-García & Tomas (2016, p. 1046) add to this that 'some authors point out that this issue should be handled in a more comprehensive way, by integrating mediating variables', with organizational dimensions such as climate and culture being mentioned as examples of such variables. Hence, we consider physician culture to potentially be a contingent factor when considering physician performance and performance-enhancing practices.

While HRM research has shown the advantages of the AMO-based HR practices architecture in traditional businesses, the field of physicians has remained largely unexplored. Although AMO conditions that stimulate high performance are described

in the HR literature, what exactly should be considered as high physician performance seems to be less certain. This observation calls for an examination and explicit articulation of physicians' performance, before one can proceed to consider practices that might support it. Here, the professionalism and professional values perspective accentuates the quality of care, quality of caring, integrity and accountability (Cassel et al., 2012; Lesser et al., 2010; Medical Professionalism Project, 2002; Rider et al., 2014; Royal Dutch Medical Association, 2007). The more hands-on guidelines on 'good medical practice' encompass characteristics such as knowledge, skills, communication, teamwork and maintaining trust and safety (General Medical Council, 2014; Medical Board of Australia, 2014). Another component, physician wellbeing, seems to be a crucial contributor to high professional performance and is even seen as an indicator of an organization's quality of healthcare (Hall et al., 2016; Wallace et al., 2009). At the same time, physician performance is that what physicians are actually seen to do in practice, albeit taking into account the above-mentioned perspectives and elements.

The significance of high physician performance seems undisputed, as does the valuable contribution that HRM can make in supporting and stimulating high performance in 'traditional business' environments including production or services. However, among physicians, the HR department does not seem to be acknowledged, and HR departments find it challenging to contribute to physician performance when they are not recognized by their clients, the physicians (Townsend et al., 2013). In broadening the traditional HR scope, this cross-disciplinary study views HR practices as all activities involving people (i.e. physician) management. We explicitly consider people management to be a joint activity for all those responsible, and do not regard these practices as strictly connected or limited to an HR department. In this view, physicians themselves can play a pivotal role in the management of their own and their peers' performance. Our analysis therefore centres on hospital-based physicians by asking the following questions: how do physicians perceive high performance and what activities do they find contribute to high performance?

To strengthen our study, we first elaborate on what can be considered as physician performance, current physician performance indicators and how these are used in present-day procedures. Second, we discuss how the medical, physician, culture can potentially influence performance and one's view of performance enhancing practices.

This cross-disciplinary interview study contributes to existing HR literature by adding physicians' views on concrete HR practices that are beneficial for high performance. It also unravels how doctors perceive both dedication and collaboration as vital dimensions

of high performance. We show the need to put the spotlight on humanistic and relational aspects, preferably by all those responsible for people management. This provides input for further reflections on the current misunderstandings between the worlds of HRM and of doctors, and how to bridge this gap.

Theoretical background

Physician Performance

Providing high quality care is the primary goal of healthcare organizations, and physicians are primary responsible for delivering this care. The literature notes that the effective functioning of HRM processes significantly influences the quality of patient care (Townsend et al., 2013). It also shows that additional HR initiatives are required and more extensive research should be conducted to bring adequate HR policies and practices to the field of healthcare (Kabene et al., 2006). Given that physicians play a pivotal role and often set the cultural tone in a hospital, our research focuses on physician performance and HR practices that are beneficial in stimulating high performance. Physician performance encompasses many aspects ranging from adherence to ethical principles and core values, such as helping the sick and avoiding harm, to demonstrating expected skills and competences (Cassel et al., 2015; Van Everdingen & Horstmanshoff, 2005; Ten Cate et al., 2010). Although there is no universally agreed definition of performance that covers all the important domains of professional medical practice, a range of preconditions can be identified in the literature (Epstein & Hundert, 2002). Competences, defined in the widely used CanMEDS, as well as from experience are regarded as necessary prerequisites of high performance (Charness & Tuffiash, 2008; Frank & Danoff, 2007; Rethans, 2002). Relevant knowledge, skills and attitudes include both medical-technical aspects as well as communicative and leadership skills (Leape, 2006; Ten Cate et al., 2010; Van den Goor et al., 2020). However, length of experience and perceived mastery of knowledge and skills do not by themselves necessarily lead to outstanding performance. Research has shown that observed performance does not always correlate with professional experience (Ericsson, 2008). In fact, a very experienced physician who frequently carries out a specific procedure can still get it very wrong. Thus, in a dynamic and rapidly evolving field such as healthcare, lifelong learning is a condition for continually improving performance and remaining a top performer rather than remaining stable and slipping to average, or even sub-average (Ericsson, 2004). Since physicians increasing perform in teams rather than individually in modern healthcare, teamwork and a collaborative mindset have increasingly become important drivers of high performance (Valentine et al., 2014; Weller et al., 2014). Thus, when measuring physician performance, the above-mentioned aspects should logically be taken into account. In healthcare, multidimensional assessments followed by reflection

are commonly used to indicate physician performance (Overeem et al., 2007). Valid and reliable multisource assessment tools are available to collect information and facilitate this reflective feedback process (Saedon et al., 2012; Van der Meulen et al., 2017; Van der Meulen et al., 2019). Topics covered in such evaluations include professional attitudes, patient-centredness, knowledge, skills and collaboration. In the Netherlands, all licensed doctors must periodically demonstrate that they are up-to-date and fit to practice (Dutch Federation of Medical Specialists, 2017). This process of recertification is the equivalent of revalidation in the United Kingdom and the maintenance of certification in the US (American Board of Medical Specialties, 2018; General Medical Council, 2013). In their practice, physicians are expected to collect feedback from multiple colleagues and also assess their own performance. In consultation with a trained facilitator, they then reflect on the obtained feedback and formulate development goals (Ng et al., 2015; Overeem et al., 2009). Initially, these guided reflections occurred individually but, with peer interaction being increasingly recognized as a driver of individual performance, there is a trend in the Netherlands towards group reflections on performance assessments. The above discussion shows that HR practices can stimulate and enhance performance, and that reliable performance indicators are available for physicians, despite the lack of a consensus on an operational definition of high performance. Thus, in our research, we explore how physicians perceive high physician performance since this seems essential if one is to clarify desirable and effective methods for stimulating performance.

Professional physician culture

Drawing back from physician performance to the organizational perspective, organizational, or group, culture is described as an important driver of organizational performance (Chatman, 2003; Nembhard, 2012). As such, the professional physician culture could influence how physicians perceive high performance and/or effective methods to stimulate their performance. In general, culture emerges from that which is shared among colleagues within an organization, including shared values, beliefs and attitudes regarding norms of appropriate behaviour in an organization (Kralewski, 1996). It can be considered as 'the way things are done around here, as well as the way things are understood, judged and valued' (Davies et al., 2000). Although organizational culture appears to be a crucial factor in the ability of an organization to perform, the question remains as to whether and how organizational culture impacts on success or performance as this has not been comprehensively empirically explored (Davies et al., 2000). To further complicate things, when turning to the issue of culture in medicine, traditional professions such as physicians tend to create their own culture (De Bono, 2014). As such, there seems to be a wide variety in sub-cultures both between and within organizations (Curoe, 2003; Nembhard, 2012). These cultures are passed on to the recruits in the

profession, but often remain obscure to others (Hall, 2005). The culture of medicine is most often learnt through the so-called 'hidden curriculum' that dictates customs, rituals and rules of conduct that define the cultural milieu of medicine (Hafferty, 1998, Lempp and Seale, 2004). A shared, stylized dress code (the white coat), shared pattern of speech ('doctor talk') and a shared system of beliefs regarding health (the physician explanatory model) are all examples of elements that are rarely taught explicitly (Boutin-Foster et al., 2008). Viewing medical culture more generally, ownership is an influential aspect since collegiality, organizational identity and trust tend to be lower in situations of system-ownership compared to physician-ownership (Curoe, 2003). Furthermore, size matters: there is less collegiality and cohesiveness when practices become larger (Curoe, 2003). Based on the above, we conclude that the medical professional culture can potentially shape physicians' view of performance, and that a variety of subcultures can potentially be present. Since there is no predominant classification of subcultures among physicians, we explore the specific cultures that seem to be present and consider if and how they shape physicians' views on high performance and/or on HR practices designed to stimulate performance.

METHODS

Study design

This interview study draws on methods inspired by grounded theory (Strauss and Corbin, 1998). The data produced are participatory since the participants and the researchers are the origins of the empirical material. Grounded theory builds understanding of a phenomenon from "the ground up"; i.e., from the individuals experiencing the phenomenon, by using in-depth interviews. We used our key topics, i.e. high performance, HR practices and professional culture, to guide us in the empirical fieldwork. The in-depth interviews enabled our participants to describe experiences and perceptions that were meaningful to them and, through interaction with the interviewer, to reflect upon their responses (Rice & Ezzy, 1999).

Research site

We conducted this study in a Dutch hospital setting. A characteristic of the Netherlands health system is the variety of physicians' employment statuses within the same hospital organization. Physicians can be either employed by the hospital or be organized in independent entrepreneurships. Most hospitals have employed physician groups on the hospital's payroll and various independent entrepreneurships that are autonomously responsible for their "mini-enterprises" within a hospital. All hospital-based physicians

are unified under a medical board, a counterbalance to the hospital board. The medical board represents and maintains the interests of all physicians, regardless of their employment status. For example, quality and performance issues are regulated by the medical board on behalf of all physicians. In this study, we invited 28 hospital-based physicians (MS), both employed and independent entrepreneurs, linked to two different top clinical teaching hospitals to participate. In line with the grounded theory approach, they were theoretically sampled (Watling et al., 2017). We aimed at a heterogeneous participant group in terms of medical specialty, age and gender. We consulted with chief physicians that were responsible for quality and performance in their hospital, and also with the HR directors, to help with the selection of interviewees. To strengthen our data and our understanding in terms of our research goal, we also invited seven HR professionals (HR) and hospital management representatives (MAN) to capture their perspective. We initially informed potential participants by email about the nature and purpose of our study and subsequently invited them to consider participation. On acceptance of the invitation, we requested individual informed consent from all participants at the start of their interview.

Collection of empirical material

The interviews were performed over a period of 15 months: from spring 2016 to autumn 2017. We held individual interviews, focusing on in-depth exploration, allowing participants to talk freely and without interference from others. Extensive discussions within the research group created a clear mutual understanding regarding the direction that the interviews should follow. We constructed an open-ended interview guide based on our research questions. The interviews started with collecting generic information about the participant and their working experience. Thereafter, we covered more specific items such as performance ('what are, in your opinion, characteristics of high physician performance?'), HR practices ('what do you need in order to perform well, to stay fit and motivated?') and professional culture ('what do you perceive as significant regarding your profession and specialism?').

Physicians, HR professionals and management representatives were asked the same questions. The first 17 semi-structured in-depth interviews were conducted between July and September 2016. The second set of 18 interviews were conducted between April and September 2017. Interviews lasted approximately one hour. All interviews were audio recorded and transcribed.

Availability of data and materials

Due to the sensitive nature of the raw interview data on which this manuscript relies, it is not publicly available. The authors can be contacted at any time for further information.

Data analysis

We adopted a reflexive approach to data collection and analysis, using a template analysis approach in analysing the transcripts. Following this technique, we constructed a coding template during the analysis comprising themes that we could identify in the data. In line with this approach, we discussed and in advance defined three themes that represented the major topics in our interview guide: (i) high physician performance, (ii) HR practices and (iii) professional culture (King et al., 2002). The interviews were open axially coded during the process of data collection and iteratively analysed. This iterative coding process eventually resulted in three top-level codes. i.e. the prior-defined topics, and 19 sublevel codes, divided into 7 second-level codes and 12 third-level codes as shown in Table 1 alongside illustrative quotes.

Table 1: Coding template with accompanying quotes

Top-level code	*Second-level code*	*Third- level code*	*Accompanying quotes*
High performance	Definition of performance		'High performance is excellent quality of care, good communication and good collaboration, those are the most important aspects' MS7
	Dimensions of high performance	Dedication	'That has medical-technical aspects, is about the right skills as well as interpersonal and communicative aspects' MS12
		Collaboration	'It is important that the team dynamics are OK, that there is trust to talk freely and share stuff' MS6
HR practices	Ability-based	Training and development	'Professionally, we are highly trained, but we lack expertise in speaking up and communication skills. We are simply not trained enough so those skills are lacking' MS3
		Recruitment and selection	'Get the good ones in and give them a chance to excel, that's the start: good selection procedures' MS7
	Motivation-based	Intrinsic motivation	'I get my motivation from patients' feedback, the face-to-face contact, that keeps motivating me to go that extra mile' MS11
		Extrinsic motivation	'There are inequalities in the income of physicians in our team, that leads to major conflicts' MS25
	Opportunity-based	Individual oriented	'I am trained to be a peer coach, we know the dynamics in our hospital, that helps' MS12
		Work-environment oriented	'Top-down management as in: listen to me, this is how we do it', well, that doesn't stand a chance of working with highly educated professionals' MS1
Professional Physician Culture	Generic	Intrinsic motivation	'You are supposed to know everything, in no need of sleep or a break, you know. That s all part of the deal' MS12
		Tacit rules	'That everyone takes their responsibility, that we support each other, no matter what' MS6

Table 1 continued.

Top-level code	*Second-level code*	*Third- level code*	*Accompanying quotes*
	Specialism-specific	Own subculture	'We take a look at the medical, social and psychological development of patients, that's different from other specialties' MS7
		Surgical versus non-surgical	'Non-surgical physicians, in my opinion, are more open to change, they listen and look more closely. Surgeons, well, they just want to do their trick, like you just have to do it without nagging. You can just see that difference' MAN2
	Employment-specific	Work approach	'It is in your own interest to perform on a good level, be efficient and have good results' MS2
		Attitude towards the organization	'We make our own investments, we are less dependent and that feels good' MS12

The results, progress and data saturation were regularly discussed within the research team during the analysis process. All aspects of coding were discussed until a consensus was reached to establish credibility in the interpretation of the data. A final phase of analysis took place during the writing of this article, allowing us to reflect on our role as researchers in this process of knowledge building.

Our role as researchers

Our research was inspired by the idea of bridging the gap between two different worlds: healthcare and HRM. The combination of academic medical and HR backgrounds in the research team allowed us to combine knowledge from these two disciplines with the aim of delivering 'the best of both worlds'. This inspiring collaboration brought an extra dimension in the interpretation of our data, in addition to the already present co-creation by researcher and participant (Finlay & Ballinger, 2006). All researchers participated in the sense-making and sense-giving process where dialogue sessions enabled us to share our interpretations and views, thereby strengthening this iterative process (Watling & Lingard, 2012). For example, the participation of doctors in our study was experienced as exceptionally selfless and enthusiastic by our academic HR researchers, compared to their experiences in other, more for-profit driven, business environments. Whereas participation outside working hours was perceived as more-or-less 'business as usual' by our medical researcher, who would not have highlighted this as extraordinary.

RESULTS

Participants

All the physicians and HR professionals approached agreed to participate. We interviewed 28 physicians representing 17 different (sub-)specialties from two top clinical teaching hospitals. Additionally, seven HR professionals and management representatives were interviewed. In total, we interviewed 22 men and 13 women. What clearly stood out was the physicians' eagerness to participate in this study. They all wanted to contribute, giving their time to talk despite their heavy workloads and time restraints. We were positively surprised by the almost limitless time and attention the physicians were prepared to give the interviewers, being very eager to provide input on their perceptions, needs and potential improvements. We felt they really wanted to contribute to improvements. The fact that some of the interviews were held outside working hours illustrates this enthusiasm.

Figure 1 outlines the results of our research, clarifying the relationships that we found between perceived high physician performance, HR practices and professional culture.

We will now describe the findings in more detail based on the three main themes.

