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Implementation of patient-centered care: Which organizational determinants matter from decision-maker´s perspective?

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Abstract

Objectives Health and social care systems, organizations, and providers are under pressure to organize care around patients' needs with constrained resources. To implement patient-centered care (PCC) successfully, barriers must be addressed. Up to now, there has been a lack of comprehensive investigations and concepts on possible determinants of PCC. Our qualitative study examines the current understanding and determinants of PCC from decision-makers' perspectives across various health and social care organizations (HSCOs).

Design Qualitative study of n=24 participants in n=20 semi-structured face-to-face interviews conducted in late 2017/ beginning 2018.

Setting and participants Decision-makers were recruited from multiple HSCOs in the region of the city of Cologne based on a maximum variation sampling strategy varying by HSCOs types.

Outcomes The qualitative interviews were analyzed using an inductive and deductive approach according to qualitative content analysis. We let interviewees define PCC and compared their understanding with concepts of PCC. The Consolidated Framework for Implementation Research was used to conceptualize determinants of PCC.

Results Decision-makers expressed a fairly consistent understanding of PCC. They identified similar determinants facilitating or obstructing the implementation of PCC in their organizational contexts. Several determinants at the HSCO´s inner setting (e.g., communication among staff, well-being of employees) were identified as crucial to overcome constrained financial, human, and material resources in order to deliver PCC.

Conclusions The results can help to foster the implementation of PCC in various HSCOs contexts. We identified possible starting points for initiating the redesign of HSCOs towards more patient-centeredness.

Keywords Patient-centered care, implementation, qualitative research, health and social care organizations, decision-maker

Word Count 5960

Article Summary

Strengths and limitations of this study

- This qualitative interview study adds research to a) the decision makers' understanding of patient-centered care (PCC), b) determinants of PCC implementation at the individual and organizational level, and c) the health and social care organizations (HSCOs) coping strategies related to strained resources.
- Based on purposeful sampling but with possible selection bias we interviewed decision-makers across various types of HSCOs to address varying conditions and availabilities of resources across types of HSCOs to implement PCC.
- Interviews were only conducted with decision-makers in leading positions so that differences in perspectives, e.g., staff members in lower positions, cannot be identified through this study.
- Future research should investigate whether the identified determinants are similar in other regions, especially rural areas, as our explorations are geographically restricted to the city of Cologne, Germany.
- Further analyses should apply a more fine-grained view on determinants located outside the sphere of individuals or organizations and may provide policy implications to foster PCC implementation in organizations.

1 Introduction

Patient-centered care (PCC), defined as "providing care that is respectful of, and responsive to, individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions" ([1], p. 40), has become a guiding principle in health and social care. PCC is conceived as a multidimensional concept that includes principles regarding perspectives of patients' psychological, psychosocial, and physical needs. The concept also suggests concrete measures for implementing PCC such as patient information, patient involvement in care, involvement of family and friends, and patient empowerment [2–4]. The implementation of these measures have been shown to be associated with more positive health outcomes [5, 6].

While the need and public attention for PCC have increased [7], health and social care organizations (HSCOs) face scarce resources (e.g., financial, personnel, material) due to a shift from acute illnesses towards chronic illnesses and more complex treatment processes in an aging society. Ultimately, such developments can increase economic pressures and requires organizations to maintain, accumulate, and preserve their resources, which is defined as resource-orientation [8] and obstructs PCC [9]. Therefore, health and social care systems, organizations, and individual caregivers are constantly challenged to organize care according to the tenets of PCC under constrained resources [10].

To ensure successful implementation of PCC, determinants that facilitate and obstruct PCC must be investigated and addressed at all levels and types of care [3, 4, 11]. Research locates determinants of implementation success in health and social care at three levels:

1) the individual level (personality traits and skills [12, 13] or attitudes [14]), 2) the organizational level (e.g., goal setting [15], participating management [13, 16, 17], resources [15], infrastructure [13, 18], and culture [19]), and 3) the healthcare system level (e.g., regulations and patients' rights or climate of politics [11]). The organizational level is a mediator between the individual and the system level and combined with the individual level it plays a major role here, since at these levels concrete measures for implementing PCC need to be conducted to fulfill patient needs.

Previous research has contributed to the understanding of determinants of PCC implementation. However, this partly result from the experiences of best-practice examples or organizations that have a great deal of knowledge on PCC (e.g., [15, 19]). Moreover, due to varying conditions for different HSCOs types (e.g., differences in financing structures between ambulatory and inpatient care organizations), availabilities of resources may differ across types of HSCOs. Consequently, this may lead to different determinants for PCC implementation and strategies to deal with resource scarcities.

Our study aims to address these gaps and advance research on PCC implementation and strategies to address determinants. Firstly, we examine the current understanding of PCC from the decision-makers' perspectives across various types of HSCOs. More particularly, we let interviewees define the concept of PCC and compare the main dimensions of their understanding with concepts of PCC [3]. Secondly, we aim to identify determinants of PCC implementation on the organizational and individual level using a conceptual framework [20]. Finally, coping strategies through which HSCOs may reconcile strained resources with an increasing pressure to implement PCC are explored.

2 Methods

2.1 Study design

The data used in this article stem from the research project OrgValue (Characteristics of Value-Based Health and Social Care from Organizations' Perspectives). OrgValue is embedded within the Cologne Care Research and Development Network (CoRe-Net) [21]. OrgValue analyzes the implementation of PCC in various HSCOs settings while considering the HSCOs' resource-orientation within the city of Cologne, Germany, in a cross-sectional study integrating mixed methods from qualitative and quantitative social research [8].

2.2 Sampling

The HSCOs included in the sample reflect all organizations in the city of Cologne which are involved in the care of patients in their last year of life or patients with coronary heart disease and a mental or psychological co-morbidity (patient groups studied within CoRe-Net) [21]. Clinical and managerial decision-makers as representatives of various types of HSCO´s were recruited via networks of practice partners and cold calling. Based on purposeful sampling [22], semi-structured face-to-face interviews were conducted.

2.3 Data collection

The semi-structured qualitative interview guide [22] revolved around three main questions:

- How do decision-makers define PCC?
- What obstructs or facilitates the implementation of PCC in their organizations?
- How do organizations deal with their resources and what resources are needed or lacking to implement PCC?

Each topic was operationalized by core questions (e.g., "Do you remember a case where PCC was delivered at its best/not at all?") and narrative-generating sub-questions (e.g., "What were possible reasons that care was (not at all) delivered in a patient-centered fashion?"). The interview guide was flexibly adapted to the decision-maker´s type of care organization, the position or background, or the course of the conversation. Interviews were conducted face-to-face with one interviewee. In three cases, group interviews (with a maximum of three people) were conducted when decision-makers brought in other organizational members who they felt were important to include when talking about the topics outlined in the invitation. In total, 20 interviews were held with 24 decision-makers on 20 different dates.

Of the 20 interviews, the interviewees were 24 decision-makers from hospitals (n=5), long-term outpatient care (n=4), long-term inpatient care (n=3), outpatient rehabilitation services and rehabilitation clinics (n=4), private practice general practitioners and specialists (n=3), and psychotherapists (n=3). Table 4 of the Appendix provides an overview of participant characteristics in the full sample (n=24). All interviews were conducted by two researchers trained in interviewing with one leading and one assisting in varying combination. The interviews took place at the interviewee's office or in an adjoining room (e.g., a conference room) and lasted an average of 65 minutes (min: 29

minutes, max: 148 minutes). Interviews were audiotaped, transcribed verbatim, and anonymized by an external professional typist. The Ethics Committee of the Medical Faculty of the University of Cologne approved the study. Interviewees provided written informed consent before the interviews.

