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ORIGINAL ARTICLE

What do stakeholders need to implement shared decision making in routine cancer care? A qualitative needs assessment

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ABSTRACT

Background: Shared decision making (SDM) is particularly relevant in oncology, where complex treatment options with varying side effects may lead to meaningful changes in the patient's quality of life. For several years, health policies have called for the implementation of SDM, but SDM remains poorly implemented in routine clinical practice. Implementation science has highlighted the importance of assessing stakeholders' needs to inform the development of implementation programs. Thus, the aim of the present study was to assess different stakeholders' needs regarding the implementation of SDM in routine care.

Material and methods: A qualitative study using focus groups and interviews was conducted. Focus groups were carried out with junior physicians, senior physicians, nurses and other healthcare providers (HPCs) (e.g. psycho-oncologists, physiotherapists), patients and family members. Head physicians as well as other HPCs in management positions were interviewed. Audiotapes of focus groups and interviews were transcribed verbatim and analyzed using content analysis.

Results: Six focus groups with a total of n = 42 stakeholders as well as n = 17 interviews were conducted. Focus groups and interviews revealed five main categories of needs to be fulfilled in order to achieve a better implementation of SDM in routine cancer care: 1) changes in communication, 2) involvement of other parties, 3) a trustful patient–physician relationship, 4) culture change and 5) structural changes. Stakeholders discussed four clusters of intervention strategies that could foster the implementation of SDM in routine cancer care: 1) clinician-mediated interventions, 2) patient-mediated interventions, 3) provision of patient information material and 4) the establishment of a patient advocate.

Conclusion: Study results show that stakeholders voiced a diversity of needs to foster implementation of SDM in routine cancer care, of which some can be directly addressed by intervention strategies. Present results can be used to develop an implementation program to foster SDM in routine cancer care.

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Introduction

In the pursuit of high-quality modern health care, patient-centeredness and involvement of patients in medical decision making have gained relevance. For several years, initiatives all over the world have aimed to implement shared decision making (SDM) in routine care for ethical, clinical and monetary reasons [1,2]. SDM describes a process in which the clinician and the patient actively share information about treatment options, goals and preferred outcomes with the aim to agree on the best course of action [1]. Traditionally, the concept of SDM has been limited to the patient–physician dyad, but this does not reflect the reality of delivery of care today. Therefore, the inter-professional approach to SDM, in which a number of different healthcare providers (HCPs) are involved in the process, attracts increasing attention [2,3]. Additionally, the question of how to adequately involve family members in the decision-making process receives growing interest [4]. SDM can be applied in most clinical decision-making situations, but it is especially relevant in cases of medical uncertainty and in preference-sensitive situations, in which more than one course of action is viable. Clinical settings in which SDM is particularly important are major treatment decisions (e.g. in oncology) and management of chronic diseases (e.g. diabetes, dementia) [1,5], because here treatment decisions are often preference-sensitive and may have a large impact on the patient's quality of life and the course of care. Especially cancer patients often face complex treatment decisions with varying side effects and long-term consequences [6] and would benefit from routine implementation of SDM.

A review on patient preferences regarding treatment decision making revealed that particularly cancer patients favor shared treatment decisions and that this trend continues to grow [7]. Despite widespread recognition of the relevance of SDM in cancer care, many cancer patients still report that their level of active participation in decision making is less than they desire [6]. Two German studies on the concordance of cancer patients' preferred and actual decision-making roles showed

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levels of concordance between 45% [8] and 63% [9]. Although HCPs treating cancer patients are theoretically interested in the concept of SDM and feel comfortable with the idea, research shows that they barely show behaviors to increase SDM in practice [10]. There is a large body of evidence that SDM remains poorly implemented in cancer care [6].

Efforts to implement SDM in routine care have been made in recent years [5]. Implementation research has shown that multi-faceted interventions that comprise diverse approaches are the most promising intervention strategies for successful implementation of SDM [11]. Moreover, implementation science highlights the importance of assessing stakeholders' implementation needs prior to the development of an implementation program in order to develop a program that fits an organization's individual situation [12,13]. To date, only few studies on implementation programs for SDM exist that include a pre-implementation phase with a needs assessment covering all stakeholders and follow a multi-faceted intervention strategy [14].