1. Perceived high physician performance

Defining high performance

Participants perceive high performance as a balance between the quality of medical care (diagnosis, treatment and results) and patient satisfaction. In their opinion, improving the quality of life, working efficiently and achieving results all contribute to achieving the optimum balance. Both physicians and HR professionals /management representatives have similar perceptions of high performance:

> *Well, patient satisfaction is very important of course, as much as achieving results* (MS9)
>
> *Doing the best for your patient, try not to harm, I think that's in the heart of every doctor* (MS12)
>
> *I think that has two aspects: good and up-to-date techniques and patient satisfaction* (MAN1)

The interview analysis allowed us to distinguish two vital dimensions of the performance of physicians: dedication and collaboration, as illustrated in Figure 1.

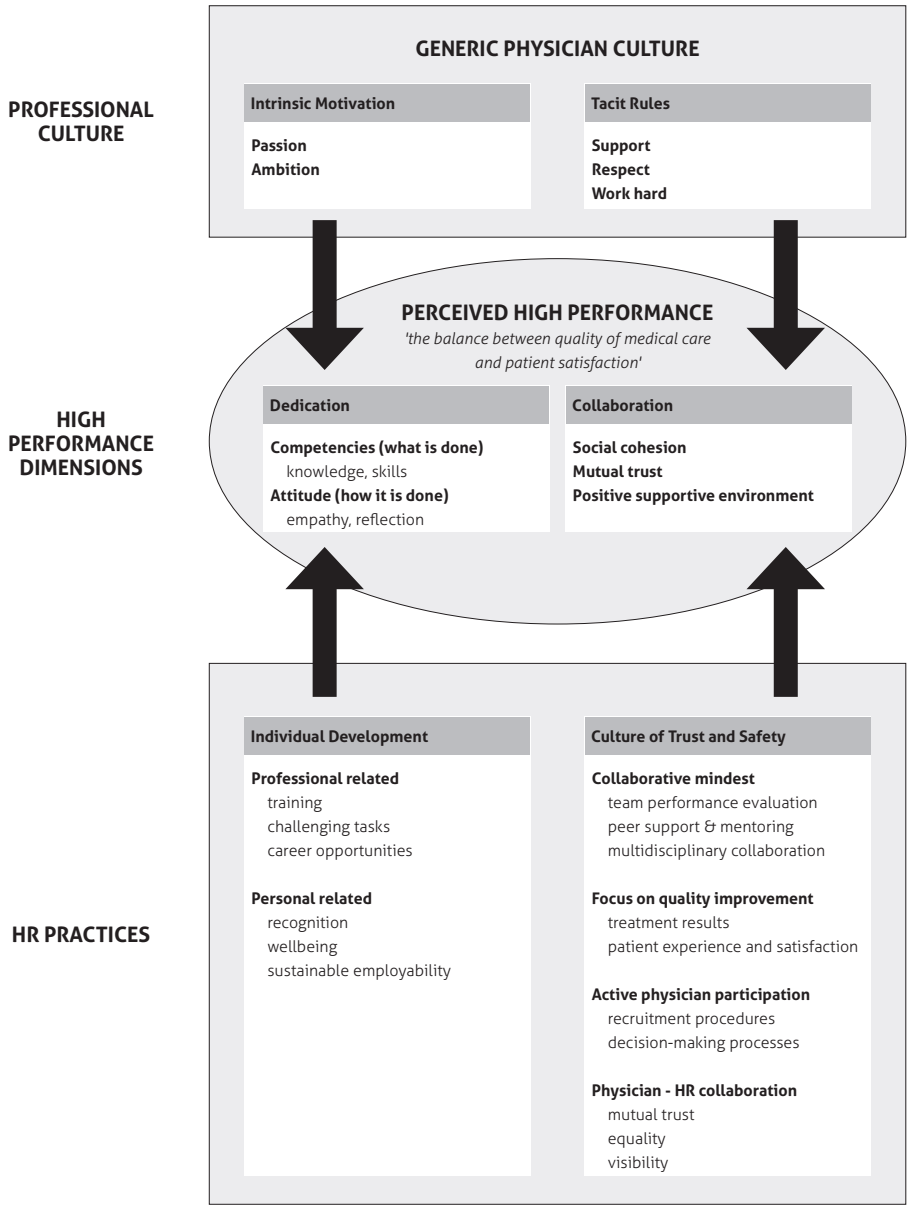

Figure 1: Relationships between high performance, HR practices and professional culture

Dedication

Physicians perceive dedication to the patient as a leading indicator of high performance. To them the combination of passion and ambition is what represents dedication. In our interviewees' opinions, dedication reflects 'what' you do as well as 'how' you do it. In terms of the 'what', competence-related issues such as updating medical knowledge and skills are crucial. Equally indispensable on the 'how' side are attitude-related items such as empathy, reflection, accountability, knowing one's limits, having an innovation and improvement-oriented attitude and transparency. Both physicians and HR professionals/ management representatives accentuate the importance of the 'how':

> *Knowing your profession, being aware of what you do not know or are unsure of, asking for a colleague's opinion if necessary, being aware of your own signals and communicating about that* (MS7)

> *I would say being social, a good listener, being patient and being good medical-technical wise, bit difficult to measure* (MS11)

> *I think it's about a human need to be seen and to be acknowledged in your sorrow or anger as a patient and, as a doctor, to be able to show that it gets to you as well when things go wrong. This attitude is not mentioned anywhere as a performance indicator* (MS12)

> *Having time for the patient, listening, paying attention* (MAN4)

Collaboration

Physicians and HR professionals alike deem collaboration to be another key element of high performance. They perceive collaboration as working optimally together to accomplish the best result for the patients. Our interviewees accentuate elements such as open, positive, supportive working, mutual trust, a feeling of safety within the peer group, social cohesion, knowing each other's strengths, a collaborative spirit and peer support as cornerstones in achieving high performance. This was illustratively formulated by the following management representative and surgeon:

> *Altogether, collaborating and daring to speak up, a safe climate where you can say: well Doc, we are not going to do that* (MAN2)

> *If you can perform surgery well, you will not necessarily be a better doctor; if you behave as a bastard in the OR [operating Room], putting your team on edge in an attempt to achieve good quality, then I consider you a bad doctor, even if you perform the surgery well* (MS20)

Physicians agree that the quality of the diagnostic and treatment process benefits from inter-colleague consultation, as explained by this physician:

> *Every patient will be discussed, everyone can explain their point of view, so*

an open culture is indispensable, to say what you want to say and give the best advice for the patient (MS3)

However, they also acknowledge that such consultation is time-consuming, which can have a potentially negative effect on the doctor-patient time. In achieving high performance, the importance of protocols is undisputed. However, physicians strongly advocate the significance of justified deviations from guidelines. They feel this is crucial in order to act in a patient's best interests.

Although physicians and HR professionals/management representatives agree on all the above-mentioned aspects, there was a salient difference. Whereas HR professionals and management representatives emphasize these facets as important in meeting organizational standards and values, physicians primarily highlight these characteristics as being crucial in meeting patients' concerns. The HR professionals/ management representatives ' managers' language consists of phrases like 'procedures' and 'organizational norms', illustrated by these two management representatives:

I am convinced that a physician is good when they align themselves to all the norms and values of our organization (MAN2)

We have this planning, a cycle of control, so we report measures and outcomes, and we put them in a plan-do-check-act cycle; everything that goes wrong has to be analysed and improvements should be put in new processes so that we go forward (MAN4)

In comparison, 'doctor talk' aligns with patients rather than the organization since this is considered to be at the heart of being a doctor and even regarded as a way of life, as this physician points out:

It is so enjoyable to really mean something to your patient, that is sort of a way of life, you want to contribute to that (MS10)

Summarizing the abovementioned, high physician performance is perceived to be a balance between quality of medical care and patient satisfaction. Dedication and collaboration are seen as the two vital dimensions of high performance. Dedication is formed by passion and ambition, reflecting both competence- as well as attitude-related aspects. Working together in achieving the best result for the patient shapes a necessary collaborative mindset. Such a mindset results in a working environment with strong social cohesion and a feeling of safety, where each other's strengths count, and peers support each other.

2. HRM practices to support and stimulate physician performance

Physicians offered suggestions related to all three aspects of the AMO framework (Ability, Motivation and Opportunity) in terms of concrete 'should dos' and 'could dos', summarized in Table 2 and described in more detail below.

Table 2: Suggested HRM approach for physician performance management

AMO framework item	*HRM practice*	*Approaches for enhancing high performance for doctors*
Ability-based practices	Training and development	- In-company training - Specific focus on non-medical competences: Collaboration Communication Leadership and social skills
	Recruitment and selection	- Active physician participation in the process - Candidate complementarity to the team
Motivation-based practices	Incentives: intrinsic motivation	- Attention to appreciation and recognition - Focus on physical and emotional wellbeing - Attention to work–life balance - Opportunities for age-specific working conditions - Offer challenging tasks - A focus on quality improvement indicators such as treatment results, patient experience and patient satisfaction - Performance evaluation on team-level, following guidance and support
	Incentives: extrinsic motivation	- Financial focus on quality improvements such as treatment outcomes, quality and safety
Opportunity-based practices	Individual-oriented opportunities	- Continuation of awareness for wellbeing and sustainable employability - Continuing, increasing or designing peer support, peer mentoring, internal coaching - Distinct personal career-path possibilities
	Work-environment-oriented opportunities	- Creating a culture of trust - Multidisciplinary collaboration - Awareness of fruitful collaboration between physicians, HR and management based on mutual trust and equality - Physician involvement in decision-making processes - Visibility of HR and managers to physicians

The ability-related suggestions can be divided into 'training & development' and 'recruitment & selection' categories. Participants highly value training and developmental opportunities. They voice a desire for more in-company options. This would meet their need to engage in life-long learning activities within their working day, thereby having a positive effect on their work–life balance, as stated by this physician below:

I think we could focus more on the personal development of our physicians, time to do so is lacking during working hours (MS5)

Physicians express a strong need for support focused on non-medical competences such as collaboration, communication, professional development, leadership and social skills as argued by this doctor:

> *Professionally, we are highly trained, but we lack expertise in speaking up and communication skills. We are simply not trained enough, so those skills are lacking* (MS3)

Physicians and HR professionals/management representatives alike admit that training and development remains an individual responsibility. Furthermore, HR professionals/management representatives acknowledge they are hardly involved in physicians' training and development as this head of the HR department concludes:

> *We do not play an active role in training skills or communication, but we do add value in the recruitment and selection process* (HR1)

Considering the recruitment and selection procedures, participants agree on motivation and dedication being crucial characteristics. Furthermore, candidates should be complementary to those already present in a team. According to one of our HR professionals, the procedures could benefit from active physician participation:

> *It has to come from them, because if we as an organization tell them they have to do it, the answer will be that they do not want to, it's as simple as that* (HR1)

Furthermore, the standardization of selection criteria and distinct job descriptions for hospital-employed staff, and a decline in the bureaucratic involvement where it concerns physicians in entrepreneurships, are perceived as beneficial, as stated by this entrepreneur-based doctor:

> *HR does not play a huge role for me, but when we need to hire personnel, we have to deal with HR, that's quite bureaucratic, it takes a lot of time* (MS8)

Motivation-based management practices

Motivation-based practices that enhance high performance involve both intrinsic and extrinsic incentives. In participants' perceptions, all physicians intrinsically strive for continuous improvement in order to achieve the highest levels of quality and safety in patient care, as highlighted by these two doctors:

> *Ambition and passion, otherwise you cannot provide top performance* (MS1)

> *The face-to-face contact, that keeps motivating me to go that extra mile* (MS11)

Doctors generally feel that stimulating intrinsic motivation and contributing to a sense of autonomy is vital for achieving high performance, as expressed by this independent entrepreneur physician:

> *For us, it is important that we are independent, that we can make our own decisions rather than the hospital board telling us how many holidays we have to take or what procedures we can or cannot do* (MS3)

Appreciation and recognition are the predominant drivers that enhance intrinsic motivation: from patients, from colleagues and from hospital management. That patients are the most important is emphasized by this physician:

> *That is why our job is so nice, because there is so much appreciation from our patients. That reward is not in money but in seeing that you helped someone* (MS5)

A fertile ground for these drivers is a safe and comfortable work environment. A healthy work–life balance and attention to aspects such as physical and emotional wellbeing and age-specific working conditions support such an environment. Physicians feel that ambition and motivation are stimulated by challenging tasks, clear treatment results and a focus on quality improvement. They suggest broadening the quality improvement focus to include indicators involving treatment results, patient experiences and patient satisfaction. In evaluating their professional performance, physicians plea for widening the scope of such assessments to the team level:

> *There could be more attention to teams, reflecting on what each of you can do better, learning from each other's strengths* (MS7)

In order for these team assessments to achieve long-term improvements, they should be tied to a process of guidance and support. Furthermore, for physicians, motivation is seen as particularly originating from high quality patient care:

> *You do not become a doctor for the money, you know; if you're in it for the money, you should really go and do something else. It is about the patients* (MS19)

Therefore, they feel that their extrinsic financial incentives should have that same focus – on treatment outcomes, quality and safety. Hospital-employed participants furthermore express a strong desire for greater equality in earnings, as one of them states:

> *There is inequality in incomes between physicians in our team, that leads to major conflicts* (MS25)

Opportunity-based management practices

Participants observed opportunities on an individual and on the work environment levels. On the individual level, the increasing awareness of topics such as wellbeing and sustainable employability was considered a positive shift. Further, peer support, peer mentoring and internal coaching possibilities are highly appreciated, as expressed by this doctor:

> *We have these colleagues that give you their attention when something happens, so you can talk about it and they can support you* (MS10)

It was generally felt that HR could be more visible when it comes to opportunities concerning physicians' personal career path and goals after employment, as commented by an HR professional:

> *There are very few distinct career path opportunities for physicians, it seems that they organize that themselves* (HR1)

Physicians stated they are eager to continuously develop themselves, and so clear hospital career-path possibilities would be supporting. Furthermore, they point out that performance would benefit from an increase in flexibility in job design, and even more so by a decrease in their heavy workload. In terms of their work environment, participants agreed on collaboration and teamwork as being crucial in enhancing performance, as this physician explained:

> *Collaboration is the key, working in a pleasant team is motivating, that you really work together and are in contact with each other, so our team meetings are very important to me* (MS3)

Doctors view a culture of trust as comprising an atmosphere where team members feel valued, safe to speak up, able to be vulnerable, be accepted for who they are and be allowed the professional freedom to try something new. Multidisciplinary collaboration triggers dedication, passion and inspiration, subsequently leading to higher quality care, as strongly argued by this physician:

> *You notice that people in multidisciplinary teams are very dedicated and passionate, they have a lot of knowledge and they really complement each other* (MS12)

In accomplishing collective goals on the department or organizational level, collaboration between physicians, HR and management should be based on mutual trust and equality. Physicians and HR professionals/management representatives all feel that physicians should be involved in decision-making processes and, as the following HR professional states, this connection seems to be the key:

> *I detect that, when the relationship improves, you can talk about policies* (HR2)

According to HR professionals/management representatives, physicians in entrepreneurship units show greater resistance to adopting hospital policies and practices than do hospital-employed physicians. In collaborating with HR professionals/management representatives, entrepreneurship physicians emphasize a desire for managers to be more visible within the organization, and HR professionals similarly conclude they do not interact much:

> *Those employed in partnerships, I have little control over them actually, I don't have to deal with them very much* (HR3)

Collaboration with physicians in general can be challenging for HR professionals and managers, since they do not share the same profession:

> *It's more or less: you are not a physician, so you don't understand* (HR2)
>
> *A typical physician in our hospital: someone who does not keep appointments and, if agreements are made, they will make them among each other in corridors* (MAN2)

Professional physician culture

We were able to distinguish three distinct aspects regarding culture: a predominant generic physician culture and two subcultures: a specialism-specific culture and an employment-specific culture. All the physicians view high performance similarly, regardless of their employment status or type of specialism. The predominant generic culture frames how doctors perceive high performance, through a lens of intrinsic motivation and tacit rules, as described in more detail below.