2.4 Data analysis

All transcripts were entered into MAXQDA® software (VERBI GmbH, Berlin, Germany). Qualitative content analysis was chosen to explore the participants' unique perspectives in order to extract on the descriptive level of content and not to provide a deep level of interpretation and underlying meaning [22]. The analysis of the interview content was conducted independently by two multidisciplinary researchers (KIH, HAH, and VV in varying combination) to ensure the validity of the data interpretation [22]. A coding frame including dimensions of PCC and determinants for implementing PCC at the individual and organizational level was developed by combining deductive and inductive approaches. First, codes were constructed by descriptive coding/subcoding and provisional coding/subcoding [22], considering PCC domains from previous research [3]. The Consolidated Framework for Implementation Research (CFIR) [20] was used to structure and combine the previously identified codes that denoted determinants of PCC implementation. The CFIR is a well-established framework that combines existing theories for effective implementation and divides five categories of determinants: Intervention Characteristics, Outer Setting, Inner Setting, Characteristics of Individuals, and Processes [20].

The category Intervention Characteristics of the CFIR was denoted by individual patient characteristics according to the concept of PCC dimensions: Biopsychosocial perspective of patient needs (Psychological and Psychosocial needs, Physical needs) and specific measures for implementing PCC (Patient information, Patient involvement in care, Involvement of family and friends, and Patient empowerment) [2–4]. The categories Inner Setting and Individual Characteristics denoted determinants at the organizational level and the individual level, respectively. The Inner Setting relates to the HSCOs' inner arrangements of strategies, structures, processes, and culture. Characteristics of individuals focus on the employees within the HSCOs. As described above, determinants for PCC implementation that relate to the health care system and interactions between HSCOs settings (Outer Setting) were gathered, but were not part of this study. Finally, in our case, PCC was not one specific formalized intervention, and therefore our study did not intend to explore processes of actual implementation, but rather determinants of PCC implementation status.

The coding frame was repeatedly discussed and re-coded among the researchers and a group of qualitative research experts to ensure its consistency and validity [22]. Table 5 of the Appendix provides an overview of the considered categories including a short description for each code. The results were presented as textual fragments of the participants' narratives to illustrate the relationship between the theoretical concepts and the data. Relevant passages were translated into English for this article.

3 Results

The results section is structured along our three research questions (Figure 1). First, summaries and example quotes are presented to describe the decision-makers' understanding of PCC (intervention characteristics) (Table 1). Second, determinants of PCC implementation related to the organizational (inner setting) (Table 2) and individual level (characteristics of the individual) (Table 3) are described. With regard to our third research question, particular emphasis is placed on organizational strategies to maintain, accumulate, and preserve resources under increasing demands for PCC (resource-orientation).

Insert Figure1

Figure 1: Decision-makers' understanding of PCC and determinants of PCC implementation at the organizational and individual level

3.1 Decision-makers' understanding of PCC (intervention characteristics)

PCC perspectives of patient needs

Psychological and psychosocial needs: The decision-makers pointed out that PCC is characterized by taking the patient seriously and minimizing stress. Individual anxieties and concerns of patients should be respected. Considering the patient's environment was described as central to an adequate planning and successful implementation of the best possible individual care. Environmental aspects cover support by relatives, housing, and general living conditions.

Physical needs: Individual characteristics, such as medical indications, secondary diagnoses, allergies, and how quickly someone recovers, were considered as crucial for the planning and structuring of care. In terms of PCC, it was mentioned to look at the individual in a holistic way and to not only focus on their symptoms and diagnoses. Some interviewees described it as a challenging task to consider and use the patients' resources in order to maintain or regain skills. Particularly in acute care contexts, clinical concerns are prioritized, which, according to some statements, could only be reliably assessed by the providers themselves. It was emphasized that communication is the most important key to identifying physical needs before resources for technical tools or diagnostic procedures (such as radiography) are used to no avail.

PCC implementation measures

Patient empowerment: Interviewees described self-management of patients and relatives as a relevant aspect of PCC. Examples for implementing this dimension of PCC were rarely brought up. The few that were mentioned included the formulation of individual care goals, as well as the encouragement of patients to take on responsibility in the care process. However, taking over all tasks for patients was regarded as an oversupply of care.

Involvement of family and friends: Involvement of family and friends in the care process was mentioned in a wide range of contexts. It was described as an important pillar and resource of the patient, a source of patient-related information (e.g., about the personal preferences or history), and as a source of support in the care process. Different measures were explained that targeted at initiating or upholding the connection with family and

friends, such as evenings organized for relatives, possibilities to participate in case meetings, or discussion groups. While successful involvement of the family or friends helped to leverage benefits in the care process, several factors determined its success in practice (e.g., quality of relationship between the patient and the relative). The involvement of family, relatives, or legal guardians was particularly emphasized in long-term inpatient care, but was less pronounced in outpatient settings.

Patient involvement in care: Interviewees described patient involvement in care in terms of continuous patient counseling and support during the care process. Interviewees took different institutionalized approaches to the possibilities, advantages, and disadvantages of patient involvement along the care process (e.g., for shared decision making, in tumor boards or case meetings). The involvement of patients was perceived as particularly important when the goals of care were defined, since these were patient specific. In long-term inpatient care, involvement was fostered in specific care arrangements (e.g., living groups) and appreciated in general. Still, actual involvement was described as largely dependent on the patient's specific resources (e.g., cognitive or physical abilities) and the individual attitude of the care giver.

Patient information: Informing patients was seen as a basis for involving them and enabling them to participate in decisions. Interviewees described that information is provided to patients personally (e.g., during consultations to find therapeutic consent) or via information materials such as brochures. Independent of the format used, the provision of information was considered being dependent on resources (e.g., time, available staff) and the caregiver's situational awareness for the patient's needs. Medical information needs of patients were described as various and the style of information

delivery to the patient (e.g., positivity, honesty) was described as influential for their well-being. In order to ensure that patients are adequately provided with information, the interviewees stated that they should be reassured at the time of leaving whether questions still exist and whether the patient is satisfied. Using patient surveys was proposed to find out whether patients feel sufficiently informed.

Insert Table 1

3.2 Determinants of PCC implementation related to the organizational level: Strategies, structures, processes, and culture (inner setting)

Strategies

Organizational incentives & rewards: In single cases, interviewees described informal (e.g., appreciation) and formal rewarding systems (e.g., remuneration for innovative ideas relating to care improvements or problem-solving within the organization). In contrast, showing non-patient-centered behavior was considered inappropriate and could ultimately threaten continuation of employment. Cancellation of contracts was described as one measure to deal with deficiencies in patient-centered care provision.

Learning: Interviewees described the importance of gaining information on the organization's level of patient-centeredness, but the form and extent of collecting such data varied among care providers. Formalized learning measures included quality circles with regular quality surveys, key indicator analyses, risk profiles, supervision, checklists,

patient surveys, and case reviews within the team. These were reported rather by inpatient, larger HSCOs. Less formal forms of gathering information covered complaints by patients, relatives, or staff members. The value of information of these data was evaluated differently across decision-makers. For example, the extent to which patients could make a meaningful judgement about quality features – especially concerning the medical treatment – was questioned.