In order to tackle this research gap and to meet the standards of the Consolidated Framework for Implementation Research (CFIR) [12], we conducted the following study as a prerequisite to subsequent development of a multi-faceted implementation program to foster SDM in routine cancer care. Thus, the aim of the present study was to assess 1) different stakeholders' needs for the implementation of SDM and 2) their ideas regarding intervention strategies to foster the implementation of SDM.

Methods

Study design

A qualitative study was conducted using semi-structured focus groups and interviews.

Setting and subjects

The study was carried out in cooperation with the University Cancer Center Hamburg (UCCH), which is part of the University Medical Center Hamburg-Eppendorf (UKE), Germany. The UCCH is a comprehensive care and research center that comprises all medical departments of the UKE that are involved in cancer diagnosis and treatment. The study sample consisted of different HCPs working at the UCCH, cancer patients being treated at the UCCH and their family members. No further inclusion criteria were specified.

Focus groups

Six focus groups with 7–10 participants each were scheduled. Four focus groups were carried out with HCPs: one with senior physicians, one with junior physicians, one with nurses and one with other HCPs (e.g. psycho-oncologists, physical therapists). Participants were clustered according to their professional background and hierarchical position to allow for open discussion. Additionally, we planned one focus group with patients and one with family members. We chose to conduct homogeneous focus groups with participants of a similar background and hierarchical position, because we expected participants to express their viewpoints more openly in the presence of peers.

Interviews

We conducted interviews with head physicians and other HCPs in management positions (e.g. head of social services) instead of focus groups for organizational and strategical reasons. First, it appeared to be extremely difficult to schedule a focus group for management staff, because participants on the management level found it already difficult to schedule interviews, which were more flexible by nature. Second, we chose not to mix HCPs of different hierarchical positions, because we expected other members of staff to withhold critical information, if their supervisors participated in the same focus group.

Recruitment

Focus groups

We recruited senior and junior physicians: 1) through head physicians, who forwarded our invitation to participate in the study to their staff and 2) by directly contacting physicians working at the UCCH that we knew from previous collaborations. We recruited nurses and other HCPs via e-mail and identified their contact details through the UKE website. Nursing management staff also forwarded the invitation to their staff. Patients and family members were recruited face-to-face (e.g. by approaching them in waiting rooms) by members of the research group (EM, WF) and by collaboration partners at different clinics of the UCCH. Additionally, family members were recruited through cancer support groups and patients participating in the patient focus group.

Interviews

We identified eligible head physicians and other HCPs in management positions of the UCCH through the UKE website and invited them by e-mail. We sent a reminder twice, if the invitation was not initially accepted. We marked participants in question as not interested, if no reply followed after that.

Data collection

We collected data between April and July 2014. Participants received a study information sheet and signed an informed consent form before they took part in focus groups or interviews. We asked participants to answer a short questionnaire on demographic and occupational information and offered a compensation fee of 25 Euro to reimburse participants for their time and costs (transportation and parking fees) spent to participate.

Focus groups

Two members of the research team (IS and PH or EM) led the focus group discussions. We audio-recorded focus group discussions and a third team member (EM or WF) took minutes to help identify speakers later on in the transcription process. Initially, we showed two humorous cartoons, one showing paternalistic decision making and one showing informed decision making to prompt the discussion about SDM. Second, we presented results from a previous project phase on the current state of medical decision making at the UCCH [15] and asked participants to discuss these results and to identify their needs for the implementation of SDM. Finally, we presented intervention strategies to foster SDM, i.e. clinician-mediated interventions like physician trainings, patient-mediated interventions aiming at patient empowerment and patient information material like decision aids. We then asked participants to discuss and develop ideas for adequate interventions to foster SDM.

Interviews

One member of the research team (PH or IS) conducted and audio-recorded interviews. First, results from a previous project phase on the current state of medical decision making at the UCCH [15] were presented or interviewees were asked to compare their own decision-making experiences with a prototype model of SDM [16]. We asked interviewees to describe their perspectives on decision making in their respective departments. Second, we asked interviewees to discuss their implementation needs. Third, we presented the above mentioned intervention strategies to foster SDM and asked interviewees to discuss adequate interventions.