Generic physician culture

All physicians feel that ambition and passion are strongly associated with their profession and professional performance, as underscored by these doctors:

> *You need ambition and passion in what you do, you have to have the drive to learn and be committed* (MS1)
>
> *All doctors chose this profession out of passion* (MS26)

Most describe their culture as open, supportive and collegiate. In their professional culture, tacit rules serve as a code of conduct. These rules encompass 'we support each

other, we are respectful towards each other and we all work hard', as expressed by these doctors:

> *We are prepared to back each other, and we consult one another easily* (MS7)

> *We work hard for our patients, we feel that we have to work hard, genuinely, that is what we expect from each other and everybody does so* (MS9)

Specialism-specific culture

Participants furthermore described differences in culture depending on specialism. In general, it is predominantly the HR professionals/management representatives who perceive surgical versus non-surgical differences, as illustrated by this manager:

> *I can tell by the type of person whether it is a surgeon or an oncologist, I don't know how, you feel it, you can tell by the attitude* (MAN2)

However, and perhaps more striking, physicians perceive their own group (i.e. specialty) culture as being unique and different from all other specialties. They experience a huge difference between their own culture and the culture of all other groups, thus viewing their own specialism as a distinct identity within the organization, with unique personality traits, skills, competences and approach to their medical practice, formulated by these two doctors:

> *We are a very specific specialism, totally different from others* (MS6)

> *When we are on call, it is extremely turbulent, that is a big difference from a lot of other specialisms* (MS25)

Employment-specific culture

In terms of culture, employment status most prominently led to different perspectives, principally in terms of work approach and the attitude towards the organization. Physicians employed through entrepreneurship arrangements feel a strong professional autonomy regarding their job design, and they are perceived as being less receptive to HRM activities. They approach their work in a more production-oriented way with a focus on efficiency, have high expectations of each other with social pressure to work hard and feel closely related to one another as indicated in these quotes from a physician and a management representative:

> *We are more productive, we can arrange our time and do more if we want to. And because we can invest ourselves, we are innovative* (MS11)

> *Those working in an entrepreneurship are closer to one another compared to those in an employed group* (MAN2)

According to HR professionals and managers, hospital-employed physicians perceive themselves to be more ambitious but express less problem-solving behaviour than those in entrepreneurships:

> *They are hospital-employed, so they tell us: it is not our problem, you have to solve that one for us* (MAN3)

Overall, we could thus distinguish a predominant generic culture plus two subcultures, i.e. specialism-specific and employment-specific. The predominant culture, centring around ambition, passion and tacit rules, serves as a lens through which physicians interpret high performance. These (sub)cultures do not influence the perception of how HR practices enhance high performance.

DISCUSSION

Figure 1 summarizes our main findings. It illustrates how the professional physician culture of passion, ambition and tacit rules colours doctors' perceptions of what constitutes high performance, defined as a balance between high quality care and patient satisfaction. It further highlights the two pivotal dimensions of perceived high performance that we uncovered, i.e. dedication and collaboration, as well as HR practices that require attention to stimulate performance.

Our findings show that physicians are highly committed professionals; even to the extent of considering dedication to be a key component of high performance. Whereas, in organizations, dedication is usually considered as an antecedent of high performance (Jaramillo, 2005; Munteanu, 2014; Steyrer, 2008), in our study we saw that physicians view dedication as an essential ingredient of performance. Caring for their patients is their top priority, and they see competence and attitude-related aspects as equally indispensable. Giving attention to and receiving appreciation from their patients drive doctors to go that extra mile in achieving their best. Such deep-seated dedication brings to mind the concept of having a 'calling' – a career that provides a sense of meaning or purpose and is used to help others (Dik and Duffy, 2009). Within the medical profession, meaning, purpose and the helping of others seem self-evident since humanistic care of those who are suffering is at the very heart of this profession. Our findings emphasize that concepts such as calling, dedication, commitment and intrinsic motivation are intertwined and all positively relate to high performance (Goodin et

al., 2014; Westerman, 2014). When humanistic care is central, it seems natural that dedication evolves around human values like caring, compassion and respect (Rider et al., 2014). Consequently, doctors' dedication will only flourish if these humanity-related aspects are given attention. Alongside dedication, collaboration surfaced as the second dimension of high performance. This echoes the literature associating teamwork with high quality care and greater patient satisfaction (Grumbach and Bodenheimer, 2004; Meterko et al, 2004). Physicians translate optimum collaboration into mutual trust, safety, speaking up, social cohesion and a supportive environment. These specifications remind one of psychological safety, defined by Edmondson (1999) as 'the shared beliefs that a team is safe for interpersonal risk taking and such environment exudes a sense of confidence that you are not embarrassed, rejected or punished for speaking up'. Whereas Edmondson considered psychological safety as contributing to high performance in teams, the doctors in our study saw it as a vital dimension of high performance and thus as performance itself. Collaboration will therefore only thrive within a culture of trust and safety.

Our results emphasize the need for HR practices to increase and support abilities to build and lead teams of physicians that are focused on dedication and collaboration. Physicians formulate concrete 'should dos' and 'could dos' to stimulate individual development and a culture of trust and safety. They emphasize the need for leadership and communication skills, a focus on quality improvement indicators such as treatment results and patient satisfaction, and a collaborative mindset. Our findings suggest that high performance can only be achieved by reinforcing dedication and collaboration. We advocate seeing doctors not only as providers of medical care but also as sensitive and committed workers with strong humanistic values. Seeing physicians primarily as people, and highlighting general humanistic and relational aspects, seems to be emerging as a necessity to counterbalance the current 'business-like' climate in healthcare that focusses on productivity and efficiency, with increasing bureaucratic requirements that reduce the time for face-to-face interaction with patients and colleagues (Sinksy et al., 2016).

Our study showed that physicians feel a strong professional culture. In general, as physicians, they feel highly motivated and their tacit rules concerning working hard and supporting each other serve as a code of conduct. This is in line with the literature that observes that the culture of medicine is learnt through a so-called 'hidden curriculum' of unspoken rituals and rules (Hafferty,1998, Lempp and Seale, 2004). On the subculture-level, doctors perceive their own specialism as quite different to most other specialties. Employment status also came to the fore as a second subculture, shaping physicians' perspective on their approach to work. Those in entrepreneurship units were more production-oriented and focussed on efficiency and hospital-employed doctors were less focussed on problem-solving behaviour. However, these distinct subcultures do not shape physicians' overall perceptions of what constitutes high performance. All the physicians perceive performance the same way, regardless of their employment status or type of specialism. It would seem that the predominant culture as a professional physician unites all doctors in forming a consistent view on performance. A consequence of this is that there does not seem to be a need to differentiate, and HR practices should be applicable for all doctors.

A notable observation, although not part of our research question or focus, was a perceived clash of cultures between the world of HRM and the medical domain. This gap was empirically observed and recognized by physicians and by HR professionals/ management representatives. Although there is literature addressing the difficulties that doctors experience in bridging the medical and managerial worlds (Witman, 2010), there is little research regarding the cultural difference between the HR and healthcare spheres. Ultimately, they are aiming for the same thing, i.e. optimum patient care, but it seems that their perceptions of how to achieve this goal differ considerably. We argue that this difference could originate in their distinct value perspectives, resulting in differences in commitment. Whereas, for traditional HR and management, it is all about organizational values and commitment to the organization, for doctors it is humanistic values and commitment to the patient. This schism results in a focus on procedures, costs and efficiency on the one side versus caring and compassion, in our findings embedded in dedication and collaboration, on the other. As a result, despite aiming for the same outcome, they seem to think and speak in different languages while it is critical that they do communicate and collaborate in order to contribute to high performance. This aligns with Rider's observation that physicians might be overlooking the basic principle of working collectively with other healthcare professionals to create system changes and an organizational culture that delivers excellent, safe and efficient care while preserving humanistic values (Rider, 2018). In our view, supported by the results of this research, it is all about people management and highlighting the humanistic and relational elements, regardless of who does or does not formally perform these activities. We recommend that people management should be an activity for all those responsible, be they HR professionals, management representatives or physicians, working in close collaboration. Only by bridging that gap will patients benefit from the best of both worlds.

7

CONCLUSIONS

Physicians sense a strong professional culture of intrinsic motivation and tacit rules that shape their view on performance. They perceive high performance as a balance between the quality of medical care and patient satisfaction. Dedication and collaboration are considered the two essential ingredients of high performance. HR practices to enhance performance should thus focus on these aspects by stimulating individual development and a culture of trust and safety. Furthermore, these HR practices should be available to all doctors, regardless of their type of specialism or employment status.

REFERENCES

American Board of Medical Specialties (2018). ABMS Multi Specialty Portfolio Program Brochure. Available at: www.mocportfolioprogram.org (accessed 2018).

Appelbaum EB, Bailey T, Berg P and Kalleberg AL (2000). Manufacturing Advantage: Why High Performance Work Systems Pay off. Ithaca, NY: Cornell University Press.

Bos-Nehles AC, Van Riemsdijk M, Looise JC (2013.) Employee perceptions of line management performance: applying the AMO theory to explain the effectiveness of line managers' HRM implementation. *Human Resource Management,* 52(6): 861-877.

Boutin-Foster C, Foster J, Konopasek L (2008). Viewpoint: Physician, Know Thyself: The Professional Culture of Medicine as a Framework for Teaching Cultural Competence. *Academic Medicine,* 83(1):106-111.

Cassel CK, Hood V, Bauer W (2012). A Physician Charter: The 10th Anniversary. *Annals of Internal Medicine,* 157(4):290-1.

Charness N & Tuffiash M (2008). The role of expertise research and human factors in capturing, explaining, and producing superior performance. *Human Factors,* 50(3): 427-432.

Chatman KA & Cha SE (2003). Leading by leveraging. *California Management Review,* 45(5): 20-34.

Curoe A, Kralewski J, Kaissi A (2003). Assessing the cultures of medical group practices. *Journal of the American Board of Family Practice,* 16(5):394-398.

Davies HTO, Nutley SM, Mannion R (2000). Organisational culture and quality of health care. *BMJ Quality & Safety,* 9(2):111-119.

De Bono S, Heling G, Borg MA (2014). Organizational culture and its implications for infection prevention and control in healthcare institutions. *Journal of Hospital Infection,* 86 (1): 1-6.

Dik BJ & Duffy RD (2009). Calling and vocation at work: Definitions and Prospects for Research and Practice. *The Counseling Psychologist,* 37(3): 424-450.

Dutch Federation of Medical Specialists (2017). Vision Document Medical Specialist 2025; ambition, trust cooperation. Available at: https://www.demedischspecialist.nl/sites/default/files/FMS_visiedoc_MS2025(eng)_2017_PL_v02(lr).pdf (accessed 2017).

Edmondson AC (1999). Psychological Safety and Learning Behavior in Work Teams. *Administrative Science Quarterly,* 44(2): 350-383.

Epstein RM & Hundert EM (2002). Defining and assessing professional competence. *Journal of the American Medical Association,* 287(2): 226-235.

Ericsson KA (2004). Deliberate practice and the acquisition and maintenance of expert performance in medicine and related domains. *Academic Medicine,* 79(10): 70-81.

Ericsson KA (2008). Deliberate practice and acquisition of expert performance: a general overview. *Academic Emergency Medicine,* 15(11): 988-984.

Finlay L & Ballinger C (2006). Qualitative Research for Allied Health Professionals: Challenging Choices. Copywright by John Wiley& Sons Ltd:139-155. London. ISBN 0-470-01963-8.

Frank JR & Danoff D (2007) The CanMEDS initiative: implementing an outcomes-based framework of physician

competencies. *Medical Teacher*, 29(7): 624-647.

General Medical Council (2013). Ready for revalidation; the Good medical practice framework for appraisal and revalidation. Available at: https://www.gmc-uk.org/-/media/documents/The_Good_medical_practice_framework_for_appraisal_and_revalidation___DC5707.pdf_56235089.pdf.

General Medical Council (2014). Good Medical Practice; Working with doctors working for patients (2014). Available at: https://www.gmc-uk.org/-/media/documents/good-medical-practice---english-20200128_pdf-51527435.pdf?la=en&hash=DA1263358CCA88F298785FE2BD7610EB4EE9A530 (published March 2013, updated April 2014).

Gerhart B (2005). Human resources and business performance: Findings, unanswered questions, and an alternative approach. *Management Revue,* 16(2): 174-185.

Goodin JB, Duffy RD, Borges NJ et al. (2014). Medical students with low self-efficacy bolstered by a calling to medical specialty. *Perspectives on Medical Education*, 3(2): 89-100.

Grumbach K & Bodenheimer T (2004). Can health care teams improve primary care practice? *Journal of the American Medical Association*, 291(10):1246-1251.

Hafferty FW (1998). Beyond curriculum reform: confronting medicine's hidden curriculum. *Academic Medicine*, 73(4):403–407.

Jaramillo F, Mulki JP, Marshall GW (2005). A meta-analysis of the relationship between organizational commitment and salesperson job performance: 25 years of research. *Journal of Business Research,* 58 (6), 704-714.

Hall P (2005). Interprofessional teamwork: Professional cultures as barriers. *Journal of Interprofessional Care*, 1(19): 188 – 196.

Hall LH, Johnson J, Watt I et al. (2016). Healthcare staff wellbeing, burnout, and patient safety: A systemic review. *Plos One*, 11(7):e0159015.

Hyde P, Harris C, Boaden R et al. (2009). Human relations management, expectations and healthcare: A qualitative study. *Human Relations*, 62(5), 701-725.

Kabene SM, Orchard C, Howard JM et al. (2006). The importance of human resource management in health care: A global context. *Human Resources for Health*, 4(20), epub. doi:https://doi.org/10.1186/1478-4491-4-20.

King N, Caroll C, Newton P et al. (2002). "you can't cure it so you have to endure it": The experience of adaption to diabetic renal disease. *Qualitative Health Research*, 12(3): 329-346.

Kralewski J, Wingert T, Barbouche M (1996). Assessing the culture of medical group practices. *Medical Care*, 34(5): 377-388.

Kroon B, Van de Voorde K, Timmers J (2013). High performance work practices in small firms: A resource-poverty and strategic decision-making perspective. *Small Business Economics*, 41(1): 71-91.

Leape LL (2006). Problem doctors: is there a system-level solution? *Annals of Internal Medicine*,144(2): 107-115.

Lempp H & Seale C (2004) The hidden curriculum in undergraduate medical education: Qualitative study of medical students' perceptions of teaching. *The BMJ*, 329:770–773.

Lesser CS, Lucey CR, Egener B et al. (2010). A Behavioral and Systems View of Professionalism. *Journal of the American Medical Association*, 304(24): 2732-2737.

Marin-Garcia JA & Tomas JM (2016). Deconstructing AMO framework: a systematic review. *Intangible Capital*, 12(4): 1040-1087.

Medical Board of Australia (2014). Good Medical Practice: a Code of Conduct for doctors in Australia (2014).. Available at: https://www.medicalboard.gov.au/documents/default px?record=WD10%2F1277&dbid=AP&chksum=eNjZ0Z%2FajN7oxjvHXDRQnQ%3D%3D (issued March 2014).

Medical Professionalism Project (2002). Medical Professionalism in the new millennium: a physicians' charter. *The Lancet*, 359(9305): 520-522.

Meterko M, Mohr DC, Young GJ (2004). Teamwork culture and patient satisfaction in hospitals. *Medical Care*, 42(5):492-498.

Munteanu AI (2014). What Means High Performance Work Practices for Human Resources in an organization. *Annals of the University of Petrosani, Economics*, 14(1): 243-250.

Nembhard IM, Singer SJ, Shortell SM et al. (2012). The cultural complexity of medical groups. *Health Care Manage Review*, 37(3): 200-213.

Ng SL, Kinsella EA, Friesen F et al. (2015). Reclaiming a theoretical orientation to reflection in medical education research: a critical narrative review. *Medical Education*, 49(5): 461-475.