Management of innovations & changes: Some interviewees perceived the German health care system and the organization they were working in as rigid and reluctant to change. The implementation of innovations in these contexts was therefore perceived as a complex task of management, because it requires comprehensive adaptation processes, even with less complex innovations. Decision-makers described their dependency on the readiness (willingness and competency) of the middle-level management and the frontline staff for successful implementation of innovations throughout the organization. Both levels need to accept the value of the innovation and implement it in their daily actions. To increase readiness, it requires conviction about the innovation as well as participation and communication in the implementation process. Particularly opinion leaders should be addressed. Medical care centers were described as more innovative than others in terms of structures, i.e. care structure and processes.

Leadership behavior and engagement: Decision-makers described it as important to set an example and to define expectations for a patient-oriented attitude or a "good spirit". To support PCC, control was exerted, e.g., by considering the applicant's attitudes towards patient orientation as decision criteria in the hiring process of employees and management staff. Another strategy mentioned was to demand and encourage for

implementation but also to monitor it. Leaders who were not directly involved in patient care felt committed to fostering an environment in which front-line caregivers can do their job with the patient. It was also mentioned that employees need to be able to make decisions independently of their chef, to have flat hierarchies, and to formulate clear responsibilities.

Conflict Management: In general, leaders perceived it as a duty and strategy to ensure smooth processes and to manage conflicts. Conflicts within the team were named as one reason for a negative working atmosphere. Patients were described as sensitive to negative moods among team members and as affected by these, particularly in terms of satisfaction and well-being. Therefore, one provider stated that conflicts should never be dealt in front of a patient and that care provision should always be prioritized.

Process-orientation: Clear-cut definitions and processes helped to warrant adequate care of patients. Time management was seen as an important component for efficient care. Still, a certain degree of flexibility within the processes was important to tailor processes to the specific needs of a patient (see: flexibility of care). For example, a high workload (e.g., too many patients; insufficient number of staff) disrupted a smooth flow of processes and provision of care by increasing waiting times and decreasing the time devoted to the individual patient. Interruptions in the process must be resolved, (e.g., using strategy meetings and quality management evaluations). The importance of interdisciplinarity within process flows and planning was emphasized. Standardized guidelines (e.g., clinical practice guidelines) were considered as a recommendation for objective patient needs, but not as a strict guideline for specific patient care. It was reported that process steps were defined in inpatient nursing using the Plan-Do-Check-

Act Cycle (PDCA Cycle) to adapt guidelines to the needs of the residents. Checklists were occasionally used to ensure compliance with process steps, especially when the patient is admitted. The relevance of effective process design seemed particularly high in centers (e.g., breast care centers, medical care centers).

Resource-orientation: Interviewees mostly linked PCC to the availability of various resources. Scarcities of personnel resources, which were described as strongly related to a lack of financial resources, were mentioned most often. For example, organizations had to draw on (more affordable) ancillary staff. This issue was exacerbated by the limited availability of adequately skilled staff, and professional staff facing a high workload during their shifts. Often, decision-makers perceived difficulties in striking the right balance between PCC and quality demands, on the one hand, and scarce resources and rigid guidelines, on the other. Compared to other organizations, outpatient and inpatient nursing facilities particularly highlighted the problem of scarce resources.

Interviewees described different strategies to maximize PCC under scarce resources. For example, fostering personnel development (e.g., skills and competencies) was identified as supportive to PCC. Collaboration in networks of different providers was another strategy to manage lacking resources for fulfilling patient needs. It became clear that larger organizations (e.g., hospitals) possess broader financial leeway to overcome scarcities or to invest in staff. Moreover, interviewees assumed that non-profit HSCOs tend more to use financial resources for the benefit of PCC (e.g., staff number or quality) – which, according to the interviewees, might be handled differently in organizations under for-profit ownership. Another strategy mentioned as a vision was the organization's

focus on a limited range of health care services (e.g., with regard to the complexity and of care needs).

Employee retention & satisfaction: According to the interviewees, caregivers cannot make patients healthy and satisfied if they do not feel equally valued. Therefore, employee satisfaction emerged as one determinant for PCC that is related to resource-orientation. Various strategies were mentioned to strengthen or preserve the employee´s resources, foster staff satisfaction, and ultimately tie professional staff to the organization. Those included, for example, adequate payment, occupational health management, a good working climate, work-life balance (e.g., time for leisure and recreation), opportunities for further training, job autonomy, and supportive technical equipment.

Add-on services: Organizations offered additional (e.g., non-reimbursed) services for patients, which primarily targeted the dimensions of psychosocial needs and continuity of care. Specific activities concerned, for example, services for relatives, and care outside consulting hours or beyond the treatment period. Although these activities were often not reimbursed, decision-makers perceived them as crucial for patients and the care process. Another incentive for providing additional services was peer pressure, meaning that organizations offered additional services (e.g., entertainment) to gain a competitive advantage for their organization or increase business development.

Structures

Staffing & workload: Interviewees described that the number of staff available, the ratio of professional to ancillary staff, and the workload influenced PCC. Staff-related factors (e.g., availability) and the staff-patient ratio were described as a precondition for the

provision of patient-centered nursing. Moreover, these factors determined flexibility of the organization in times with high sick leave. Particularly in long-term inpatient care, temporary employment was described as inevitable, yet undesirable (see: professional qualification). Organizational strategies to strengthen personnel resources included the reinvestment of financial surpluses into the body of personnel.

Technical infrastructure: Across organizational boundaries, several interviewees saw available equipment as a precondition for adequate patient treatment. Mostly, the term was automatically referred to as medical or technical equipment. One outpatient caregiver described that patient communication was complemented by use of non-technical equipment (e.g., flip charts), to increase patient involvement in care.

Health information technology was generally confirmed as increasingly relevant during the care process. Different examples for the application of information technology (IT) in health care practice were mentioned, ranging from the integration of individual patient preferences by electronic care planning to the use of tablet PCs to assess patient-related information. Sometimes, insufficient or fragmented IT structures were described as a challenge in everyday practicing, e.g., by hampering cooperation with other care providers or by consuming too much time.

Rooms & buildings: Interviewees described that the arrangement or design of rooms and buildings should ideally match the care processes and meet patient needs. Hospitals and other inpatient providers faced historically developed architectural structures that could hardly be changed. Strategies to deal with physical barriers included a re-design or interior change of rooms and buildings to the fullest possible extent (e.g., media entertainment).

Outpatient care providers mentioned the possibility of shifting from one room to another on demand.

Processes

Continuity of care: The importance of continuity in the care process was highlighted. Organizations strived to ensure care provision by the same person throughout the treatment process. Thereby, care providers were assumed to be better able to familiarize with the specific patient, observe and address health state changes. Temporary employment in case of understaffing was regarded as a hindrance to PCC provision, since these employees are usually not familiar with the processes and structures in the particular care organization. Moreover, in case of readmission, re-treatment or follow-up visits, the opportunity to contact the same HSCOs as previously was considered desirable. The use of guides (e.g., a case manager) was mentioned as a strategy to ensure continuity.

Timeliness of care: Next to continuity, the timeliness of care was stressed as important for PCC. Timeliness means that a patient's access to treatments matches the urgency of that patient's physical or psychological needs. In order to be able to assess the urgency of a situation, according to the interviewees, this requires guidelines and the skills (e.g., to recognize such situations or capacity to act) of those who have the first contact with the patient (e.g., reception staff). The extent of bureaucracy proved to influence timeliness of treatment, including, e.g., approval and reimbursement of therapies, the purchase of special home care equipment, anamnesis of non-relevant information for care needs.