Data analysis

We transcribed audiotapes of focus group discussions and interviews verbatim and anonymized the transcripts. We imported the transcripts to MAXQDA software (version 10, VERBI GmbH, Berlin, Germany), a software supporting qualitative and mixed methods analyses. We analyzed transcripts following the principles of conventional content analysis as depicted by Hsieh and Shannon [17]. We chose to report the results of different groups of stakeholders together and differentiated between groups only when stakeholder groups' views were contradictory, because we considered a joint analysis more informative for the future development of an SDM implementation program. Two researchers of the team (EM, PH) executed the data coding. We concentrated on aspects of the focus group discussions and interviews that dealt with SDM implementation needs and interventions. Results regarding stakeholders views on the current state are described elsewhere [18]. To begin with, two team members (EM and PH) independently coded one-third of the transcripts from each focus group. Emerging categories showed high consistency. Thus, coding was subsequently performed by only one team member (EM). Next, the codes and coding were cross-checked by a second team member (PH) and categories were revised. Finally, both team members (EM und PH) discussed differences in coding until consensus was reached. Descriptive statistics were calculated to supplement the qualitative analysis.

Ethical approval

The study was carried out in accordance with the Code of Ethics of the Declaration of Helsinki and was approved by the Ethics Committee of the Medical Association Hamburg, Germany.

Results

Sample characteristics of focus groups and interviews

A total of n = 42 participants took part in the six focus groups, including eight junior physicians, five senior physicians, six nurses, six other HCPs, seven patients and 10 family members. The mean duration of the focus groups was 118 minutes (SD = 8.53, range 102–126 min) and the mean number of participants was seven (SD = 2.19, range 4–10).

Furthermore, we conducted 17 interviews with a total of n = 18 head physicians and other HCPs in management positions. One of the 17 interviews was done with two head physicians resulting in a total of 18 interviewees. The mean duration of the interviews was 48 minutes (SD = 15.20, range 28–87 min). An overview of sample characteristics is given in Table 1.

Implementation needs and intervention strategies

Analyses of the focus groups and interviews revealed that stakeholders had divergent views on and experiences with medical decision making, which led to different needs and ideas for possible interventions to enhance the implementation of SDM (Figure 1). In the following paragraphs, we first present the stakeholders' implementation needs, and then depict their ideas for intervention strategies.

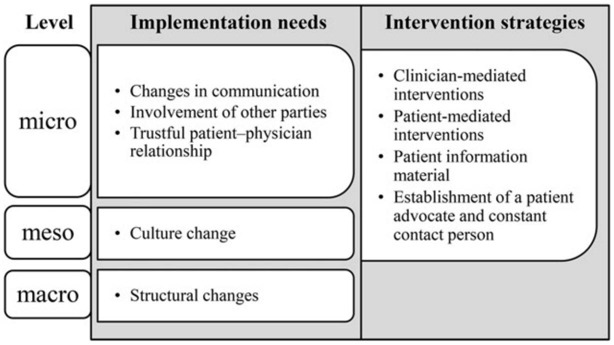
Implementation needs

We identified five main categories of implementation needs: 1) changes in communication, 2) involvement of other parties, 3) a trustful patient–physician relationship, 4) culture change and 5) structural changes. These categories refer to different levels of health care, i.e. the micro-, meso- and macro-level, and the following results are sorted accordingly.

Table 1. Descriptive characteristics of the sample.

	Patients and family members in focus groups n = 17 (28%)	HCPs in focus groups n = 25 (42%)	HCPs in interviews n = 18 (30%)
Sex			
Male	4 (23%)	9 (36%)	14 (78%)
Female	13 (77%)	16 (64%)	4 (22%)
Age (in years)			
Mean (SD)	56.77 (9.34)	40.68 (11.46)	52.94 (6.17)
Range	45–74	25–63	42–65
Working experience in cancer care (in years)			
Mean (SD)	n/a	13.60 (10.47)	23.47 (10.60)
Range	n/a	2–40	1–40
Duration of employment at the UKE (in years)			
Mean (SD)	n/a	9.55 (8.69)	15.50 (7.55)
Range	n/a	0–41	5–32

HCP: health care provider; n/a: not applicable; SD: standard deviation; UKE: University Medical Center Hamburg-Eppendorf.



Level	Implementation needs	Intervention strategies
micro	• Changes in communication • Involvement of other parties • Trustful patient–physician relationship	• Clinician-mediated interventions • Patient-mediated interventions • Patient information material • Establishment of a patient advocate and constant contact person
meso	• Culture change	
macro	• Structural changes	

Figure 1. Summary of results: implementation needs and intervention strategies.