Overeem K, Faber MJ, Arah OA et al. (2007). Doctor performance assessment in daily practice: Does it help doctors or not? A systematic review. *Medical Education*, 41(11):1039-1049.

Overeem K, Wollersheim H, Driessen E et al. (2009). Doctors' perceptions of why 360-degree feedback does (not) work: a qualitative study. *Medical Education*, 43(9): 874-882.

Raidén AB, Dainty ARJ, Neale RH (2006). Balancing employee needs, project requirements and organisational priorities in team deployment. *Construction Management and Economics*, 24(8): 883-895.

Rethans JJ, Norcini JJ, Baron-Maldónado M et al. (2002). The relationship between competence and performance: implications for assessing practice performance. *Medical Education*, 36(10): 901-909.

Rice PL & Ezzy D (1999). Qualitative Research Methods: A Health Focus. South Melbourne (Australia): Oxford University Press.

Rider EA, Kurz S, Slade D et al. (2014). The international charter for human values in healthcare: An interprofessional global collaboration to enhance values and communication in healthcare. *Patient Education and Counseling*, 96(3): 273-280.

Rider EA, Gilligan MC, Osterberg LG et al. (2018). Healthcare at the Crossroads: The Need to Shape an Organizational Culture of Humanistic Teaching and Practice. *Journal of General Internal Medicine*, 33 (7): 1092-1099.

Royal Dutch Medical Association (2007). Medical Professionalism Manifesto. Available at: https://www.knmg.nl/web/file?uuid=90993000-e3b8-4713-9e8d-28a7d85eb918&owner=5c945405-d6ca-4deb-aa16-7af2088aa173&contentid=1571&elementid=1149672.

Saedon M, Salleh H, Balakrishnan A et al. (2012). The role of feedback in improving the effectiveness of workplace based assessments: a systematic review. *BioMed Central Medical Education,* 12:25.

Sinsky C, Colligan L, Li l et al. (2016). Allocation of Physician Time in Ambulatory Practice: A Time and Motion Study in 4 Specialties. *Annals of Internal Medicine*, 165(11):753-760.

Steyrer J, Schiffinger M, Lang R (2008). Organizational commitment—A missing link between leadership behavior and organizational performance? *Scandinavian. Journal of Management*, 24(4): 364–374.

Strauss AC & Corbin JM (1998). Basics of qualitative research: Second edition: Techniques and procedures for developing grounded theory. Thousand Oaks, CA: Sage Publications, inc.

Ten Cate O, Snell L, Carracio C (2010). Medical competence: the interplay between individual ability and the health care environment. *Medical Teacher*, 32(8):669-675.

Townsend KL, Lawrence SA, Wilkinson A (2013). The role of hospitals' HRM in shaping clinical performance: a holistic approach. *International Journal of HumanResource Management,* 24(16): 3062-3085.

Valentine MA, Barsade S, Edmondson AC et al. (2014). Informal Peer Interaction and Practice Type as Predictors of Physician Performance on Maintenance of Certification Examinations. *Journal of the American Medical Association Surgery*, 149(6):597-603.

Van den Goor MPG, Wagner CC, Lombarts KM (2020). Poor physician performance in The Netherlands: characteristics, causes, and prevalence. *Journal of Patient Safety,* 16(1):7-13.

Van der Meulen MW, Boerebach BCM, Smirnova A et al. (2017). Validation of the INCEPT: A Multisource Feedback Tool for Capturing Different Perspectives on Physicians' Professional Performance. *Journal for Continuing Education in the Health Professions*, 37(1):9-18.

Van der Meulen MW, Smirnova A, Heeneman S et al. (2019). Exploring Validity Evidence Associated with Questionnaire-Based Tools for Assessing the Professional Performance of Physicians: A Systematic Review. *Academic Medicine*, Epub ahead of print Apr 23. doi:10.1097/ACM.0000000000002767.

Van Everdingen EJ & Horstmanshoff HF (2005). The new medical oath in The Netherlands. *Nederlands Tijdschrift voor Geneeskunde*, 149(22), 1248.

Wallace JE, Lemaire JB, Ghali WA (2009). Physician wellness: a missing quality indicator. *The Lancet*. 374(9702): 1714-1721.

Watling CJ & Lingard L. (2012). Grounded theory in medical education research: AMEE guide No70. *Medical Teacher*, 34(10): 850-861.

Watling CJ, Cristancho C, Wright S et al. (2017). Necessary Groundwork: Planning a Strong Grounded Theory Study. *Journal of Graduate Medical Education*, 9(1): 129-130.

Weller J, Boyd M, Cumin D (2014). Teams, tribes and patient safety: overcoming barriers to effective teamwork in healthcare. *Postgraduate Medical Journal*, 90(1061):149–154.

World Health Organization: World Health Report 2000. Health Systems: Improving Performance. Geneva 2000. Available at: https://www.who.int/whr/2000/en/whr00_en.pdf?ua=1

Westerman M (2014). Reflections on having a 'calling' as a medical doctor. *Perspectives on Medical Education*, 3(2): 73-75.

Witman Y, Smid GAC, Meurs PL et al. (2010). Doctor in the lead: balancing between two worlds. *Organization*, 18(4), 477-495.

7

Chapter 8

General Discussion

'There must be an atmosphere of not only looking after patients, but also after the team members - the act of caring'

'The behaviour of a high performer? Someone who is social, patient, a good listener and technically good – a bit difficult to measure'

Participants in High Performance Study, Chapter 7

INTRODUCTION

In this research, the goal was to unravel the essence of physician performance. I see physician performance as being increasingly about teamwork where interpersonal connection is an essential element in performing well. However, the current literature presents performance predominantly as an individual quality. In an attempt to align the performance of the individual physician to the team, this thesis addressed two challenges in unravelling the essence of physician performance. The first challenge was based on existing knowledge of peer-interaction as being important for professional learning and quality of care (Valentine et al., 2014). I sought to investigate how peer-interaction affects individual physician performance. The second challenge focussed on the individual physician, where physicians' own perceptions of performance were explored.

In addressing these challenges, I was interested in physicians' feelings, behaviour, perceptions and interpersonal relations. Reflecting this, this research relied principally on qualitative methods to capture these aspects. Since the aim was to explore physician performance in depth, it seemed self-evident to turn to doctors themselves for answers. I thus relied on their stories, reflections, sentiments, narratives and opinions, putting the physician at the heart of this research. In addition to the scientific research presented in this thesis, I had extended dialogue sessions involving researchers, physicians, HR professionals and consultants. Sharing miscellaneous viewpoints and interpretations allowed me to broaden my scope, preventing me from jumping to conclusions and helped me to keep my eyes open and an open mind. This was particularly beneficial in the final step of the sense-making and sense-giving process, wherein the six studies were pulled together to achieve the overall aim.

This alignment resulted in the emergence of two overarching themes expressing the essence of physician performance: Comradeship and Calling. These new concepts are briefly introduced here and elaborated upon in more detail as they relate to the medical domain under the 'theoretical contribution' heading below.

1. Comradeship

In the search to meet the first challenge, i.e. investigating how peer-interaction affects individual performance, comradeship arose as key component. Although I started this thesis with psychological safety as one of the driving concepts, I felt the findings did not completely reflect this design. Where interpersonal risk-taking is a crucial element in the concept of psychological safety, comradeship reflects a broader feeling of a supportive

group atmosphere. The findings indicate that individuals can only truly blossom in an environment that breathes a collaborative mindset, where sharing is about caring and mutual trust, and cohesion and peer-support are felt.

2. Calling

The second challenge, i.e. exploring how physicians perceive performance, showed physicians to be highly committed and dedicated professionals with humanistic practice at the heart of their performance. A profession so strongly rooted in the fundaments of human values paves the road for a work-related sense of meaning and purpose, in turn leading to high levels of commitment, motivation and inspiration. Thus, having a calling, i.e. a career that provides a sense of meaning or purpose and is used to help others, emerged as a key component. The findings in this thesis indicate that individuals only truly flourish when they feel committed and dedicated.

This chapter is constructed around these two overarching themes: Comradeship and Calling. I first present the overall findings from the six research projects, explain how they addressed the two challenges, correspond to the overarching themes and then place them in the context of current research. Subsequently, I present the two concepts and their theoretical contributions in more detail. Finally, I will describe the limitations of my thesis and the findings' implications for further research and conclude this chapter by considering the way forward wherein implications for practice are described.

COMRADESHIP

'I did not expect to get emotional during the session, but it happened anyway. In my colleagues' reactions, I felt genuine interest, concern and empathy. I mean, patient contact is very important, but so is working with a group of colleagues you feel comfortable and safe with; that makes up three- quarters of your job satisfaction'

This statement from one of the participating physicians in the group reflection study (Chapter 5), describes in a nutshell how 'comradeship' arose as one of the two overarching themes in this thesis. The overall conclusion of our findings indicates that physicians perceive a safe work environment, with peers that you can trust and rely on, not only as one of the most important drivers, but as a vital dimension of optimum individual performance as illustrated in Figure 1.

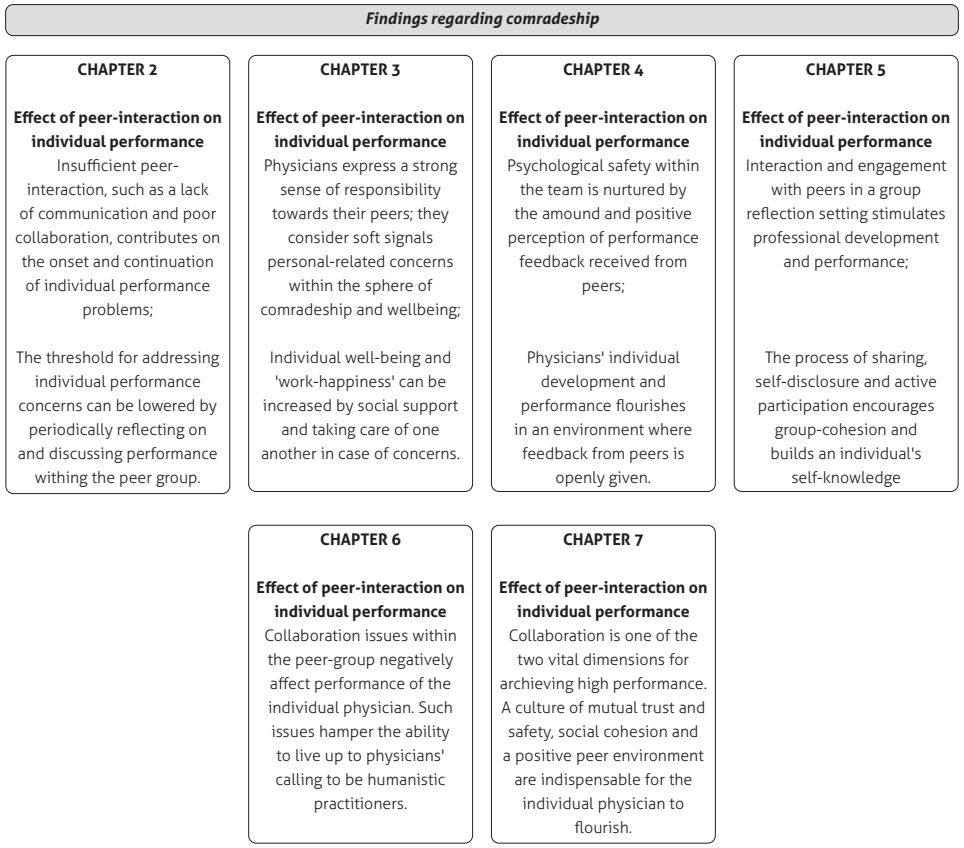

Figure 1: Overview of the findings and how they respond to the first challenge set in this thesis, i.e. investigating how peer-interaction affects physician performance

I will further elaborate on these findings below, but first I will clarify how the studies met the overall aim, set the context of current knowledge and then place the findings in the realm of this context.

The first challenge was to unravel physician performance by investigating how peer-interaction affects individual performance. To meet this aim, I considered that a variety of angles and research questions would be constructive, and so several methodological and analytical approaches were applied. This resulted in four studies, looking from different angles and focussing from different distances at the connection between performance of the individual physician and the team, i.e. the peer group (Chapters 2,3,4 and 5).

Turning to the current knowledge and discourses on teamwork and team performance, prior research had increasingly recognised the significance and benefits of effective teamwork in modern healthcare. Effective teamwork is linked to quality and safety of patient care because teams make fewer mistakes than individuals do (Baker et al., 2006; Dietz et al., 2014; Weller et al., 2014). Teamwork is also an important predictor of aspects of healthcare providers such as wellbeing and job satisfaction (Merlani et al., 2011; Grumbach & Bodenheimer, 2004). The knowledge, skills and attitudes needed for effective teamwork include mutual performance monitoring, backup behaviour, adaptability, team leadership and a team orientation (Salas at al., 2005; Baker et al., 2006). Psychological safety, i.e. the safety within the team to take interpersonal risks, is reported in the literature as the most important aspect of high performing healthcare teams (Edmondson 1999, 2004, 2012). Therefore, psychological safety was one of the driving concepts of this thesis. In an extensive review article on this topic, Edmondson and Lei (2014) conclude that (i) psychological safety has consistently been shown to play a role in enabling performance; (ii) psychological safety is particularly relevant for understanding organisational learning since much learning in today's organisations takes place in the interpersonal interactions between highly interdependent members; and (iii) individuals who experience greater psychological safety are more likely to speak up at work.

Building on this knowledge, my scientific quest started at the 'downside' end of the performance spectrum, i.e. looking at poor performance. I considered that a situation where relations are likely to be strained, such as having a poorly performing colleague, would provide valuable information on how peers act and interact with one another (Chapter 2). On the interaction level, this research showed that low levels of comradeship, reflected in insufficient collaboration and a lack of addressing and speaking up amongst peers, provide fertile ground for individual performance issues to flourish and potentially develop into poor performance. This finding underscores the need to create a culture of speaking up and blame-free discussion of performance concerns in order to stimulate optimum performance. In creating such a culture, periodically reflecting and discussing individual performance within the peer group can be helpful in lowering the threshold for addressing individual performance concerns. This echoes the literature stating that a supportive environment is necessary for effective teamwork and high team performance; an environment showing 'backup-behaviour', where feedback is regularly given, poor performers are dealt with, and tough issues can be brought up (Salas et al., 2005; Edmondson & Lei 2014). Our findings contribute to the discourse on under-performance by highlighting that individual performance occurs as an interplay of the individual and their professional context. Thus, performance should be viewed in a

broader context than just the sum of individual competences. As Groysberg et al. (2004) observed: when a top performer leaves a company, their achievement levels fall sharply, and may still be depressed even up to five years later. It thus seems that, still too often, it is ignored that relationships and existing sub-cultures shape performance alongside personal knowledge and skills.

Moving from poor performance to addressing performance concerns in the second study, physicians expressed that they feel they are the best positioned ones to detect deviances in a peer's behaviour, communication or appearance (Chapter 3). As a colleague, they feel co-responsible for their peers' wellbeing: a striking example of comradeship. Prior research underscores this finding, stating that well-functioning teams can actually protect their members from the negative effects of work-related stress by enhancing occupational wellbeing indicators such as better physical and mental health (Sutinen et al., 2005; Williams & Flanders, 2016). Our findings showed that physicians feel the need to take care of each other by actively picking up on signals or concerns and then offering a helping hand. Openly and periodically discussing individual and group performance, including positive themes such as inspiration and ambition, is helpful in supporting a culture of comradeship and speaking up.