Flexibility of care: In any care situation, the flexibility of care was considered necessary for delivering PCC implying that processes and individuals allow for adjustments in care

that value a patient's day-to-day needs and preferences. This may include, e.g., altering standardized care plans when patients prefer to shower on a different day. However, interviewees also reported a lack of flexibility in structures and processes, especially in hospitals. If regular processes and responsibilities are maintained in emergency cases, although immediate action including deviation from the usual procedures is required, this might threaten the patient's health.

Internal communication and networking: Communication processes were separated into formal communication or informal communication. Formal communication covered regular events, such as case meetings, team meetings, or tumor boards. Interviewees described the involvement of various disciplines in formal cooperation, sometimes depending on the specific patient's needs and background, as ways to ensure PCC. The integration of different knowledge bases for medical treatment decisions and the involvement of additional non-medical (e.g., social-service) perspectives in the care process were described as advantages of formal cooperation structures.

Informal communication channels were mentioned as a complementary, yet faster, way to network and cooperate internally. Possibilities for internal communication were sometimes described by providers of inpatient care as restricted when hierarchies, demarcated departmental structures or activities, and professional boundaries (e.g., between nurses and physicians) existed.

Culture & Climate

Decision makers described the communication and mutual consideration within an organization as a key determinant for a good atmosphere for patients and staff members. Interviewees stated that with the help of good cooperation and a good working

atmosphere, all employees are able to follow a patient-oriented attitude and action without the need for specific hierarchies, strategies or training.

Fostering an active collaborative culture within neighborhoods and with other HSCOs was also mentioned as a strategy to improve patient care. Decision makers considered non-profit HSCOs better able to work in the interest of the patient since making profit does not need to be balanced against patient needs. Also, decision makers named specific guiding principles usually with a religious origin, which shape their organization's culture. The implementation of these principles was assumed to be supported, e.g., by signing a mission statement form or having an inspiring leader, who actively represents the culture and values of the organization.

Insert Table 2

3.3 Determinants of PCC implementation related to the individual level: Characteristics of individuals (Inner setting)

Coping strategies: Finding a position in which employees are able to provide care according to their qualification and beliefs was considered necessary for being able to cope with the challenging task of providing care. Interviewees named the attendance of mentoring meetings, exchange with colleagues or the development of joint practices as opportunities to better cope with challenging situations. In very problematic situations related to personal conflicts with patients, interviewees considered referral to another care provider as necessary.

Physical and emotional well-being: Interviewees described a direct link between the physical and emotional well-being of caregivers and the provision of PCC, since only those employees who feel well can also provide good care in the long run. Moreover, employees who feel well in a care organization were considered more likely to remain employed for a longer time and therefore support the provision of continuous care (see: continuity of care). Interviewees considered a reduction of working hours or job-sharing strategies to leave room for sufficient recovery from the demanding task of care provision.

Skills and capabilities: Interviewees mentioned *psychological traits, professional qualifications and development, and communication skills* as important factors at the individual level to determine the provision of PCC. Staff members who are motivated, empathic, respectful, patient, open, flexible, active listeners and who have good problem-solving skills were considered to be better able to provide PCC than those lacking these traits. Moreover, orientation towards the patient is supported when care provider and patient get along well with each other. Interviewees highlighted the importance of looking at psychological traits when recruiting new staff members in order to create a functioning team. Additionally, sufficient qualification and willingness of staff members for professional development was considered a prerequisite for PCC provision. Being able to communicate in the patients' mother tongue was considered as relevant as the educational background of the care provider. A high level of, e.g., registered nurses instead of nursing assistants, facilitates care coordination since every staff member can take over all tasks. Staff members who are trained for the treatment of particular patient groups (e.g., breast cancer, dementia, palliative care) can take over more specialized tasks and relieve general nurses from several duties. Communication skills including withstanding difficult and

unpleasant conversations were considered particularly important competences. Having a plan in mind for communicating bad news, such as diagnoses, and being honest were both considered necessary for managing such situations without overwhelming patients. Interviewees stated that the best medical care could even be endangered if it was not accompanied by adequate communication and easily understandable explanation of the disease and treatment process.

Attitudes towards PCC: Interviewees stated that PCC largely depends on the employee´s engagement and feeling of responsibility for care. Intrinsically motivated staff had a feeling of responsibility and compensated for disruptions during the care process. Care providers need to have a positive attitude towards the patient, but this should also be supported by the care team and supervisors, e.g., by acting as role models, placing high value on patient-centered behaviors during employment probation or allowing enough time for the care of each patient.

Insert Table 3

4 Discussion

Providers of health and social care services face increasing pressure to implement PCC into their daily practice. This study explored the decision-makers' understanding of PCC, potential determinants that facilitate or obstruct its implementation, and strategies to reconcile PCC with resource scarcity. When describing optimal care for patients, the interviewees usually addressed all core elements of PCC, as described in established concepts on PCC [3], reflecting a general agreement regarding the dimensions of PCC. Patient empowerment was explicitly addressed as a relevant aspect of PCC by only one

interviewee. Conversely, in an expert survey (e.g., patient representatives, researchers, clinicians) patient empowerment was rated among the top five dimensions regarding relevance and clarity [23]. This aspect might therefore not be given full consideration in the practical implementation of PCC.

Notably, the dimensions of PCC seem to have a different relevance in the different care contexts. It became clear that on the one hand, psychological and psychosocial needs are prioritized in long-term care (outpatient and inpatient care, hospice) and in psychotherapy. In acute medical care (e.g., hospital), physical needs were given priority. Possibly, the involvement of relatives and friends in care was more pronounced in inpatient long-term care and hospices, since patients are often no longer able to advocate their own wishes and preferences. Moreover, these providers heavily rely on relatives as a source for the patient's history or preferences (e.g., individual manners; preferred meal times). In contrast, when patient-provider relationships are relatively short-term, when organizations are relatively disease-focused (e.g., in hospitals or specialist care), and when the patient condition is relatively stable, the involvement of relatives and friends plays a minor part from the decision makers' perspective.

With regard to patient involvement in care, interviewees in acute inpatient care expressed skepticism about the involvement of patients in formal meetings (e.g., tumor boards). Meetings were described as emotionally challenging or too complex to understand for patients due to professional jargon. A survey in breast cancer care showed that this perception applied particularly to surgeons and oncologists, but less to nurses and patient advocates [24]. For Germany, a study of breast cancer patients in hospitals revealed that only one in eight patients was offered to participate in multidisciplinary tumor

conferences, but invitation strongly depended on the respective individual hospitals. However, the fact that roughly half of the invited patients actually participated in tumor conferences suggests that not all patients expected to be involved or informed to the same degree [25]. Ultimately, this corroborates the notion to consider each patient individually, which is inherent to PCC [1].

On the organizational level, the general commitment towards PCC with an emphasis on leadership behavior and support as well as an organizational culture of learning emerged as key determinants for PCC implementation (as in [11, 13, 16, 17]). This aspect relates closely to other determinants, since our interviews suggested that patient-oriented behavior needs to be valued, rewarded, or, if not achieved, reacted to appropriately by organizational leaders.

The definition of standardized processes (internal, e.g., Standard Operating Procedures) and care procedures (external, e.g., clinical practice guidelines) was considered important in order to effectively control processes and to provide care adherent to standards of care. However, interviewees stated that guidelines would only give orientation and processes and standards must be flexibly adaptable to the individual needs of patients. An individualized standardization within HSCOs can therefore be concluded as a yardstick for PCC [26, 27].