Implementation needs on the micro-level

Changes in communication

Needs concerning changes in communication included:

1. Physicians' open discussion and communication of multiple treatment options, including the option of no active treatment or withdrawing from active treatment. The following quote of a HCP illustrates this need: *'There is a minimum of two choices present anytime, really. If there is one treatment option, there is at least the option not to do it. This, in my opinion, is often not communicated.'*
2. The need to communicate the results of multidisciplinary team meetings (MDTMs, also called tumor boards) as treatment recommendations rather than decisions. This need was expressed by physicians and other HCPs across all hierarchies.
3. The need to improve interdisciplinary and team communication. All stakeholder groups expressed this need except for junior and senior physicians. One nurse explained why better team communication would be beneficial to SDM by saying: *'I think it would be good to remove the tension between different professions, especially physicians and nurses. I think if communication works well, then information provision for patients and family members would be easier.'*
4. The need to encourage patients to communicate more actively and to ask more questions. One family member said: *'It cannot harm! [...] I think of my mother, who is a cancer patient and how long it takes her to have the courage and ask the physician something.'*
5. The need to tailor oral and written information provision to the individual patient.
6. The need to convey information to the patient in lay terms and to revise cancer information leaflets, accordingly. One nurse stated that for better information provision it would be important *'to speak in everyday language, not medical or scientific.'* In line with this, the following quote of a patient illustrates the need to revise cancer information leaflets: *'Well, when I read those, I'm as clueless in the end as I was before, because of all the technical terms and so on. If it were shorter and more clearly structured, let's say for dummies!'*
7. Inconsistent needs regarding the provision of patient information materials. One head physician explained: *'If patients received differently designed information [material], they would probably have a feeling for what they want or don't want. Well, I think, exactly this is missing.'* However, some stakeholders stressed the problem of information overload for patients and the difficulty to identify what is relevant. One nurse stated: *'Before, there was no information material. Today, you can beat patients to death with them.'* In contrast to this is the statement of a patient who said: *'I would have liked to be offered information material in the first meeting. To say: 'Well, you can read this at home, if you like to. Read as much as you can and then we speak again."*

Involvement of other parties

Needs concerning the involvement of other parties included:

1. The need to acknowledge and deploy the nurses' expertise more comprehensively. Especially, nurses themselves desired to be more involved in the decision-making process (e.g. by additionally educating the patients from a nurse's point of view before decision making). One nurse developed the following scenario: *'We [the team] inform everybody and the nurses are present, so that they [the patients] have the opportunity to ask [...] [the nurses]: 'What treatment am I going to receive and how can I eat afterwards?"*
2. The need for more active involvement of family members in the decision-making process. All stakeholder groups except for patients and junior physicians discussed this need. A HCP said. *'In my dream scenario, the physician who is in charge gives several options to the patient and ideally also his family, and THEN the patient decides with his family.'*

A trustful patient–physician relationship

Needs concerning a trustful patient–physician relationship as a prerequisite for SDM included:

1. The need for physicians to take the patient seriously and to relate to the patient's individual situation. One patient explained why a trusting and empathic patient–physician relationship facilitates information exchange, an essential element of the SDM process: *'It has a lot to do with trust, also in the physician. Well, I think if you have trust [...] or if there is sympathy, then you are more likely to ask [questions].'* A junior physician illustrated the importance of finding common ground for the process of SDM: *'It is very important for SDM, that a sort of: 'We understand each other!' is present in the room.'*
2. The need for physicians to pay attention and act with regard to the patient's individual personality. *To take a closer look at what kind of personality is in front of me – that would be crucial'* to establish a trustful relationship with the patient, one nurse stated.

Implementation needs on the meso-level

Culture change

Needs concerning a culture change included:

1. Active promotion of SDM by head physicians. A head physician considered it necessary, that *'the management positively supports such a concept [and]clearly states: 'This is our philosophy in this clinic and we work with exactly this attitude and nothing else."*
2. Active demonstration of SDM by senior physicians. One HCP said: *'I think, very often a role model is missing: that somebody actively sets an example [of SDM].'*
3. Change of physicians' professional self-conceptions regarding their roles and responsibilities. This would mean that physicians conceive their job as not only offering active treatment options, but also being open to the option of no active treatment and knowing when to refrain from active treatment. Two junior physicians debated the need to redefine their professional self-conceptions to facilitate SDM: *'Physicians want to treat, they are trained to do so' – 'Yes, [...] how does a physician learn to say: 'I am not doing it?' How does a physician have the confidence to say: 'We stop this now?"* Another HCP considered: *'I think, sometimes it's about how physicians understand their job. [...] They, so to speak, do not bear in mind the alternative [of another treatment or no treatment].'*