Creating a psychologically safe environment not only upholds such supportive behaviour, it also encourages speaking up in terms of giving and receiving performance feedback (Chapter 4). The link between psychological safety and performance feedback was explored in depth in Chapter 4, showing that performance feedback is more positively perceived by physicians who experience a higher level of psychological safety within their team. High levels of psychological safety and performance feedback are not only crucial for professional development and improving the performance of the individual physician, they also result in fewer errors and better patient outcomes (Edmondson, 2004; Leroy et al., 2012). Thus, in line with previous research, I concluded that medical teams should invest in improving the quality of interpersonal relationships and building trust within their teams (Carmeli & Gittell, 2009; Carmeli et al., 2009). Team-building activities, gathering and discussing 360° feedback, and planning social activities all contribute to building trust (Arnetz, 2001; Shanafelt et al., 2003). Furthermore, helping a colleague when they are facing an adverse event or medical error, labelled peer support, builds fruitful relationships (Hu et al., 2012). Inviting peers to speak, explicitly showing appreciation and proactively asking for other opinions, i.e. inclusive leadership behaviour, also all improve the quality of interpersonal peer-relationships (Nembhard & Edmondson, 2006).

Constructive peer-relationships are fertile ground for professional development and performance improvement (Valentine et al., 2016). To stimulate ongoing professional learning and development, mandatory processes have been developed that are regarded as critical in stimulating physicians' ongoing professional learning and development. In order to ensure optimum care quality, all licensed doctors must periodically demonstrate that they are up-to-date with developments and fit to practice (Dutch Federation of Medical Specialists, 2013; General Medical Council, 2014). These processes focus in part on individual 360° performance feedback. Since peer-interaction has been shown to be important for professional development, I dug deeper into this topic in the fourth study, specifically within this mandatory process (Chapter 5). By investigating the potential power of peer-group reflection on individual performance, I connected peer interaction and individual development. I found that sharing is actually caring; the results of this study indicated that peer-group reflection offered the possibility to discuss and compare one's own and others' perceptions, thereby gaining a nuanced insight into one's professional performance. Sharing reflections was experienced as a source of social support and deepened communal relationships on a group level. On the individual level, sharing reflections was seen as helpful in realising actual change and creating a sense of urgency for improvement. The findings thus point to a positive effect on the team as well as the individual performance level, indicating a close correlation. From this, I concluded that performance should not be viewed on an individual level, it should always incorporate the context of the individual. As expressed by Ramani and colleagues (Ramani et al., 2018; Ramani et al., 2019), it is not about following recipes, but about investing in relationships in order to disclose, discuss, reflect on and learn from feedback.

Although primary designed to correspond to the second challenge, i.e. exploring how physicians perceive performance, the two subsequent studies also provided information on comradeship. Chapter 6 showed the negative effect of inadequate peer-relations in that physicians mentioned that collaboration issues within the peer group hindered their wellbeing and performance. Some even considered a change in workplace because of collaboration issues. Emphasising the essence of comradeship, they mentioned collaboration aspects such as social cohesion, mutual trust and a positive supportive environment as vital dimensions alongside calling, the second key component of high performance (Chapter 7).

CALLING

'Seeing patients and their families at their worst and most vulnerable moments strongly motivates me to be as emphatic and humanistic as I can be; that doesn't feel damnatory, on the contrary, it gives the uttermost satisfaction and appreciation'

This quote from a participating physicians in the written reflection study (Chapter 6) reflects how the participating doctors feel an intense dedication to their patients and consider humanistic practice at the heart of being a doctor. Hence the use of the term 'calling', i.e. having a career that provides a sense of meaning or purpose and is used to help others, became the second component in unravelling the essence of physician performance. The overall conclusion from the findings show that physicians view the medical profession as one that provides a deep sense of meaning and purpose, where motivation and inspiration derive from their dedication to helping their patients, as illustrated in Figure 2.

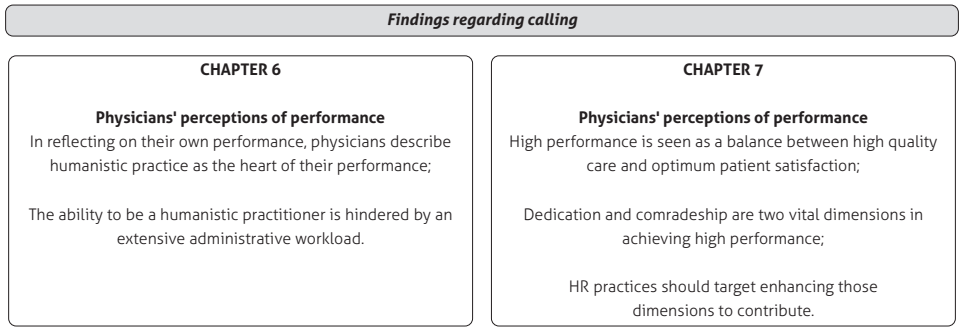

Figure 2: Overview of the findings and how they respond to the second challenge set in this thesis, i.e. exploring how physicians perceive performance

I further reflect on these findings below, but first I clarify how the individual studies met the overall aim, provide the context of current knowledge on motivation and, then, place the findings within this context.

With the overall aim to unravel the essence of physician performance, the second challenge focussed on the individual physician whereby I explored physicians' own perceptions of performance. Looking for answers on this topic, it felt self-evident to turn to doctors themselves for their opinions. Although a single study would probably

have provided sufficient information on this subject, I chose to triangulate the data to increase the trustworthiness. Therefore, I collected a large inventory of written reflections to deepen understanding of how physicians perceive their own performance (Chapter 6). Subsequently, doctors and HR professionals were interviewed on the topic of high physician performance in general (Chapter 7).

Reflecting on knowledge of high performance, individual-related elements such as intrinsic motivation and engagement are identified as the most critical. Human motivation as a driving force of behaviour and performance has been extensively studied, extending out from the realm of philosophy to the psychological, behavioural and management domains (Steers et al., 2004). As a result, a rich variety of theories have been presented, all with their own specific angle. Well-known theories include Maslow's (1954) need hierarchy theory (individual human motives are related to work), Herzberg's (1966) motivation hygiene theory (hygiene factors in the context surrounding a job predict satisfaction and future motivation), Porter and Lawler's (1968) expectancy theory (individual differences in abilities and skills plus role clarity link job effort to actual job performance), Locke and Latham's (1990) goal setting theory (task performance is enhanced by specifying targets to achieve) and Bandura's (1971) self-efficacy theory (self-confidence lies at the heart of an individual's incentive to act or to be proactive). I will briefly discuss two other theories (Self Determination Theory and Job Demands Resources Theory) in a little more detail as examples to explain how, in my research, calling was identified as the best-fitting concept for driving physician performance. Self Determination Theory, although one of the older theories, was chosen because of its frequent citations (Ryan and Deci's (2000) article has 35,697 citations according to Google Scholar) and the Job Demands Resources Theory because it is well established in the medical domain and referred to in the Vison Document of the Federation of Medical Specialists in the Netherlands (Dutch Federation of Medical Specialists, 2017 pp. 13-14).

According to Self Determination Theory, the nature of motivation predicts many important outcomes such as psychological health, wellbeing, deep learning and effective performance (Ryan & Deci, 2000; Deci & Ryan 2008). Psychological health and performance benefit most from a high level of intrinsic motivation (Ryan & Deci, 2000; Deci & Ryan, 2008). This theory posits that three basic psychological needs (i.e. autonomy, competence and belongingness) need to be fulfilled in order to perform at one's best. In Bakker and Demerouti's Job Demands Resources Model (JD-R model), performance predictors are classified into job resources (e.g. autonomy, harmony, colleague support) and job demands such as perceived pressure, emotional demands, work-home conflict) (Bakker & Demerouti, 2007; Bakker, 2011). In this model, performance will blossom when

the motivational process dominates, when job resources are widely available and when job demands are minimal. Where the JD-R model emphasises work-related characteristics, the Self Determination Theory puts basic psychological needs central. However, neither concept truly fits the deep-seated dedication to their patients that doctors expressed in my research. Rather, I found that physicians' motivation and inspiration derive primarily from their dedication, and from the meaningfulness of the doctor-patient relationship. Putting this meaningfulness and dedication central, the concept of having a calling was seen as the best fit and became the second key component: having a career that provides a sense of meaning or purpose and is used to help others.

As aspects of a calling, dedication and humanistic practice were central topics in the two studies used to explore how physicians perceive performance (Chapter 6 and Chapter7). My analysis of physicians' written reflections point towards physicians seeing being a humanistic practitioner at the heart of their performance (Chapter 6). They feel that all other activities build on this, translating humanistic practice into daily practice by striving to do the best for their patients. Gaining and sharing knowledge and competences, being accountable and being transparent are means that can contribute to the best patient care. Interviewing 28 physicians and 7 HR professionals highlighted the perception of a doctor as a deeply dedicated and committed professional, going that extra mile for their patients (Chapter 7). That extra mile was even demonstrated by doctors participating in interviews after working hours, wanting to contribute to improvements, giving up their time to talk, despite their workloads and time restraints. Their strong dedication to their patients resulted in their opinion that dedication is more than just an antecedent of high performance, as it is described in most research. They felt dedication was an essential component of high performance. Based on these findings, I concluded that dedication, passion, commitment and intrinsic motivation shape the 'sense of meaning and purpose' of physicians' calling; concepts that are all intertwined and positively related to high performance. The findings of the final study underline this even further by pointing out that passion and ambition are incorporated in physicians' culture and thus shape their view of high performance (Chapter 7).

Humanistic practice arises from dedication, passion and ambition, forming the heart of being a doctor. However, this humanistic care seems to be supressed by today's more business-like climate in healthcare. My findings show that increasing and heavy administrative workloads are perceived by physicians as an alarming threat to their performance. They feel that this threat negatively affects their calling as a doctor and hampers their ability to be a humanistic practitioner (Chapter 6). This worrisome finding reflects the current era of marketisation in healthcare, shifting from people to

processes, productivity and efficiency (Bonfrer et al., 2018). The doctors in my research confirmed findings elsewhere that the increasing clerical burden is leading to limited face-to-face time with patients (Sinsky et al., 2016, Shanafelt et al., 2016). Curtailing what primarily inspires doctors will eventually lead to doctors no longer having the time, energy and motivation to deliver the best possible care. When humanistic care is at the centre, dedication evolves around human values such as caring, compassion and respect (Rider et al., 2014). Doctors' dedication will therefore only flourish if the same humanity-related aspects receive adequate attention. Where Rider et al. (2018) advocate reinforcing humanistic and relational aspects of care on the organisational level, I feel this should be the focus of attention on all levels, from the individual physician through to policy and society as a whole. This appears necessary if we, as a society, want to secure dedicated professionals going that extra mile in our own hours of need when we ourselves become patients.

THEORETICAL CONTRIBUTION: CALLING AND COMRADESHIP AT THE HEART OF PHYSICIAN PERFORMANCE

Calling and psychological safety initially drove this thesis, serving as my lens for viewing and unravelling physician performance. The concept of calling helped value the deep-seated dedication to patients and the motivation to go that extra mile for them that physicians expressed in my research. It led me to place meaningfulness, human values and humanistic practice as factors in physician performance; thereby putting calling in the spotlight of medical performance, a literature domain where this concept has been somewhat underexposed.

The psychological safety lens inspired me to focus on interpersonal peer-interaction on the group level. It directed me towards the significance that physicians place on fruitful peer relationships. Whereas the concept of psychological safety is driven by more individual-based judgemental and behavioural items, such as risk-taking, speaking up and being approachable, my findings were dominated by group-level aspects such as cohesion, a positive peer environment, taking care, supporting, sharing and enforcing peer relationships. Therefore, I shifted from the psychological safety angle to the new concept of comradeship: positive and supportive relationships based on mutual trust, safety and responsibility for each other.

This research contributes to the current discourse on performance by exposing calling and comradeship not just as antecedents but as pivotal components, and thus at the

very heart, of physician performance. My findings also reveal that performance is not an individual matter and that fruitful peer relationships are essential for an individual to shine. Although, in order to perform optimally, personal skills, knowledge and competences are necessary, a supportive environment of trust and safety, meaningfulness and dedication are equally indispensable. Based on these findings, the conventional perception of physician performance as an individual's set of knowledge, skills and attitudes should be reconsidered, and the concepts of calling and comradeship incorporated.

Although physician performance is defined in many different ways in the literature, most focus on the level of personal skills and competences. However, based on the findings in this thesis, I would define high performance as: a balance between the quality of medical care (diagnosis, treatment and results) and patient satisfaction that can only be accomplished in an environment that nourishes calling and comradeship (Chapter 7).

LIMITATIONS AND IMPLICATIONS FOR FURTHER RESEARCH

One could argue that my findings would have been enhanced through longitudinal research. However, that presupposes that performance is quantitative in nature, and therefore time dependent. As a counterargument, this thesis introduces two concepts, calling and comradeship, that are not bounded by time. These concepts are time-independent and lead to the possibility of understanding physicians' performance across time. It is therefore debatable whether longitudinal research would have added a new angle in building knowledge in this domain.

A more obvious limitation could be that most respondents were physicians, although seven experts with law or quality management backgrounds were interviewed in Chapter 2 and seven HR professionals in Chapter 7. However, these perspectives are underexposed compared to those of medical respondents across all studies. Nevertheless, the aim of my research was to turn to doctors for their opinions, narratives and reflections, making this a purposeful choice. Notwithstanding this, future research could take this observation into account and include policymakers, administrators, board members and other decision-makers, thereby starting a new discourse on physician performance.

In addition, it could be valuable to bring the findings on calling and comradeship to the field of medical education and explore to what extent medical education covers these aspects in its curriculum and to investigate whether current medical education sufficiently prepares future doctors to work in teams.

THE WAY FORWARD

I will now discuss what lessons can be learnt from this thesis, place this knowledge in a broader theoretical and philosophical context and consider the implications and associated recommendations on the level of the individual physician, the group or department level and the organisational level.

Lessons learnt

This thesis aimed to unravel physician performance. Through my explorations, I intended to contribute to a better understanding of physician performance and build knowledge on how to support doctors in their performance. Since healthcare depends heavily on those who deliver the care, optimising physicians performance will ultimately lead to optimising the quality of patient care.

What I have learnt from this thesis is that physicians view performance through the lens of calling and comradeship. For doctors, it is all about dedication to the patient, passion, motivation, supportive peer relations, mutual trust and safety. My findings suggest that physician performance can only flourish in an environment that recognises and reinforces these humanistic and relational values. However, the current commercialisation trend in healthcare puts the spotlight on process, rules, accountability and efficiency (Bonfrer et al., 2018, Sinsky et al., 2016). Aspects that have gained popularity in an era of declining societal trust in the medical profession due to critical incidents (Blendon et al., 2014) and modern society's demands for greater transparency, accountability and measurable outcomes (Brooks & Bosk, 2012).

Based on my findings, I strongly advocate countering this climate of commercialisation by putting people in the spotlight ahead of process and productivity. The results of this thesis represent a scientific argument for a broader societal call for change to 'soften' the current business-like environment that healthcare has become.

Lessons learnt in context

To place the above-mentioned call in a broader theoretical and philosophical perspective, I draw on Habermas's theory of communicative action and the parallel of the perceived discrepancy between values on one side of the spectrum and commercialisation on the other side. Habermas discriminates 'lifeworld' from 'system' (Habermas, 1987). The 'system' consists of administrative, economic and political responsibilities and focuses on rules, checklists and costs – it is the world of money and power. Conversely, the 'lifeworld' builds on experience, everyday encounters between people, shared meaning,

understanding and values – the world of shared knowledge (Barry et al., 2001; Habermas, 1987). Ideally, the values of the 'lifeworld' are conditioning, and the 'system' depends on, and follows, the 'lifeworld' with supporting rules and regulations. However, the 'system' sometimes becomes parasitic as it tends to colonise the 'lifeworld', creating a world of checklists and regulations, where values and relationships are subordinate, and regulations can become meaningless. Habermas argues that this leads to social instability since it may lead people to overlook significance or meaning (Habermas, 1987). This social instability can be recognised in the healthcare arena, where the growing commercialisation has resulted in a decline in medical values (Relman, 2007).