Interviewees described organizations' strategies towards maintaining, accumulating, and preserving their resources as they perceived difficulties in striking the right balance between PCC, quality demands, scarce resources and rigid guidelines. Human resources were perceived as the most important resources as they are linked to other resources (e.g., time or money). Fostering personnel qualifications and development as well as the

concept of care for caregivers [15] were therefore identified as main strategies to preserve different kinds of resources (personnel, financial, time) to support PCC. All interviewees stated that only healthy and satisfied caregivers are able to provide PCC on an ongoing basis. This corresponds to the finding that patient satisfaction is lower in hospitals with more burned-out, dissatisfied, and frustrated nursing staff [28]. Accordingly, strategies to maintain or improve the emotional and physical well-being of staff were described across different types of organizations. While individuals need to be qualified for their job, it is the organizations' task to foster staff well-being and provide sufficient opportunities for continuous education [13].

As a strategy to increase patient value in care with equal resource consumption [29] and to organize care around the patient [30] it was proposed to concentrate care within the HSCOs. This corresponds to Christensen's et al. [31] idea to replace HSCOs by types of organizations related to the complexity of the patient's problem of care. For example, in the case of hospitals, they suggest that managerial control could be regained if general hospitals were replaced by two types of organizations. One type, called a "value-adding process clinic", delivers standardized, routine treatments for patients with well-diagnosed conditions at predictably high quality. The other type, called a "solution shop", organizes care for more complex and ill-diagnosed patients [31].

Individual characteristics that determined the provision of PCC, e.g., empathy or the individual attitudes towards the uniqueness of patients and their needs, can only partly be influenced directly by the organizations. Therefore, the recruitment of adequate staff was highlighted as a main challenge.

Another key facilitator that emerged was continuity of patient care within and across organizations, which is consistent with previous work on PCC (e.g., [18, 23, 32]). While continuity in appointments or in people providing care cannot always be ensured due to work schedules, IT infrastructure was considered as one option to reduce problems with fragmented care. A complete and fast exchange of patient information should facilitate care within and across organizations, since a complete personal and disease history is available and does not need to be elicited at each new visit. Policy makers should therefore discuss more intensively opportunities of improved IT structures in HSCOs [1].

Limitations

Our results need to be seen in light of several limitations of this study. Firstly, interviews were only conducted with decision-makers in leading positions. The perspective of staff members in lower positions is not considered. Therefore, any differences in perspective cannot be identified through this study. Secondly, we only included representatives in the city of Cologne, which implies that we did not capture PCC determinants related to more rural areas. Finally, our sample might suffers from selection bias. We assume that participants had a higher intrinsic motivation and interest in the particular research topic and might also be more likely to engage in activities that foster PCC.

To conclude, as reflected by the wide range of determinants identified, PCC implementation requires performance measures that evaluate multiple dimensions [33]. Some of those dimensions may be influenced by short-acting (e.g., equipment; design of rooms and buildings), while others require certain mid-term or long-term strategies (e.g., networks or culture). One particular pillar for the success of PCC seems to be the active involvement and engagement of management and decision-makers. These persons are

particularly positioned to relay the high importance for PCC [15], thereby supporting an atmosphere that values PCC [4] and implementation efforts [17].

Future research should investigate whether the identified determinants are similar in other regions, especially rural areas. Moreover, quantitative data on systematic differences between types or ownership of HSCOs are needed to validate the explorations of this work. Finally, future research should apply a more fine-grained view on conditions and regulations of the health and social care system, such as reimbursement regulations, and their association with PCC implementation [7]. These determinants are located outside the sphere of individuals or organizations and may provide policy implications to foster PCC implementation in organizations.

Tables

Table 1: Decision makers' understanding of PCC (intervention characteristics)

INTERVENTION CHARACTERISTICS	Quotes
PCC perspectives of patient needs	
Psychological/Psychosocial needs	On the day of admission, [we determine] the guests' demands and needs. This is not even primarily about medical things; all of that is very important as well [...]. But then, of course, we look at the family unit and so on. Like... are there some things that you would still like to arrange, that are important to you. That just often goes in the direction of psychosocial needs as well. Patients tend to come in then because they are not seriously... or do not feel taken seriously. Or because [...] sometimes report having been curtly brushed aside. I think that tends to be more of an emotional rather than a truly treatment-related problem. […] the qualitative view of my care is the other. And I say, quality does not only mean that I have cured someone, but I can also accompany someone very well when dying. And that's our job to see who needs what. What do we have to do in terms of care and what does the individual need to be happy?
Physical needs	Well, first you have the purely medical dimension. So you say, the patient comes in to the hospital with this and that disease if it has been diagnosed, or the patient comes in as an emergency, and you find out what is wrong. And then there is a medical guideline, a care pathway, or something that you can still objectively measure quite well I think. [...] And then at some point, a medical status is reached where you tell the patient, well, now you are fit enough to be able to go back home. That is one dimension. So many things may be noticed then that may otherwise be missed if you basically only have the focus. Someone comes in with kidney pain, urine is tested and antibiotics administered, and you do not look left or right. I think […] the most important thing is to accept the patient, to accept him where he is, with the pain, with the aches, with that "*I'm here for nothing and I'm sorry that I disturb you*". These are crucial key sentences: Telling the patient at this point, […] "*You have a worry. And that's the worry we're going to look at here. There is no evaluation of worry. There is no evaluation that this is a big worry and that is a small one. You don't always have to come in here with a heart attack*".
PCC implementation measures	
Patient empowerment	Well, generally, I think it is always good when patients can do it themselves, in the spirit of self-management, I am always for that actually, that they take care of themselves. I would not call somewhere on behalf of a patient if I felt that the patient can do it himself, right? [...] I would consider that excessive care. But, the patient is actually very alone and must be basically an expert for his disease pattern and the possibilities, which the health service offers, so that he reaches his goal quickly.

	If there aren't relatives to care, it's very, very difficult. [...] they're [hospitals] also badly staffed, no question. But nevertheless, I think, the resident cannot do anything about this [...] if someone cannot eat independently, then immediately comes the subject, that he should get a stomach tube and we say, no. If you sit there, pass the food, it works.
Involvement of family and friends	Particularly on the ground, in nursing care itself, a key point is certainly the willingness to talk as well. That family and friends are not a bothersome evil or, well, the annoying [...] son, husband, whatever, but actually, well, an attachment figure. First of all, an appreciation of the importance of this family member or friend to the person in need of care. Determining that plays a role as well of course. Well, from a purely technical perspective, simply supporting us. And that is, sometimes it makes things easier, these family members or friends who come in, but sometimes, well, it is like an additional resident who is very time-consuming too and needs to talk a lot and even needs psychological support.
Patient involvement in care	Well, patient orientation means that the patient is guided through the entire treatment and from the physician or medical side does not have to make an effort regarding the progress of treatment. That the patient's needs are responded to. And the treatment is discussed and conducted together with the patient. [...] [I] would almost call that cruel, that is...that would be much too difficult, I would not want to advocate my family and friends either to sit in on a tumor board. I believe I would not sit in on the tumor board that decides on my own fate either if I ever had cancer. […] well, then there are things where a guest with a brain tumor, for example, absolutely wants to have a [prosthesis] implanted. That makes no medical sense. In terms of nursing care, it makes no sense either, it only causes the guest discomfort, right? [...] Here we can only inform, and ultimately, the final decision must be made by the guest. We are already trying to find goals […] most of them interdisciplinary and very close to everyday life. And of course the patients have to join in. Well, they are also asked... Most of them say first, […] "*I want to be the same as before*," right? And then to concretize that […]. Then you can check it better at the end.
Patient information	But about your question on psycho-oncology, there is at least something offered [...] And we offer the corresponding information materials on our counter too. [...] I think I may not point those out to my patients enough. [...] [Y]es, that often falls between the cracks a little bit in the, let's say, in the rush of treatment. […] we are asking about the friendliness of the staff and whether information is provided before interventions and so we are already trying to find out a bit, if the patients have the feeling that they are being informed about the things that are important. [...] [You] can have the best medicine on the one hand if the patient does not... is not reasonably communicated with the patient, then he will not have felt this as patient-oriented. Then he'll go home and say "*I don't know what's wrong with me*".