Implementation needs on the macro-level

Structural changes

Needs concerning structural changes included:

1. More 'physician time' assigned to each patient. The majority of stakeholders declared that current time pressure was an important barrier for SDM. One family member considered: *'If your physician had the time, he would maybe even use it [to adequately inform you].'*
2. More 'nurse time' assigned to each patient. Head physicians and other HCPs in management positions identified this as critical to allow for more adequate information provision, a key aspect of SDM.
3. More time for patients to reflect on treatment decisions and for repeated discussions with their HCPs without the pressure to decide quickly. A senior physician stated: *'You have to give people time to say: 'Ok, what is a feasible goal that I could embark on?"*
4. Changes in monetary compensation practices for consultation time in the German healthcare system. One HCP said: *'Well, time for discussion [...] is not provided for in the whole system. It doesn't get paid. You cannot render account for it. This is actually sick.'*
5. The need for more continuity in the patient–physician relationship. Especially patients expressed this need. Physician rotation between and within the different wards and clinics of the hospital was seen as a barrier to this by most stakeholders. One HCP explained: *'Patients repeatedly tell me that physicians change wards in a way that patients never have a real contact person who stays.'*
6. The need to integrate and consider the patient perspective in MDTMs. The majority of physicians and HCPs in management positions expressed this need. One head physician illustrated the current practice of MDTMs as follows: *'It happens too often that patients are presented by colleagues who do not know the patients themselves. [...] This is where we do not do justice to the patients.'*

Ideas for intervention strategies

Stakeholders mainly discussed intervention strategies that fit into the three clusters we initially presented in focus groups and interviews: 1) clinician-mediated interventions, 2) patient-mediated interventions and 3) provision of patient information material. Additionally, we found a cluster of strategies that related to 4) the establishment of a patient advocate and constant contact person. A summary of results on stakeholders' ideas for intervention strategies is presented in Table 2.

Clinician-mediated interventions

> *'Training for providers – I think it is a very important aspect for physicians to ensure quality.'*

The above mentioned quote of a junior physician's opinion on the importance of training HCPs in SDM illustrates how the majority of stakeholders felt. SDM and communication skills trainings were by far the most predominantly discussed and required intervention to foster SDM. Especially stakeholders in management positions viewed trainings for junior physicians as a very promising strategy to implement SDM. Only senior physicians hardly saw trainings for physicians as an adequate intervention strategy. Stakeholders in management positions, nurses and family members considered team communication skills trainings as a possible way to teach the necessary background for SDM to HCPs. They saw well functioning communication within the team as a prerequisite for SDM. Individual coaching and (interdisciplinary or team) group trainings were formats of training that stakeholders considered viable strategies to foster SDM.

Patient-mediated interventions

> *'It is certainly not wrong to meet the patients there. So to speak [...] to encourage them somehow to ask questions and so on. It is certainly not wrong.'*

This quote of a head physician illustrates how the majority of stakeholders felt about interventions to empower patients. Although a considerable number of stakeholders welcomed patient-mediated interventions aiming to empower patients, the overall tenor was to put emphasis on provider trainings. Moreover, opinions on how to initiate patient empowerment were inconsistent and stakeholders repeatedly discussed who should empower patients to get involved in decision making. In sum, the majority of stakeholders saw it as the physicians' responsibility to encourage active patient involvement in

Table 2. Summary of results on stakeholders' ideas for intervention strategies.