Related to my findings, the increasing clerical burden of the 'system' is threatening meaning and humanistic practice in the 'lifeworld'. Given that significance, meaning and purpose are all vital to physician performance, I hope that the findings in this thesis contribute to the societal call for change and plea for voice to be given to physicians' 'lifeworld' (Barry et al., 2001). As formulated in the Medical Specialist Vision Document 2025, healthcare should be provided by motivated professionals who feel appreciated, and that requires justified trust in those professionals (Dutch Federation of Medical Specialists, 2017).

Giving voice to physicians' lifeworld can be executed on the individual, department or group and organisational levels. I now describe the implications and recommendations on these levels, targeted at supporting 'calling' and 'comradeship'.

Recommendations for the individual level

To be a dedicated doctor and colleague, it is crucial to take care of oneself and those around. Physicians' self-care could be viewed as an element of professional behaviour. That is, to perform optimally is conditional on taking care of one's own physical and mental wellbeing. This research identified a desire in doctors for improved leadership and collaboration skills. This could be realised on an individual level in post-academic training programmes. From a leadership perspective, I found that inclusive leadership behaviour is beneficial in improving the quality of interpersonal relationships; inviting peers to speak, explicitly showing appreciation, proactively asking for other opinions, offering a helping hand, reflecting on and giving feedback, sharing and self-disclosure. This can, and should, be enacted by all physicians, whether or not they have a 'formal' leadership position. A recent thesis underscores that Medical Leadership 2.0 includes striving for (self-)reflective capabilities and agency by all actors in the healthcare arena (Keijser, 2019) in order to contribute to social cohesion and an increase in wellbeing and 'work-happiness'.

Recommendations for the department/group level

Individuals can only blossom within a culture of trust and safety, and therefore investing in developing such a culture seems essential, especially since the absence of psychological safety often contributes to breakdowns in collaboration (Rosenbaum, 2019). Peer groups or departments can invest in psychological safety by periodically collectively discussing and reflecting on individual and group performance. Group reflection encourages professional development, performance, lowers the threshold for speaking up and creates an opportunity to help and advise each other. In the context of recertification, these benefits are increasingly recognised and group-reflection is becoming more common in the Netherlands. Groups and departments should in general invest in optimising group cohesion since this is known to build trust within a team. Cohesion can be built through various activities such as discussing adverse events and supporting each other in such circumstances, having group discussions regarding medical topics and teambuilding activities. In addition to the work context, social activities are also important in optimising interpersonal connections. Furthermore, teams should build on the unique talents and motivations of the individual physicians within the group since such a strength-based climate is a prerequisite for positive effects and, in turn, will lead to better job performance (Van Woerkum & Meyers, 2015). If a team manages to go further and ensure that members can spend at least 20% of their professional effort focused on the dimensions of work that they find most meaningful, this will dramatically lower the risk of burnout (Shanafelt et al., 2009, Horrowitz et al., 2003).

Recommendations for the organisational level

Given their strong links to quality of care, patient safety and patient satisfaction, having an engaged and collaborative physician workforce is critical for healthcare organisations (West et al., 2009, Shanafelt et al., 2010). To foster dedicated doctors working in dedicated teams, healthcare organisations should invest in a collaborative mindset. Facilitating groups and departments to optimise their group cohesion would be helpful in achieving this collaborative mindset. Since the hospital board and the medical board are jointly responsible for the quality and wellbeing of their physicians, facilitating groups to spend time together and invest in their team should not be optional and solely a group's responsibility. A collaborative mindset can be enhanced by formal support or coaching programmes, investing in multidisciplinary collaboration and performance evaluations on a team level, followed by guiding and support. Physicians deal with unique challenges (such as medical errors and malpractice suits) and have a professional identity and role that is distinct from other disciplines and, because of this, fruitful peer interaction and peer support have always been part of how physicians deal with these circumstances (Shanafelt & Noseworthy, 2017). The topic of peer support is gaining popularity and

formal peer support programmes are implemented in many institutions (Hu et al., 2012). However, the more informal support aspects and interactions have become more difficult given a more productivity-driven, time and resource effective mindset. This mindset has led to an erosion of peer support and a greater sense of isolation for many physicians (Shanafelt & Noseworthy, 2017).

In an attempt to counterbalance these eroding forces, the Mayo Clinic created dedicated meeting spaces for physicians and scientists with free fruit and beverages, computers and lunch tables. These spaces were successful in generating a sense of community and comradeship (Shanafelt & Noseworthy, 2017). To promote engagement and satisfaction within their staff, they further funded small groups of physicians to have a meal together every other week and discuss topics that explored the virtues and challenges of being a physician. These sessions led to improvements in both meaning in work and burnout for participants (West et al., 2015).

Nowadays, it is believed that every encounter should be as 'efficient' as possible. With this side-effect of the current commercialisation of healthcare, the benefits of organically spending time together, sharing with and helping colleagues seem to be becoming overshadowed. In order to restore a healthy balance, such encounters should be re-enabled, if not organically, then through institutionalisation.

REFERENCES

Arnetz BB (2001). Psychosocial challenges facing physicians of today. Social Science & Medicine, 52(2):203–213.

Baker DP, Day R, Salas E (2006). Teamwork as an Essential Component of High-Reliability Organizations. Health Research and Educational Trust DOI: 10.1111/j.1475-6773.2006.00566.x

Bakker AB & Demerouti E (2007). The Job Demands-Resources model: State of the art. Journal of Managerial Psychology, 22(3):309-328.

Bakker AB (2011). An evidence-based model of work-engagement. Current Directions in Psychological Science, 20(4): 265-269.

Bandura A (1977a). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84: 191–215.

Barry CA, Stevenson FA, Britten N, et al. (2001). Giving voice to the lifeworld. More humane, more effective medical care? A qualitative study of doctor–patient communication in general practice. Social science & medicine 53: 487-505.

Blendon RJ, Benson JM, Hero JO (2014). Public trust in physicians—US medicine in international perspective. New England Journal of Medicine 371: 1570-1572.

Bonfrer I, Figueroa JF, Zheng J, et al. (2018). Impact of financial incentives on early and late adopters among US hospitals: observational study. BMJ 360:j5622. doi: 10.1136/bmj.j5622.

Brooks JV & Bosk CL (2012). Remaking surgical socialization: Work hour restrictions, rites of passage, and occupational identity. Social science & medicine 75: 1625-1632.

Carmeli A & Gittell JH (2009). High-quality relationships, psychological safety, and learning from failures in work organizations. Journal of Organizational Behavior, 30(6):709–729.

Carmeli A, Brueller D, Dutton JE (2009). Learning behaviours in the workplace: the role of high-quality interpersonal relationships and psychological safety. Systems Research and Behavioral Science, 26(1):81–98.

Deci EL & Ryan RM (2008). Self-determination theory: A macrotheory of human motivation, development, and health. Canadian Psychology/Psychologie canadienne, 49(3), 182–185.

Dietz AS, Pronovost PJ, Mendez-Tellez PA, et al. (2014). A systematic review of teamwork in the intensive care unit: what do we know about teamwork, team tasks, and improvement strategies? Journal of Critical Care, 29(6): 908–14.

Dutch Federation of Medical Specialists (2013). Visiedocument Optimaal functioneren. Available at: https://www.demedischspecialist.nl/sites/default/files/Optimaal%20functioneren%20van%20medisch%20specialisten.pdf

Dutch Federation of Medical Specialists (2017). Vision Document Medical Specialist 2025; ambition, trust cooperation. Available at: https://www.demedischspecialist.nl/file/1371/download?token=U0OsToWv

Edmondson, AC (1999). Psychological Safety and Learning Behavior in Work Teams. Administrative Science Quarterly, 44(2), 350-383.

Edmondson, AC (2004). Learning from mistakes is easier said than done: group and organizational influences on the detection and correction of human error. The Journal of Applied Behavioral Science, 40(1), 66-90.

Edmondson, AC (2012). Teaming: how organizations work, learn, innovate, and compete in the knowledge economy. San Fransisco, John Wiley & Sons.

Edmondson, AC & Lei, Z (2014). Psychological Safety: The History, Renaissance, and Future of an Interpersonal Construct. Annual Review of Organizational Psychology and Organizational Behavior, 1:23-4.

General Medical Council (2014). Good Medical Practice; Working with doctors working for patients. Available at: https://www.gmc-uk.org/-/media/documents/good-medical-practice---english-20200128_pdf-51527435.pdf?la=en&hash=DA1263358CCA88F298785FE2BD7610EB4EE9A530.

Groysberg B, Nanda A and Nohria N (2004). The risky business of hiring stars. Harvard Business Review, 82(May): 92–100.

Grumbach K & Bodenheimer T (2004). Can health care teams improve primary care practice? Journal of the American Medical Association, 291(10):1246-1251.

Habermas J. (1987) The theory of communicative action: Lifeworld and system: A critique of functionalist reason (Vol. 2). Boston: Beacon.

Herzberg, F. (1966) Work and the nature of man. Cleveland: World Publishing.

Horowitz CR, Suchman AL, Branch WT Jr, et al. (2003). What do doctors find meaningful about their work? Annals of Internal Medicine, 138(9):772-775.

Hu Y, Fix ML, Hevelone ND, et al. (2012). Physicians' needs in coping with emotional stressors: the case for peer support. Arch Surg., 147(3):212–217.

Keijser WA (2019). Opening up medicine: Physicians and leadership in times of transformation. Available at: https://www.utwente.nl/.uc/f83c467d30102cf53150040ff2c028a52b3ece5b12b2700/2019%20Keijser_WA_Thesis_OpeningUpMedicine.pdf

Leroy H, Dierynck B, Anseel F, et al. (2012). Behavioral integrity for safety, priority of safety, psychological safety, and patient safety: a team-level study. Journal of Applied Psychology, 97(6):1273–81.

Locke EA & Latham GP (1990). A theory of goal setting and task performance. Englewood Cliffs, NJ: Prentice-Hall.

Maslow AH (1954). Motivation and personality. New York: Harper & Row.

Merlani P, Verdon M, Businger A, et al. (2011). Burnout in ICU caregivers: a multicenter study of factors associated to centers. American Journal of Respiratory and Critical Care Medicine, 184(10):1140–6.

Nembhard IM & Edmondson AC (2006). Making it safe: the effects of leader inclusiveness and professional status on psychological safety and improvement efforts in health care teams. Journal of Organizational Behavior, 27(7):941–966.

Porter LW & & Lawler EE (1968). Managerial attitudes and performance. Homewood, IL: Irwin.

Ramani S, Konings S, Ginsburg S, et al. (2018). Twelve tips to promote a feedback culture with a growth mindset: swinging the pendulum from recipes to relationships. Medical Teacher, 41(6): 625-631.

Ramani S, Konings K, Ginsburg S, et al. (2019). Relationships as the backbone of feedback: exploring preceptor and resident perceptions of their behaviors during feedback conversations. Academic Medicine, published ahead of print, doi: 10.1097/ACM.0000000000002971.

Relman AS (2007). Medical professionalism in a commercialized health care market. JAMA, 298(22);2668-2670.

Rider EA, Kurz S, Slade D et al. (2014) The international charter for human values in healthcare: An interprofessional global collaboration to enhance values and communication in healthcare. Patient Education and Counseling, 96(3): 273-280.

Rider EA, Gilligan MAC, Osterberg LG et al. (2018). Healthcare at the crossroads: the need to shape an organizational culture of humanistic teaching and practice. Journal of General Internal Medicine, 33(7):1092-9.

Rosenbaum L (2019). Cursed by Knowledge- Building a culture of Psychological Safety. New England Journal of Medicine, 380(8), 786-790.

Ryan RM & Deci EL (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist, 55(1): 68-78.

Salas E, Sims DE, Burke CS (2005). Is there a 'Big Five' in teamwork? Small Group Research, 36(5): 555-599.

Shanafelt TD, Sloan JA, Habermann TM (2001). The well-being of physicians. American Journal of Medicine, 114(6):513–519.

Shanafelt TD, West CP, Sloan JA, et al. (2009). Career fit and burnout among academic faculty. Archives of Internal Medicine, 169(10): 990-995.

Shanafelt TD, Balch CM, Bechamps G, et al. (2010). Burnout and medical errors among American surgeons. Annals of Surgery, 251(6):995-1000.

Shanafelt TD, Dyrbye LN, Sinsky C, et al. (2016). Relationship Between Clerical Burden and Characteristics of the Electronic Environment With Physician Burnout and Professional Satisfaction. Mayo Clinic Proceedings 91(7): 836-848.

Shanafelt TD & Noseworthy JH (2017). Executive Leadership and Physician Well-being: Nine Organizational Strategies to Promote Engagement and Reduce Burnout. Mayo Clinic Proceedings, 92(1):129-146.

Sinsky C, Colligan L, Ling L et al. (2016). Allocation of Physician Time in Ambulatory Practice: A Time and Motion Study in 4 Specialties. Annals of Internal Medicine, 165:753-760.

Sutinen R, Kivimaki M, Elovainio M et al. (2005). Associations between stress at work and attitudes towards retirement in hospital physicians. Work & Stress, 19(2):177–85.

Steers RM, Mowday RT, Shapiro DL (2004). The future of work motivation theory. Academy of Management Review, 29(3);379-387.

Valentine MA, Barsade S, Edmondson AC et al. (2014). Informal Peer Interaction and Practice Type as Predictors of Physician Performance on Maintenance of Certification Examinations. Journal of the American Medical Association Surgery, 149(6):597-603.

Van Woerkum M & Meyers MC (2015). My strengths count! Effects of a strengths-based psychological climate on positive affect and job performance. Human Resource Management, 54(1):81-103.

Weller J, Boyd M, Cumin D (2014). Teams, tribes and patient safety: overcoming barriers to effective teamwork in healthcare. Postgraduate Medical Journal, 90(1061):149–154.

West CP, Tan AD, Habermann TM et al. (2000). Association of resident fatigue and distress with perceived medical errors. JAMA, 302(12):1294-1300.

West CP, Dyrbye LN, Satele D et al. (2015). A randomized controlled trial evaluating the effect of COMPASS (COlleagues Meeting to Promote And Sustain Satisfaction) small group sessions on physician well-being, meaning, and job satisfaction. Journal of General Internal Medicine, 30:S89.

Williams BW & Flanders P (2016). Physician health and wellbeing provide challenges to patient safety and outcome quality across the careerspan. Australasian Psychiatry, 24(2):144–147.

8

Appendices

SUMMARY

BACKGROUND

Physician performance is essential for delivering high quality of patient care. Changing market forces, high stakes and increasing bureaucracy proportionally challenge physicians in performing to the best of their abilities. Despite these constant changing and dynamic conditions, the majority of physicians keep performing on a high level. I wondered what exactly 'made doctors tic', thus in this thesis, I sought to find the essence of physicians' performance. Since doctors increasingly work in teams rather dan individually, interpersonal connection and interaction becomes an important aspect of performance, besides the individual competence. Through my explorations, I hope to contribute to an intensified understanding of physician performance and to knowledge on how to best support doctors to be able to perform at their best.

The aim of this thesis was to unravel the essence of physician performance by addressing two challenges. The first challenge was based on existing knowledge of peer-interaction as being important for professional learning an quality of care. I sought to investigate how peer-interaction affects individual physician performance. The second challenge focussed on the individual physician, were I explored physicians' own perceptions of performance. Since the aim was to explore physician performance in depth, it seemed self-evident to turn to doctors themselves for answers. I relied on their stories, narratives, reflections, sentiments and opinions, putting the doctor in my scientific spotlight. This resulted in six research projects.

Pulling the six research projects together, two overarching themes emerged, expressing the essence of physician performance: Comradeship (i.e. positive and supporting relationships based on mutual trust, safety and responsibility for each other) and Calling (i.e. having a career that provides a sense of meaning or purpose and is used to help others).

COMRADESHIP

In the search to meet the first challenge, i.e. investigating how peer-interaction affects individual performance, comradeship arose as key component. The overall conclusion of our findings indicates that physicians perceive a safe and supportive environment not only as one of the most important drivers, but as a vital dimension of optimum individual performance. Individuals can only truly blossom in an environment that breathes a collaborative mindset, where sharing is about caring and mutual trust, and

where cohesion and peer-support are felt.