Table 2: Determinants of PCC implementation related to the organizational level (inner setting)

INNER SETTING	Quotes
Strategies	
Organizational incentives & rewards	We have introduced idea management in which all employees can participate. [description of innovation] is then acknowledged and the employee then receives [...] a goodie for participation; it is then assessed in our QM steering committee, the idea and the employee, or if a team participates, they then receive a [...] financial compensation.
	I mean, we also have some things go wrong, of course, someone or other makes a mistake sometimes here as well, then go there and say, we made this mistake; we try to limit the consequences, but we handle it openly. [...] Then the covering up, denying, etc., starts. I mean, I also used to have employees that exhibited those behaviors, but as I said, I used to have them.
	What we cannot do, we cannot evaluate whether the implementation has been successful. We can't do that. So we cannot say, rather only give incentives and motivate and be supportive in the sense of as long as voluntariness... So if I am person-centered... As long as they allow this in the organization.
Learning	But the starting point are the cases, and in every quality circle, so every quarter of a year, the patient feedback – it includes not only complaints but positive things as well – it is then presented to us by the complaints officer [...]. So they are specific patient assessments.
	Again, the patient is ultimately unable to assess that [medical treatment quality]. Rather, it tends to be the softer things. So, were you friendly to people; did the food taste good? Of course, those are also all things that play a much greater role for the patient because the patient can also assess them. So I always kind of claim that a hospital that has great food is popular with patients because the patient then says, well, if they can cook well, the rest will surely work well too.
	If an organization has longstanding employees who have not been permanently in learning status or have undergone changes, then they are rigid organizations, then it is difficult to break them open by new employees. They won't stay either.
Management of innovations & change	So I see the health care sector or the hospital sector as a very conservative sector, so the willingness to do things anew is not very pronounced. So because medicine is certainly also, I say, an experiential science, perhaps it is also connected with it. […] since so many people interact like gears in a machine, it is of course also extremely difficult to turn any adjusting screw without completely getting the overall system out of step. Well, that is ... as an executive director, you have to a little bit resist the temptation of saying, we will just do that now.
	[…] this works very well when an innovation promises advantages. So that's the crucial thing you have to show the employees... have to prove to employees that what you bring to the market is an innovation that ultimately makes everyday life easier.
	And that is why change, of course, must be well managed. And it is also quite clear, probably just like in all other professions that young employees are better able to engage in change […]. And there you just have to convince in a completely different way and bring along some solutions so that these people can also be engaged.
	My problem is the team members, because they say "*you don't change anything, too*".
Leadership behavior & engagement	[...] then we are back to the management system again; how do I place people in certain functions and how do I design the tasks so that they can practice person-centeredness as well. Or can do so in their work.
	[...] And I find it very important, regardless of vacancy and personnel need, I find the application procedure extremely important. Very, very important. And only because I need someone does not mean that I will take anyone [...]. And so I do that in every interview; I tell everyone, think about what is important to you. How would you want to be treated, or what if it was your mother? And to really stay alert with everyone and look.

	So because there are very different interests […]. This means that the nursing staff is subject to nursing services. And the doctors to the medical service. This means that the doctor is medically authorized to give instructions, but not with regard to the organization, which makes many processes inefficient. This has now become possible […] so here the head physician also conducts staff interviews with all non-medical staff. And we see ourselves as a team. All in all, this works very well.
Conflict Management	When there are conflicts, they must be discussed, but outside of patient care. And of course not in the presence of the patient. We really do not do that here. The fact is, we of course have to ensure here that we have our heads clear for our work. And that means that we are very attentive in dealing with each other, that we do not allow any conflicts to drag on but think in terms of solutions in that area as well. In rapid solutions, that is.
Process-orientation	Of course, there are exceptions, but it should also be the case, I think, that this is already a little QM-orientated, of course, the procedures are controlled. Which we also monitor, help guide, and then again evaluate after the fact. [...] Here [...] the issue is to efficiently care for routine patients, consistently at maximum medical quality. […] we [doctors and nurses] feel we need more staff. […] the management always says "*you must first try this by restructuring*", then also partly foreign management consultancies are brought in […] as an independent company, yes, they look at the processes, then make suggestions to the management as to how they see the moaning at our level is justified, yes or no. What is relatively rigidly specified, for example, is to keep to certain times. […] but with which elements […] that is given with us. But the perfect care is going wrong right now. Because we have far too many institutions around the patient that can no longer look at the actual core at all. Too many organizational structures. You can't have a checklist on the patient. Because every patient comes completely different. The checklist is a great um around structures and perfect management of a practice, structure in the case work, […] the structures that are not patient structures are right. So the whole thing around is perfectly organized.
Resource-orientation	[...] We have a good rate of skilled employees; we are at, I think, [>65] percent right now [...]. That is good. Nevertheless, if I advertise a nursing assistant position because I cannot only hire specialists, because then I do not have enough people because they are more expensive than the assistants. Sure, I have to find a good mix. Well, here, we always tend to choose medical quality over money here. But if I wanted to run it that profitably, then I could not maintain the medical quality. Patients are at the center, as well as I understand it now, and everything else is orientated around them. It really is not such a small effort, if you consider how many not very inexpensive people then virtually take care of a patient. […] And the whole thing then works where you also focus on certain things, yes, centered or concentrated. And does not claim to treat almost all clinical pictures in the same way with such a complex and complete treatment or to treat patients with these many clinical pictures in this way. [...] Beds in the hallways. Yeah? But then you cannot provide adequate care at all with the same resources. That is the same way. Yeah? Then we have to say, either we stop taking more patients.
Employee retention & satisfaction	And to that extent [...] you have to also [...] consider, well, working conditions you create for employees. And that, too, I would say, leads to, when employees feel comfortable, when they are not rushed, them ideally being able to be patient-oriented in their work or communicating differently with patients. Anyway, I believe that patient centeredness does not work without employee centeredness. Because especially in a job where you work so closely with people [...]. When people are not well, they cannot take good care of patients. And we try to manage that somehow through numerous small and medium-sized measures, whatever we can afford (grins). [...] [E]very Monday, there is a fruit basket, for instance. [...] And that is a little measure, that does not cost a whole lot, but as far as the responses we get, it is pretty well received. Of course, the salary is part of that, but this is actually no longer the decisive factor. [...] It is really the team, the reliable off-duty time, can I have that or not? And the less or the more vacancies I have, the harder it becomes to ensure reliable off-duty time, weekends off.