Intervention strategy	Quote	Intervention varieties discussed	Most supported strategy
Clinician-mediated interventions	*'Training for providers – I think it is a very important aspect for physicians to ensure quality.'* *- Junior physician -*	• (Interdisciplinary) SDM and communication skills trainings for physicians • Individual coaching of SDM and communication skills for physicians • Team communication skills trainings for all team members	SDM and communication trainings for (junior) physicians
Patient-mediated interventions	*'It is certainly not wrong to meet the patients there. So to speak […] to encourage them somehow to ask questions and so on. It is certainly not wrong.'* *- Head physician -*	• Physicians encourage patients' active participation • Paper-based interventions (posters, leaflets) to empower patients • Patient empowerment trainings and educational sessions	Physicians encourage patients' active participation
Patient information material	*'I think that an information leaflet consisting of one page, which informs in a simplified way in three sentences on: 'What happens if I do this?' is better than a bulk of paper. Nobody reads that. We see this repeatedly.'* *- Nurse -*	• Short information material consisting of one page • Diverse information material to meet different information needs • Short and long decision aids	Short information material consisting of one page
Establishment of a patient advocate and constant contact person	*'One person, who gives you all the information and who really tells you: 'You can go there with your question, you have this option, there is another option and you can do this and that.' A person who liaises.'* *- Family member -*	• A specially trained nurse • A peer cancer patient, who has gone through a similar process as the patient • A patient scout, who neutrally educates the patient about various non-clinical aspects, for example SDM and patient rights	Varieties were equally supported and no favorite intervention could be identified

decision making. The following statement of a patient is in line with this opinion: *'This is where the physician is called for, maybe, to encourage the patient […] to have the courage [to ask questions].'*

However, stakeholders also supported the introduction of educational sessions and paper-based interventions. By and large, stakeholders thought paper-based intervention strategies like a poster that encourages patients to ask specific questions to be more feasible. This was evident in the following statement of a head physician: *'Concerning patient training, I would rather go in the direction of posters or leaflets than to offer somehow major events.'* Still, educational sessions for patients about their illness and treatment as well as trainings to empower patients and encourage SDM were considered helpful by some stakeholders. It was discussed to integrate these sessions into a series of existing information seminars that are already offered within the UCCH.

Provision of patient information material

> *'I think that an information leaflet consisting of one page, which informs in a simplified way in three sentences on: 'What happens if I do this?' is better than a bulk of paper. Nobody reads that. We see this repeatedly.'*

This quote of a nurse illustrates how the majority of stakeholders felt about patient information material. Stakeholders across all groups deemed short information material that summarizes relevant information on one page as especially important and feasible. Particularly nurses, junior and head physicians largely approved of the introduction of short decision aids, which summarize relevant information on the different treatment options on one page. One junior physician said: *'Honestly now, I find this good. I think it can make it easier for the patient to somehow [learn about] the things relevant for him: 'How long am I going to be in the hospital? Am I going to be in pain? Is this a sort of surgery?"* However, some stakeholders also supported the introduction of more diverse information material including general brochures (e.g. on diagnosis, treatment and prognosis) as well as specific decision aids in short and long versions, so the material matches different patients' individual needs.

Establishment of a patient's advocate and constant contact person

> *'One person, who gives you all the information and who really tells you: 'You can go there with your question, you have this option, there is another option and you can do this and that.' A person who liaises.'*

This quote of a family member illustrates the idea of a constant contact person or advocate for patients. Patients, family members as well as nurses and other HCPs considered a constant contact person or advocate for patients' needs at the hospital to be useful for the implementation of SDM. In their minds, this could be either a specially trained nurse, a peer cancer patient, who has gone through a similar process as the patient or a patient scout, who neutrally educates the patient about various non-clinical aspects, for example SDM and patient rights.

Discussion

We conducted six focus groups and 17 interviews with stakeholders to elicit their needs and ideas for intervention strategies to foster the implementation of SDM in routine cancer care. We identified the following five clusters of implementation needs: changes in communication, involvement of other parties, a trustful patient–physician relationship, culture change and structural changes. Moreover, we identified four clusters of ideas for intervention strategies, which comprise clinician- and patient-mediated interventions, the provision of patient information material and the establishment of a patient advocate.

Change of physicians' communication styles was one of the most prominently voiced needs and is closely related to the strong support for SDM and communication trainings for physicians. This corresponds with empirical findings that physicians are often inadequately trained to implement SDM [6,19]. While the majority of stakeholders and especially head physicians considered physician trainings the most promising intervention to foster SDM, senior physicians showed little interest in the idea. Previous research on physicians' readiness to participate in SDM trainings showed similarly ambiguous results. For example, only 25% of cancer physicians participating in a study on perceived barriers and facilitators to SDM supported physician trainings as suitable interventions [20], whereas in another study 82% of cancer physicians were willing to participate in a communication and SDM training to improve their skills [21]. Although physician trainings are considered essential to promote SDM [2], little is known about how to effectively encourage physician participation in such trainings.