These conclusions are based on four research projects, encompassing a variety of angles and analytical approaches. In *chapter 2*, I started at the 'downside' end of the performance spectrum, i.e. poor performance, considering that a situation where relationships are likely to be strained would provide valuable information on how peers interact with each other. Ten electronic databases were analysed, 25 disciplinary law verdicts reviewed and 12 experts were interviewed. This research showed that low levels of comradeship, reflected in insufficient collaboration and a lack of addressing and speaking up amongst peers, provide fertile ground for individual performance issues to flourish and potentially develop into poor performance. This finding underscores the need to create a culture of speaking up and blame-free discussion of performance concerns in order to stimulate optimum performance. In creating such culture, periodically reflecting and discussing individual performance within the peer group can be helpful in lowering the threshold for addressing individual performance concerns. Our findings contribute to the discourse on under-performance by highlighting that individual performance occurs as an interplay of the individual and their professional context. Thus, performance should be viewed in a broader context than just the sum of individual competences.

Moving from poor performance to addressing performance concerns in the second study, physicians expressed that they feel they are the best positioned ones to detect deviances in a peer's behaviour, communication or appearance (*Chapter 3*). As a colleague, they feel co-responsible for their peers' wellbeing: a striking example of comradeship. Our findings showed that physicians feel the need to take care of each other by actively picking up on signals or concerns and then offering a helping hand. Openly and periodically discussing individual and group performance, including positive themes such as inspiration and ambition, is helpful in supporting a culture of comradeship and speaking up.

Creating a psychologically safe environment not only upholds such supportive behaviour, it also encourages speaking up in terms of giving and receiving performance feedback *(Chapter 4)*. The link between psychological safety and performance feedback was explored in depth in Chapter 4, showing that performance feedback is more positively perceived by physicians who experience a higher level of psychological safety within their team. Thus medical teams should invest in improving the quality of interpersonal relationships and building trust within their teams. Team-building activities, gathering and discussing 360° feedback, and planning social activities all contribute to building trust. Furthermore, helping a colleague when they are facing an adverse event or medical error, labelled peer support, builds fruitful relationships. Inviting peers to speak,

explicitly showing appreciation and proactively asking for other opinions, i.e. inclusive leadership behaviour, also all improve the quality of interpersonal peer-relationships. Constructive peer-relationships are fertile ground for professional development and performance improvement. In order to ensure optimum care quality, all licensed doctors must periodically demonstrate that they are up-to-date with developments and fit to practice. These processes focus in part on individual 360° performance feedback. Since peer-interaction has been shown to be important for professional development, I dug deeper into this topic in the fourth study, specifically within this mandatory process *(Chapter 5)*. By investigating the potential power of peer-group reflection on individual performance, I connected peer interaction and individual development. I found that sharing is actually caring; the results of this study indicated that peer-group reflection offered the possibility to discuss and compare one's own and others' perceptions, thereby gaining a nuanced insight into one's professional performance. Sharing reflections was experienced as a source of social support and deepened communal relationships on a group level. On the individual level, sharing reflections was seen as helpful in realising actual change and creating a sense of urgency for improvement. The findings thus point to a positive effect on the team as well as the individual performance level, indicating a close correlation. From this, I concluded that performance should not be viewed on an individual level, it should always incorporate the context of the individual.

Although primary designed to correspond to the second challenge, i.e. exploring how physicians perceive performance, the two subsequent studies also provided information on comradeship. *Chapter 6* showed the negative effect of inadequate peer-relations in that physicians mentioned that collaboration issues within the peer group hindered their wellbeing and performance. Some even considered a change in workplace because of collaboration issues. Emphasising the essence of comradeship, they mentioned collaboration aspects such as social cohesion, mutual trust and a positive supportive environment as vital dimensions alongside calling, the second key component of high performance *(Chapter 7)*.

CALLING

With the overall aim to unravel the essence of physician performance, the second challenge focussed on the individual physician whereby I explored physicians' own perceptions of performance. Participating doctors in our studies feel an intense dedication to their patients and consider humanistic practice at the heart of being a doctor. Hence the use of the term 'calling', i.e. having a career that provides a sense of meaning or purpose

and is used to help others, became the second component in unravelling the essence of physician performance. The overall conclusion from the findings show that physicians view the medical profession as one that provides a deep sense of meaning and purpose, where motivation and inspiration derive from their dedication to helping their patients. Aspects of a calling, dedication and humanistic practice were central topics in the two studies used to explore how physicians perceive performance (Chapter 6 and Chapter 7). My analysis of nearly 800 written reflections point towards physicians seeing being a humanistic practitioner at the heart of their performance *(Chapter 6)*. They feel that all other activities build on this, translating humanistic practice into daily practice by striving to do the best for their patients. Gaining and sharing knowledge and competences, being accountable and being transparent are means that can contribute to the best patient care.

Interviewing 28 physicians and 7 HR professionals highlighted the perception of a doctor as a deeply dedicated and committed professional, going that extra mile for their patients *(Chapter 7)*. That extra mile was even demonstrated by doctors participating in interviews after working hours, wanting to contribute to improvements, giving up their time to talk, despite their workloads and time restraints. Their strong dedication to their patients resulted in their opinion that dedication is more than just an antecedent of high performance, as it is described in most research. They felt dedication was an essential component of high performance. Based on these findings, I concluded that dedication, passion, commitment and intrinsic motivation shape the 'sense of meaning and purpose' of physicians' calling; concepts that are all intertwined and positively related to high performance. The findings of the final study underline this even further by pointing out that passion and ambition are incorporated in physicians' culture and thus shape their view of high performance (Chapter 7).

Humanistic practice arises from dedication, passion and ambition, forming the heart of being a doctor. However, this humanistic care seems to be supressed by today's more business-like climate in healthcare. My findings show that increasing and heavy administrative workloads are perceived by physicians as an alarming threat to their performance. They feel that this threat negatively affects their calling as a doctor and hampers their ability to be a humanistic practitioner (Chapter 6). The doctors in my research confirmed findings elsewhere that the increasing clerical burden is leading to limited face-to-face time with patients. Curtailing what primarily inspires doctors will eventually lead to doctors no longer having the time, energy and motivation to deliver the best possible care.

LESSONS LEARNT

What I have learnt from this thesis is that physicians view performance through the lens of calling and comradeship. For doctors, it is all about dedication to the patient, passion, motivation, supportive peer relations, mutual trust and safety. My findings suggest that physician performance can only flourish in an environment that recognises and reinforces these humanistic and relational values. However, the current commercialisation trend in healthcare puts the spotlight on process, rules, accountability and efficiency. Aspects that have gained popularity in an era of declining societal trust in the medical profession due to critical incidents and modern society's demands for greater transparency, accountability and measurable outcomes.

Based on my findings, I strongly advocate countering this climate of commercialisation by putting people in the spotlight ahead of process and productivity. The results of this thesis represent a scientific argument for a broader societal call for change to 'soften' the current business-like environment that healthcare has become.

Recommendations for the individual level

To be a dedicated doctor and colleague, it is crucial to take care of oneself and those around. Physicians' self-care could be viewed as an element of professional behaviour. That is, to perform optimally is conditional on taking care of one's own physical and mental wellbeing. This research identified a desire in doctors for improved leadership and collaboration skills. This could be realised on an individual level in post-academic training programmes. From a leadership perspective, I found that inclusive leadership behaviour is beneficial in improving the quality of interpersonal relationships; inviting peers to speak, explicitly showing appreciation, proactively asking for other opinions, offering a helping hand, reflecting on and giving feedback, sharing and self-disclosure. This can, and should, be enacted by all physicians, whether or not they have a 'formal' leadership position. Medical Leadership 2.0 stands for (self-)reflective capabilities and agency by all actors in the healthcare arena, in order to contribute to social cohesion and an increase in wellbeing and 'work-happiness'.

Recommendations for the department/group level

Individuals can only blossom within a culture of trust and safety, and therefore investing in developing such a culture seems essential, especially since the absence of psychological safety often contributes to breakdowns in collaboration. Peer groups or departments can invest in psychological safety by periodically collectively discussing and reflecting on individual and group performance. Group reflection encourages

professional development, performance, lowers the threshold for speaking up and creates an opportunity to help and advise each other. In the context of recertification, these benefits are increasingly recognised and group-reflection is becoming more common in the Netherlands. Groups and departments should in general invest in optimising group cohesion since this is known to build trust within a team. Cohesion can be built through various activities such as discussing adverse events and supporting each other in such circumstances, having group discussions regarding medical topics and teambuilding activities. In addition to the work context, social activities are also important in optimising interpersonal connections. Furthermore, teams should build on the unique talents and motivations of the individual physicians within the group since such a strength-based climate is a prerequisite for positive effects and, in turn, will lead to better job performance.

Recommendations for the organisational level

Given their strong links to quality of care, patient safety and patient satisfaction, having an engaged and collaborative physician workforce is critical for healthcare organisations. To foster dedicated doctors working in dedicated teams, healthcare organisations should invest in a collaborative mindset. Facilitating groups and departments to optimise their group cohesion would be helpful in achieving this collaborative mindset. Since the hospital board and the medical board are jointly responsible for the quality and wellbeing of their physicians, facilitating groups to spend time together and invest in their team should not be optional and solely a group's responsibility. A collaborative mindset can be enhanced by formal support or coaching programmes, investing in multidisciplinary collaboration and performance evaluations on a team level, followed by guiding and support. Physicians deal with unique challenges (such as medical errors and malpractice suits) and have a professional identity and role that is distinct from other disciplines and, because of this, fruitful peer interaction and peer support have always been part of how physicians deal with these circumstances. The topic of peer support is gaining popularity and formal peer support programmes are implemented in many institutions. However, the more informal support aspects and interactions have become more difficult given a more productivity-driven, time and resource effective mindset. This mindset has led to an erosion of peer support and a greater sense of isolation for many physicians.

In an attempt to counterbalance these eroding forces, the Mayo Clinic created dedicated meeting spaces for physicians and scientists with free fruit and beverages, computers and lunch tables. These spaces were successful in generating a sense of community and comradeship. To promote engagement and satisfaction within their staff, they further funded small groups of physicians to have a meal together every other week and discuss

topics that explored the virtues and challenges of being a physician. These sessions led to improvements in both meaning in work and burnout for participants.

Nowadays, it is believed that every encounter should be as 'efficient' as possible. With this side-effect of the current commercialisation of healthcare, the benefits of organically spending time together, sharing with and helping colleagues seem to be becoming overshadowed. In order to restore a healthy balance, such encounters should be re-enabled, if not organically, then through institutionalisation.

SAMENVATTING

ACHTERGROND

Goed functionerende dokters zijn essentieel voor het leveren van patiëntenzorg op hoog niveau. Tegenwoordig is het voor medisch specialisten een behoorlijke uitdaging om goed te blijven presteren in een tijd van steeds veranderende gezondheidszorgsystemen, marktwerking en toenemende bureaucratie. Ondank deze continu veranderende en dynamische condities, functioneert de grote meerderheid van de medisch specialisten op een hoog niveau. Hoe doen ze dat? Ik vroeg me af wat 'makes doctors tic' en dus heb ik geprobeerd om in dit proefschrift het antwoord te vinden op de vraag wat de kern is van het functioneren van medisch specialisten. Omdat men tegenwoordig vooral in teams werkt in plaats van individueel, worden de onderlinge interactie en de connectie tussen de medisch specialisten belangrijke aspecten als het om functioneren van het individu gaat. Met mijn onderzoek hoop ik kennis toe te voegen die kan helpen om dokters te ondersteunen zodat zij de beste zorg kunnen -blijven- leveren.

Het streven van dit proefschrift was om erachter te komen wat voor medisch specialisten precies de kern is van goed functioneren. Ten eerste heb ik onderzocht welk effect contact met directe collega's heeft op het functioneren van de individuele medisch specialist. Verder heb ik geëxploreerd wat dokters eigenlijk zelf verstaan onder goed functioneren. Het doel van dit proefschrift was om het thema functioneren van medisch specialisten te onderzoeken, vandaar de logische keuze om dokters zelf om antwoorden te vragen. Ik heb me volledig gebaseerd op hun verhalen, reflecties, gevoelens, standpunten en meningen. Kortom, ik heb de dokter in mijn wetenschappelijke spotlight gezet, wat geresulteerd heeft in zes verschillende onderzoeksprojecten.

Bij het verbinden van deze zes projecten, ontstonden twee overkoepelende thema's die de kern van goed functioneren vormen: Kameraadschap (positieve en steunende relatie met directe collega's gebaseerd op wederzijds vertrouwen, veiligheid en verantwoordelijkheid voor elkaar) en Roeping (het hebben van werk dat een gevoel van zingeving of betekenisgeving oproept en waarbij je anderen helpt)

KAMERAADSCHAP

In mijn zoektocht naar het effect van contact met directe collega's op het functioneren van de individuele medisch specialist, ontstond het begrip kameraadschap als essentiële component om goed te kunnen functioneren en dus behorende tot de kern van het dokter zijn. De algemene conclusie van onze bevindingen wijst erop dat medisch specialisten

het hebben van een veilige en steunende omgeving niet alleen ondersteunend vinden voor het functioneren van het individu, maar dat ze het zien als een essentieel onderdeel om als individu optimaal te kunnen functioneren. De individuele dokter kan alleen echt tot bloei komen in een omgeving met een samenwerkings- mindset, waar het gaat over delen, zorgen voor elkaar, wederzijds vertrouwen, waar een gevoel van eenheid en onderlinge steun aanwezig is.

Deze conclusies zijn gebaseerd op vier verschillende onderzoeksprojecten, ieder met een eigen invalshoek en analytisch proces. In *hoofdstuk 2* startte ik aan de 'slechte' kant van het functionerings-spectrum namelijk disfunctioneren. Het is aannemelijk dat situaties waar relaties onder druk staan, waardevolle informatie geven over hoe collega's met elkaar omgaan. Tien electronische databases zijn geanalyseerd, 25 tuchtzaken bekeken en 12 experts geïnterviewed. De uitkomsten van dit onderzoek lieten zien dat een matig gevoel van kameraadschap (vertaald in slechte samenwerking en onvoldoende feedback geven en aanspreken), een vruchtbare grond is voor functioneringsvraagstukken en dat onder deze omstandigheden disfunctioneren kan ontstaan. Deze bevinding onderstreept de noodzaak om een cultuur te creëren waarin aangesproken kan worden en 'blame-free' discussies over functioneren mogelijk zijn. Om zo'n cultuur te creëren en de drempel om elkaar aan te spreken te verlagen, helpt het om geregeld het eigen functioneren in de groep te bespreken. Deze bevindingen onderstrepen dat het individuele functioneren altijd een samenspel is van het individu en zijn of haar omgeving. Dus functioneringsvraagstukken moeten altijd in een breder perspectief geplaatst worden in plaats van gezien worden als een individuele kwestie.

Van disfunctioneren gingen we naar het detecteren van zogenaamde 'soft signals' in de tweede studie *(Hoofdstuk 3)*. Geïnterviewde medisch specialisten gaven aan dat zij als geen ander als eerste afwijkingen ontdekken in verandering van gedrag, communicatie of verschijning van een collega. Dokters voelen zich sterk medeverantwoordelijk voor het welzijn van hun collega's, een duidelijk voorbeeld van kameraadschap. In deze studie bleek dat dokters voor elkaar willen zorgen door actief signalen of zorgen op te pikken en de helpende hand te bieden. Om een cultuur van kameraadschap en aanspreken te stimuleren, helpt het om standaard het individueel- en groeps-functioneren te bespreken, en om daarbij vooral de positieve aspecten zoals inspiratie en ambitie niet te vergeten.