Add-on services	Well, working with family and friends, that simply happens. And this work is important to us, but it is nowhere to be found in the expert opinion to determine the long-term care dependency level; it does not ask whether you constantly have to talk with the wife or whether you have a friend or family member [...] all that does not exist at all. But lots of friends and family members do need to talk with us. Whether because of a bad conscience or worries or whatever. That is not reflected anywhere. In the rooms area, I will say, or everything that has to do with the quality of lodging, all the way to entertainment, well, those are really the hotel components that play a great role too. [...] But the patients clearly have hotel-like expectations from the hospital. [...] And particularly when patients are feeling better, when the level of suffering recedes, the hotel-like expectations are there, and that I believe is something that patients would clearly perceive as patient orientation too because these topics, if you look at [Hospital assessments website] or things like that, very often are, well ... [the] medicine is assumed to be OK.
Structures	
Staffing & Workload	[...] we are always fully staffed to our nurse-to-patient ratios. And it is still always tight. A week like this, where we are sick, that is extremely high; we do not have a high illness rate. [...] Then I am truly almost at my wit's end [...] As long as no staff is added, no new clients, no more individuals in need of care can be admitted. That gives you an idea of how many residents are being cared for by one caregiver. And this inevitably often already really leads to an assembly line care. This means that the number of employees depends on the number of patients. And there is just a staff index, if it is overfilled it is nice for the patient, bad for us, because we don't get paid.
Technical infrastructure	
Equipment	Or someone comes in from the hospital and suddenly requires oxygen. And stands here without an oxygen unit. But I don't have something like that sitting in the basement. I also work with flip charts, still. Gladly. Because I noticed that what you can see is quite different to what is merely said. Patients take pictures of it, or sometimes, they take the flip chart paper with them. Yeah. So there are quite a few things. I work with chairs or with postcards, with cuddly toys, with drawing, with stones. So with everything that makes it more tangible. And somehow helps to translate the words and make them palpable.
(Health) Information Technology	When referring a patient from A to B [...], well, when someone comes from the outside [...], I would say, we physicians in Germany mostly communicate by letter or by fax. The fax is truly still the standard. And I find that so creepy. When we have generated the nursing plan, this standardized nursing plan, which we of course individually complete with the needs of the guest, we add measures here [...]. [W]e use IT-supported documentation here so that we can go to the various levels at any time [...], in each shift, whether the early shift, late shift, or night shift, ultimately to have reminders of what is to be done now.
Rooms & buildings	It is a little cramped here (laughing) for some exercises I do. But I am lucky in that my colleague toward the front of the building has a larger room. Right? Right. So there are solutions for that. We then tried by means of the TVs you saw in the waiting rooms, by offering drinks [...] To try, although you cannot directly reduce the waiting time, to make it as tolerable as possible. That works to some extent, and to some extent it does not. We mostly have double-occupancy rooms. We do not have bathrooms in the rooms but have to take the respective measures [...] across the hallways to the showers and such. So in terms of the [...] environment, this is really not ideal.
Processes	

Continuity of care	This means that we try to manage in terms of the duty roster in such a way that the next days of the same shift, the same staff member always sees the resident. So that the resident does not constantly ... he already has to get used to the early shift, late shift, night shift, to different faces. But to ensure that, if possible, the same staff member goes in. [...] most of them [...] know that they get all-round care here [...] that we take care of patients even after discharge; they then come to us again for outpatient wound checks, for consultations. Of course, that is very time-intensive, and it costs the management more than if they were sent away immediately afterward, but that is what patients applaud here and why they like to come here. I believe that many patients benefit from having someone to look after them over a longer period of time. Especially since many patients also have many psychosomatic problems. I think it is important to stay in touch and not always cover all sorts of things directly with examinations.
Timeliness of care	Professional competencies [have] specified that within 24 hours, a corresponding, adequate medical device must be available [...]. That means you have to submit an application to get this alternating pressure mattress. Then the person responsible for the budget has to check if that's in the budget or not, OK? Then I might have to ask the management board. In the meantime, the user who actually needs it has developed a skin injury. This means that we are pleased that we have visits twice a week and that the laws ensure that if you have SAPV, cooperation, you can reach a doctor 24 hours a day. And that is of course also the case here. And the residents benefit from this because as soon as the condition or symptoms change, we can react immediately and very quickly. It is simply illogical for me, if there is an insurance card, why not let the card be given and send the patient directly to a treatment room. […] And then you can say *"thank you for the card, you get it right back, now go to the treatment room"*, it doesn't matter whether he is Roman Catholic and whether he signs the treatment contract […] at the moment. We want the patient to be well. The patient, he is in pain.
Flexibility	We have a very young man with [neurodegenerative disease]. [...] Very advanced already. For him, I need completely different services than for an 85-year-old who was a wife and mother [...]. They are worlds apart. And I find that totally important, and it is our job to see who needs what. [...] what else is really important is that depending on the way the individual feels that day, you can also respond to changing needs, right? That you don't say, well, you get a partial bath five times a week and a complete bath once a week, and on that one day, the person does not want to or cannot get into the bathtub or shower, and, well, how do you respond then, right?
Formal communication	We do case conferences regarding the residents. We say, there is a problem, or a resident has a wish, how can we respond to it? The social support service participates in team discussions. And the aim is basically to present pretty much every patient to the tumor board once [...] to obtain a recommendation that is based not on the opinion of only one physician but on the opinion of many. The one in the back must know what the one in front is doing. Either through continuous communication, or as we have just done, through communication via computer. It says: the patient is there, you have to call there immediately, please pay attention to this or if someone is in a bad way. And also on call. Some kind of emergency. A pick-up and drop-off service is organized. The patient is […] transferred to the ward. In my time, […] we went down to the intensive care unit as a team of doctors and nurses, […], the doctor spoke with the doctor, the nurses with the nurse, we exchanged, we exchanged crosswise […]. […] a transport service […] has no exchange at all. This means that one must orientate oneself according to the file situation, documented file situation. How much more work, how much more time and how much more insufficient is this?
Informal communication	[...] those are actually short paths [...] [Y]ou talk to each other a lot, you do a lot unofficially too, that can have advantages and disadvantages [...]. You just call your colleague; well, for QM, a lot of what we do may not be official enough, but (laughing) on the other hand, it is also very effective, rather than always sticking to these, well, otherwise regulated pathways.

	Well another obstacle is certainly, of course, the hierarchy at the hospital, which is, of course, extremely pronounced in comparison with other sectors. That is changing to some extent. But it certainly through [...] separate departmental structures [...] and the collaboration between the three professional groups in the hospital.
Culture & Climate	The patient feels whether it harmonizes and functions in a practice or not immediately. These are looks, this is the tension, this is the vibration in a practice, the patient immediately notices this. [...] And the moment he opens the door, the radar is on, "*is everything is okay here, can I stay here, am I really in a good care here*". And when the patient feels tension, in a hospital, in a practice, and realizes that they are already grumbling at each other, the fear is actually already there for the patient, well, if they are already yelling at each other here, "*where am I? I hope I get out of here all right*." Well, for me, that has a lot to do with values as well. And I think that due to the fact that we are an enterprise serving ideological ends and are affiliated with enterprises purely serving ideological ends, we do encounter different attitudes, among staff members too [...] I do experience that willingness too. In the general setting, to really commit to focusing on the patient. And the rest is really cultivated and also lived corporate culture, simply to say that there is a good spirit here. Because here in a manageably large house a relatively good togetherness prevails, this usually also succeeds, I say, to get people into this mainstream somewhere.