The need to improve patient information and related interventions were considered critical to implement SDM. Stakeholders discussed the provision of patient information either through HCPs, self-help groups, peers and patient advocates, or through patient information material such as brochures, leaflets and decision aids. They voted strongly for the introduction of more and particularly short decision aids. However, currently, only few decision aids exist in German cancer care [5], which are by no means enough to provide for an intervention aiming to implement SDM in routine cancer care. Another viable strategy would be to empower patients to participate more actively in the discussion of their treatments, a strategy that was supported by the majority of stakeholders in our study. Although participants in our study thought that it is mainly the physician's responsibility to encourage active patient involvement, educational sessions and especially paper-based intervention strategies were considered to be promising means to foster SDM.

The results of our study indicate that SDM in cancer care needs to be planned as a process that should involve different HCPs as well as the patient and associated family members. The inter-professional approach to SDM [3,22] seems particularly relevant in cancer care, because decisions are complex, have long-term consequences and HCPs of different specialties can contribute relevant information for the decision-making process. Today, physicians of different specialties discuss best treatment options for individual cancer patients in MDTMs. However, results of this study and previous studies [15,23] reveal that the current implementation of MDTMs does not facilitate inter-professional SDM as the patient's and family members' perspectives as well as views of other HCPs are largely neglected. Further research on how MDTMs can be reorganized to align with the concept of SDM would be important to foster the implementation of SDM in cancer care.

The present results show that for successful implementation of SDM in routine care, physicians and other HCPs across all hierarchies felt the need to initiate a culture change. In our study, active promotion of SDM by head physicians and demonstration of SDM by senior physicians were thought to be key aspects of the process of culture change towards SDM. Physicians and other HCPs across all hierarchical levels participating in our study saw the need for a redefinition of physicians' professional self-conceptions to implement SDM. Previous research supports this, as physicians' paternalistic mind-sets and traditions of practice were found to function as long-existing barriers to the implementation of SDM and physicians were found to be less likely to engage in SDM when their supervisors followed a different approach [24].

The most frequently mentioned barrier to SDM in our study were time constraints and the limited attention HCPs can assign to each patient. In line with experts' conclusions about the implementation of SDM [5], some stakeholders called for reconsideration of monetary compensation practices and the introduction of incentives for a more narrative-based medicine. Moreover, clinic structures with physicians' rotation between wards and lack of consultation rooms for private conversations were seen as barriers to a trustful patient–physician relationship and the process of SDM in our study. However, above mentioned structural needs have their roots in the meso- and macro-level of health care and cannot be addressed by an SDM implementation program. Consequently, stakeholders did not discuss interventions aiming for these needs. Future research should investigate how structural barriers on the meso- and macro-level of health care could be addressed. At the same time, these barriers need to be tackled by changes in the current health care delivery system that go beyond research and must be addressed on a health policy level.

This study has several limitations. First, our sample was a convenience sample recruited through several pathways of which we were not completely in control. The sample may be biased, because some HCPs may have been explicitly required to participate by their supervisors. Moreover, the sample may represent a selection of particularly interested stakeholders. Despite potential bias, we deemed our recruitment strategy adequate for our purpose, as it allowed us to reach a greater diversity of participants. Second, the number of participants in two focus groups was lower than seven. However, as participants canceled shortly before focus groups or did not cancel at all for acceptable reasons, conducted recruitment is thought sufficient for a medical setting. An important strength of our study is that we included a wide range of HCPs of different professional backgrounds and hierarchical positions as well as patients and family members. Hence, our study results are based on a multitude of perspectives on what is needed and what interventions are considered helpful to foster SDM. Moreover, this study constitutes the first step towards an implementation program of SDM in cancer care. Implementation research has shown that stakeholder involvement from early on in the process is a key factor for successful implementation [12,13], but to date only few studies in the context of SDM included a pre-implementation phase [14]. Our study addresses this research gap and the present results can form the basis for the development of an implementation program.

In conclusion, we identified a number of implementation needs which can be directly addressed by intervention strategies that were considered suitable by stakeholders in our study. However, some needs concerned barriers to SDM on the meso- and macro-level that are beyond the reach of an implementation program. In a consecutive study, present research results can be used to develop an implementation program for SDM in routine cancer care.

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Disclosure statement

PH declares that she has no competing interests. EM currently works on a research project funded by Mundipharma GmbH, a pharmaceutical company; IS conducted one physician training in shared decision making within this research project. We did not receive funding from Mundipharma GmbH for the study reported in this paper.

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