Dat een psychologisch veilige cultuur simulerend werkt op het geven en ontvangen van feedback op het functioneren, toonden we aan in *hoofdstuk 4*. We onderzochten de link tussen psychologische veiligheid en feedback op functioneren. Het bleek dat men in

een psychologisch veiligere omgeving positiever staat tegenover het geven en krijgen van feedback. De conclusie is, dat het van belang is als groep om te investeren in goede onderlinge relaties. Dat kan onder andere door teambuildingsactiviteiten, het verkrijgen en bespreken van 360° feedback en het ondernemen van sociale activiteiten. Daarnaast is het elkaar bijstaan in geval van complicaties of, nog erger, tuchtzaken erg belangrijk voor de onderlinge verbondenheid. Ook een zogenaamde inclusieve leiderschapsstijl werkt stimulerend: de ander uitnodigen om iets te zeggen, expliciete waardering geven en proactief vragen naar andere meningen.

Constructieve collegiale relaties zijn van cruciaal belang voor de professionele ontwikkeling en het functioneren van de individuele medisch specialist. Om goede kwaliteit van zorg te borgen, moeten alle medisch specialisten periodiek aantonen dat ze aan alle vigerende voorwaarden voldoen. Onderdeel van dit proces is aandacht besteden aan het individuele functioneren middels 360° feedback. In *hoofdstuk 5* wordt de verbinding gemaakt tussen functioneren van het individu en de groep, door de potentiele meerwaarde te onderzoeken van groepsgewijze reflectie op het individuele functioneren. Deze studie laat zien dat 'sharing is caring'; groepsgewijs reflecteren geeft de mogelijkheid om te discussiëren en de eigen perceptie te vergelijken met die van de collega's. Gezamenlijk reflecteren levert voor het individu een verfijnder beeld op van het eigen functioneren. Dokters ervoeren het delen als een vorm van collegiale steun en het verdiepte gemeenschappelijke verbondenheid op groepsniveau. Op het individuele niveau hielp het delen om daadwerkelijk verandering te realiseren en het creëerde een gevoel van urgentie om tot verandering te komen. De bevindingen laten dus een positief effect zien op zowel individueel- als groepsniveau alsmede de hechte samenhang tussen individu en groep waar het ontwikkeling en functioneren betreft. Hieruit concludeer ik dat functioneren niet op individueel niveau bezien dient te worden, de context van het individu hoort er altijd bij betrokken te worden.

Alhoewel de twee studies uit hoofdstuk 6 en hoofdstuk 7 primair ontworpen waren om antwoord te geven op de vraag wat dokters zelf verstaan onder goed functioneren, leverde deze onderzoeken ook informatie op betreffende het thema kameraadschap. *Hoofdstuk 6* toonde het negatieve effect van slechte onderlinge relaties waarbij medisch specialisten aangaven dat een slechte sfeer binnen de groep hun welzijn en functioneren belemmerde. Sommigen overwogen zelfs een betrekking elders vanwege samenwerkingskwesties. In *hoofdstuk 7* verklaarden medisch specialisten aspecten als onderlinge cohesie, wederzijds vertrouwen en een positieve steunende omgeving van essentieel belang om goed te kunnen functioneren als individu.

ROEPING

In de zoektocht naar het ontrafelen van de kern van goed functioneren, heb ik me vervolgens gericht op de individuele medisch specialist en geëxploreerd wat dokters eigenlijk zelf verstaan onder goed functioneren. Daaruit blijkt dat medisch specialisten enorm toegewijd zijn aan hun patiënten en dat ze medemenselijkheid beschouwen als het hart van dokter zijn. Vandaar dat de term 'roeping' (het hebben van werk dat een gevoel van zingeving of betekenisgeving oproept en waarbij je anderen helpt) als tweede essentiële component ontsproot, om goed te kunnen functioneren als individu en dus behorende tot de kern van het dokter zijn. De algemene conclusie van deze bevindingen duiden dat dokter zijn wordt ervaren als werk dat diepe voldoening geeft, het gevoel ertoe te doen, waarbij motivatie en inspiratie voortkomen uit de toewijding om de patiënt zo goed mogelijk te helpen. Roeping, toewijding en medemenselijkheid waren centrale thema's in de twee onderzoeken naar de perceptie van dokters met betrekking to goed functioneren (Hoofdstuk 6 en Hoofdstuk 7). Mijn analyse van bijna 800, door dokters geschreven, reflecties laat zien dat voor de medisch specialist de arts-patiënt relatie de kern vormt als het gaat over functioneren. Ze zijn van mening dat alle andere activiteiten uit dit medemenselijke contact voortvloeien. Deze activiteiten vertalen zich in praktische zin in het streven naar het beste doen voor de patiënt. Om het beste te kunnen doen, is volgens medisch specialisten nodig om bij te blijven qua kennis en vaardigheden, kennis en kunde te delen, verantwoordelijkheid te nemen en transparant te zijn.

Uit interviews met 28 medisch specialisten en 7 HR professionals ontstond het beeld van de dokter als zeer toegewijde en bezielde professional, die te allen tijde die extra stap willen doen voor hun patiënten (*Hoofdstuk 7*). Deze toewijding bleek ook uit het feit dat vele dokters aan het interview deelnamen buiten de gewone werktijd, omdat ze wilden bijdragen aan vooruitgang, ondanks de hoge werkdruk en beperkte tijd. In hun opinie was deze toewijding niet slechts een antecedent voor goed functioneren, zoals het wordt beschreven in de meeste onderzoeken, maar een cruciaal element om optimaal te kunnen functioneren. Gebaseerd op deze bevindingen, concludeerde ik dat toewijding, passie, verbondenheid en intrinsieke motivatie het gevoel van zingeving vormen van de roeping van dokters; concepten die allemaal met elkaar vervlochten zijn en positief gerelateerd aan goed functioneren. De bevindingen van het laatste onderzoek onderstrepen dit nog nadrukkelijker aangezien daaruit blijkt dat passie en ambitie integraal onderdeel uitmaken van de dokterscultuur en dat deze bril bepalend is voor hoe medisch specialisten naar functioneren kijken.

Medemenselijkheid komt voort uit toewijding, passie en ambitie en vormt de kern van het dokter zijn. Het lijkt erop dat het huidige meer zakelijke klimaat binnen de gezondheidszorg de medemenselijke zorg onderdrukt. De resultaten laten zien dat medisch specialisten de toenemende en zware administratieve werklast ervaren als een serieuze bedreiging voor hun eigen functioneren. Dit heeft vooral een negatief effect op hun roeping als dokter en op de tijd en aandacht die ze aan hun patiënten kunnen en willen besteden *(hoofdstuk 6)*. De medisch specialisten in mijn onderzoeken staven bevindingen van andere studies dat de toenemende registratielast leidt tot een vermindering van face-to-face contact met patiënten. Juist datgene inperken wat dokters in het bijzonder inspireert en enthousiasmeert, zal er uiteindelijk toe leiden dat dokters de tijd, energie en motivatie zullen gaan missen om de best mogelijke zorg te leveren.

AANBEVELINGEN

De belangrijkste les die uit dit proefschrift geleerd kan worden, is dat medisch specialisten door de lens van roeping en kameraadschap naar hun functioneren kijken. Voor dokters draait het allemaal om toewijding aan de patiënt, passie, motivatie, ondersteuning door collega's, wederzijds vertrouwen en een veilig gevoel. Mijn bevindingen suggereren dat medisch specialisten alleen kunnen floreren in een omgeving die deze mens- en relatiegerichte waarden erkent en versterkt. Echter, de huidige verzakelijking in de gezondheidszorg richt de spotlight op proces, regels, verantwoording en efficiency. Aspecten die populairder zijn geworden in een periode waarin het vertrouwen in de medische professie vanuit de samenleving is afgenomen door het vóórkomen incidenten waardoor de roep om meer transparantie, verantwoording en meetbare uitkomsten is ontstaan.

Gebaseerd op mijn bevindingen pleit ik er sterk voor om deze verzakelijking tegen te gaan, door mensen centraal te zetten, boven proces en productiviteit. De resultaten van dit proefschrift vertegenwoordigen een wetenschappelijk argument voor een bredere maatschappelijke roep tot verandering om de hedendaagse verzakelijkte gezondheidszorg weer te 'verzachten'.

Aanbevelingen voor de individuele medisch specialist.

Om bezield je werk te kunnen doen als dokter en collega, is het nodig om goed te zorgen voor jezelf en voor diegene om je heen. Zelfzorg zou dus beschouwd kunnen worden als onderdeel van professioneel gedrag. Om optimaal te kunnen presteren, is goed zorgen voor je eigen fysieke en mentale welzijn namelijk een belangrijke voorwaarde. Verder

blijkt uit dit onderzoek dat medisch specialisten behoefte hebben aan het bijschaven van kennis en kunde op het gebied van leiderschaps- en samenwerkingsvaardigheden. Een behoefte waar in post academische trainingen kan worden voorzien. Waar het leiderschap betreft, blijkt de zogenaamde 'inclusieve leiderschapsstijl' een positief effect heeft op de kwaliteit van de onderlinge relaties. Gedrag dat hier bij past: collega's nadrukkelijk uitnodigen om iets te zeggen, expliciete waardering tonen, proactief om andere meningen vragen, een helpende hand bieden, reflecteren op en zelf geven van feedback, delen van ervaringen en zelf open durven zijn. Zo'n houding zou door iedere dokter uitgedragen kunnen worden, ongeacht een al dan niet formele leiderschapspositie. Medisch leiderschap 2.0 staat voor (zelf)reflectie en eigenaarschap van alle actoren, om zo bij te dragen aan sociale cohesie en vergroten van welzijn, werk- en geneesplezier.

Aanbevelingen op groepsniveau

Individuen kunnen alleen floreren in een cultuur waarin vertrouwen en veiligheid gevoeld wordt. Vandaar dat investeren in zo'n cultuur essentieel is, zeker aangezien de afwezigheid van psychologische veiligheid vaak resulteert in ontregeling van de samenwerking. Groepen kunnen investeren in zo'n cultuur door periodiek met elkaar te discussiëren over en reflecteren op het individuele- en groepsfunctioneren. Groepsgewijs reflecteren bevordert de professionele ontwikkeling en het functioneren, verlaagt de drempel om aan te spreken en creëert de mogelijkheid om elkaar te adviseren en helpen. In Nederland worden deze voordelen, binnen de context van herregistratie, in toenemende mate herkent en wordt groepsgewijs reflecteren meer gemeengoed. In zijn algemeenheid zouden groepen en afdelingen aandacht moeten besteden aan het optimaliseren van de onderlinge verbondenheid aangezien het is bekend dat je dan bouwt aan vertrouwen in een team. Het versterken van de onderlinge cohesie kan door middel van verschillende activiteiten zoals gezamenlijk discussiëren over ingrijpende gebeurtenissen of fouten en elkaar steunen in zulke omstandigheden, medisch inhoudelijke onderwerpen bespreken met elkaar en teambuildings activiteiten. Naast de werk context zijn sociale activiteiten ook van belang om de onderlinge banden te optimaliseren. Verder zouden teams gebruik moeten maken van de unieke talenten en drijfveren van de individuen binnen hun groep aangezien het inzetten op kwaliteiten leidt tot beter presteren.

Aanbevelingen op organisatie niveau

Vanwege de sterke link met kwaliteit van zorg en patiënt veiligheid, is het hebben en houden van betrokken en op samenwerking gerichte dokters essentieel voor gezondheidszorg organisaties. Om toegewijde medisch specialisten in toegewijde teams te stimuleren, zouden organisaties moeten investeren in een op samenwerking

gerichte mentaliteit. Dat kan onder andere door groepen en afdelingen te faciliteren om aan de onderlinge verbondenheid te werken. Aangezien de raad van bestuur en medische staf gezamenlijk verantwoordelijk zijn voor de kwaliteit en het welzijn van haar specialisten, hebben zij een verantwoordelijkheid om ervoor te zorgen dat groepen gefaciliteerd worden om tijd aan het team te besteden. Investeren in de groep zou niet optioneel moeten zijn en ook niet alleen de verantwoordelijkheid van de groep zelf. Een op samenwerking gerichte mentaliteit kan versterkt worden door formele peer-support of coachings programma's op te zetten, te investeren in multidisciplinaire samenwerking en in gezamenlijk reflecteren op (groeps) functioneren, gevolgd door begeleiding en steun indien nodig. Medisch specialisten hebben te maken met unieke uitdagingen (zoals medisch fouten en tuchtzaken) en ze hebben een professionele identiteit en rol die duidelijk anders is dan andere disciplines. Vandaar dat directe collegiale steun van oudsher een belangrijke manier is voor dokters om met dit soort situaties om te gaan. Het onderwerp peer-support staat in de belangstelling en formele programma's rond dit thema zijn inmiddels in vele ziekenhuizen geïmplementeerd. Echter, de meer informele onderlinge contacten en wisselwerking zijn steeds meer beperkt door een op productie gedreven, tijd en middelen effectieve mentaliteit. Deze mentaliteit heeft geleid tot het afbrokkelen van onderlinge steun en een groter gevoel van eenzaamheid voor vele medisch specialisten.

In een poging om dit tij te keren, kan een voorbeeld genomen worden aan de Mayo Clinics, waar speciale ontmoetingsplaatsen zijn gecreëerd voor dokters, met fruit, drinken, computers en lunch tafels. Deze plekken stimuleren een gemeenschappelijk gevoel en een gevoel van kameraadschap. Een ander initiatief is het financieren van een lunch waarbij kleine groepen dokters discussiëren over het voorrecht en de uitdagingen van het dokter zijn. Deze bijeenkomsten leiden tot een stimulans wat betreft zingeving en werkplezier, alsmede daling van burn-out.

Tegenwoordig lijkt elke ontmoeting zo efficiënt mogelijk te moeten zijn. Met dit bijproduct van de huidige verzakelijking in de zorg, worden de voordelen van het organisch tijd doorbrengen met elkaar, het delen met en helpen van collega's, overschaduwd. Om dit te herstellen en een gezonde balans te verkrijgen, zouden zulke ontmoetingen weer plaats moeten vinden. En als dat niet organisch gebeurd, dan maar geïnstitutionaliseerd.

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'Q15'

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Kids

Waarom zou je zo'n promovatie überhaupt willen? Wat kun je dan straks? Waarom kunnen ze zo'n artikel niet gewoon meteen aannemen? Oh, ga je een boek schrijven, hoezo dan? Ehhh, wie moet het toetje eigenlijk verdelen? Kijk, daarom houd ik zo ontzettend veel van jullie, omdat jullie heel helder kunnen maken waar het eigenlijk om gaat en wat belangrijk is in het leven!

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Arwin

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Ik ook van jou.

ABOUT THE AUTHOR

Myra was born in Heerlen on the 23th of December, 1970 and grew up in Nieuwenhagen and Baarlo. After attending high school (Marianum, Venlo) she moved to Nijmegen and started her undergraduate medical training at the Radboud University. Because her fascination of other cultures, she finished her internships (cum laude) in Ghana in 1997. Given her interest in people's psyche, she started as a psychiatry resident in Rijnstate Hospital, Arnhem. This period formed a robust fundament for her further career. In 1999 she started her General Practitioner specialty training in Nijmegen, intensifying her knowledge and skills in the field of communication and interaction. After finishing the General Practitioner training, she worked as a family doctor, in the area of Nijmegen and later on in the Enschede region.

Her primary interest has always been how people (re)act, what makes them tick, how they collaborate and communicate. Thus she decided to follow this passion and, together with two colleagues, started a consultancy company in 2010. A company that over the years expanded and currently guides and supports thousands of physicians in strengthening their calling and comradeship.

In her eagerness to unravel the somehow soft realm of consultancy and to contribute to knowledge building, she started a PhD project alongside her job and family responsibilities. Nowadays she combines her passion for people, entrepreneurship and science as CEO of Q3, company for professional development.

Myra lives in Enschede with Arwin and together with their kids, Noa, Zoë and Timo, they love to travel around and explore the world.