Table 3: Determinants of PCC implementation related to the individual level (characteristics of individuals)

CHARACTERISTICS OF INDIVIDUALS	Quotes
Coping strategies	But still, sometimes it is just a fact that such a topic really touches you. I would say for myself, yes, that makes it easier for me, when I do sometimes have short pathways somehow. And I think there is a difference whether you call someone and say, listen, I just had an extreme case. Or whether you meet and talk in the kitchen. It might be something very personal, just here, where someone reminds me of things that I have a problem with myself. Or I'm in trouble and I'm struggling. […] Then I can't be helpful, because I am always affected by it then, right? For example. Or that the patient thinks himself "*no, I can't do that with him either*". Like this. Or do I not want to or am I afraid of what [...]. And then it doesn't fit and then you can also end the therapy... Should you end it. Then. Or say, you'd better find someone else. – Absolutely. You can have the highest salary, but if you cannot apply what you have learned, you will become worn out after some time; then you will not want to do it any longer either.
Physical & emotional well-being	[...] well, residents can only do as well as the staff members are doing. That is very, very important to me when managing a facility; the residents are important, but so are the staff members. When the staff members are not doing well because I am an unfair boss, I have created really bad working conditions, then it is impossible for the residents to do well. And also try to suppress any emotional fluctuations on my part, right? So not to carry them outside, because that must be... he [the patient] is supposed to be comfortable here. And then somehow not somehow affected by our sensitivities. And that also means that when I care, I say, in the sense of person-centeredness, I must also recognize where my limits are. So where I can no longer deal with certain person-centeredness. But I have to be able to say that. This includes a value framework.
Skills & capabilities	
Psychological traits	If you work with people, you need empathy. But a staff member can also say, wow, Ms. X, I really have a problem with her, or I do not like her. I think that is human, and in the team, you have to then see to it that you organize it differently. And not put two people together who dislike each other.
Professional qualifications & development	And if a temporary employment agency tells me, this one has lots of experience, and then I have someone standing here and he does not even know at all how to bathe someone or how to dress someone. Since we [...] particularly have employees with lots of experience, not just continued education. […] we benefit a lot from the fact that we all have the additional training as a palliative specialist so. The patient also sees a pick-up and drop-off service. […] That's someone who says, "*yes, I have to move a bed*". That's why the bed gets stuck here and sometimes bangs there. Patient may have a thigh fracture, the patient bangs against the elevator wall, the patient cries out, classical picture, because the carrier knows nothing at all to deal with it.

Communication (verbal)	I always try to package that well. Because I have been doing that for [>10 years]. And I have noticed that, when you throw survival statistics, etc., at patients, particularly patients with a poor prognosis, patients are very quickly shocked and demoralized. I am always open with my patients. I do not lie to my patients. Out of principle. So I do not lie to make things easier for them either. You [...] can have the best medicine on the one hand if [...] no reasonable communication [takes place] with the patient, the patient will not experience it as patient-oriented. Then the patient will go home and say, I do not know what is going on with me.
Attitudes towards PCC	They all bend backwards here [...] that the people here feel very comfortable. And that they feel dignified. [...] and then, it is typically the mobile nursing service, particularly when there are no friends or family, then morally, ultimately, and ethically feels obligated to really jump in and organize and do and whatever. Then, I think, if we did not have such good staff members who are so committed, it really could hardly be done.

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Author's Contribution

All members designed the study. KIH, HAH and VV designed and conducted data collection, critically reviewed by LA. KIH drafted and revised the paper in close collaboration with VV and HAH. KIH is guarantor. LA, SS, LK, and HP critically revised the paper.

Ethics approval

Ethics committee of the Medical Faculty of the University of Cologne.

Competing interests

None declared.

Data sharing statement

No additional data available.

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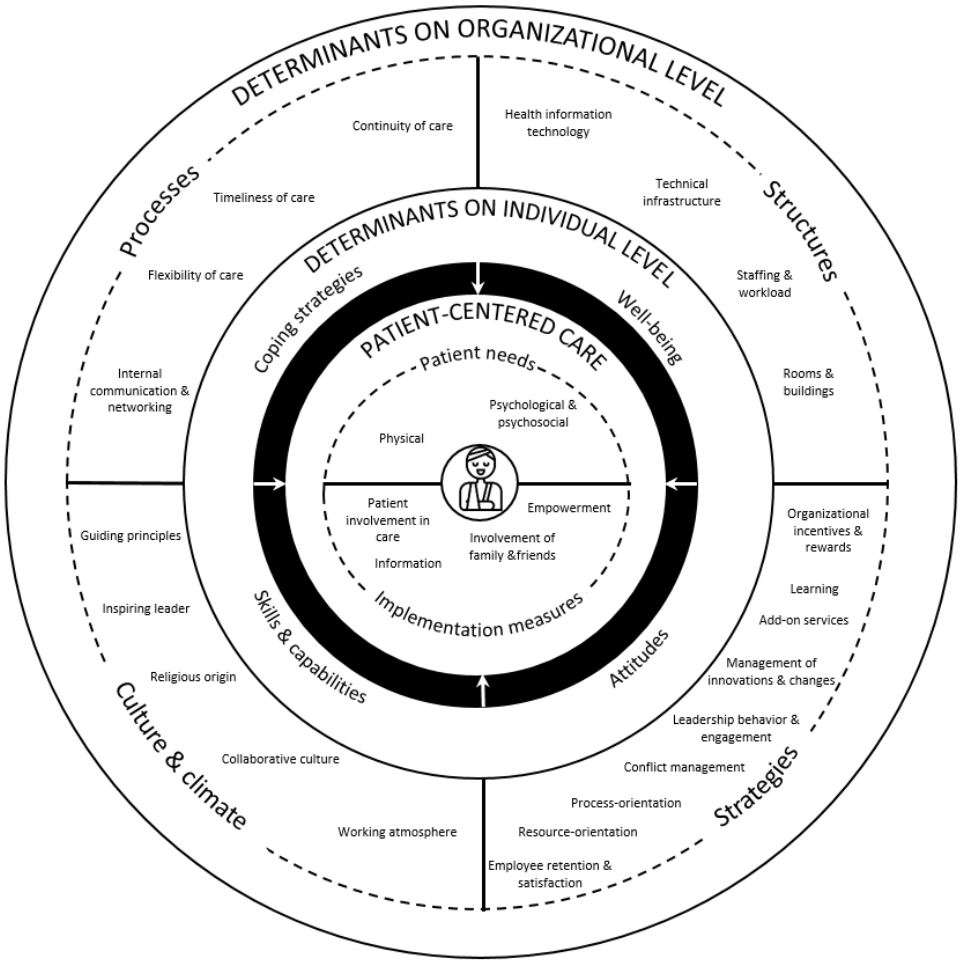

6 Appendix

Table 4: Interviewees by gender, age, type of care organization, and organizational tenure)

Characteristics	Total (n=24)
Gender	
Male	15
Female	9
Age (years)	
25-34	1
35-44	6
45-54	11
55-64	6
Type of HSCOs	
GPs and private practice specialists	3
Psychotherapy	3
Long-term outpatient care	4
Outpatient rehabilitation services and rehabilitation clinics	4
Long-term inpatient care (including hospices)	5
Hospitals	5
Organizational tenure (years)	
less than 5	5
5-10	5
10-19	10
>20	2

Note: Organizational tenure not available from n=2 interviewees. GP = General Practitioner.

The Consolidated Framework for Implementation Research (Damschroder et al., 2009) was used as the basic framework for structuring the interview themes. The determinants within the category outer setting included in this framework were not relevant for the particular study and are therefore not included in the following table. Moreover, additional determinants were identified through the interviews and are therefore added in this table. Some determinants were rephrased for better aligning with the data collected in this study.

Table 5: Adaption of the Consolidated Framework for Implementation Research (CFIR) (Damschroder et al., 2009)

DECISION-MAKERS' UNDERSTANDING OF PCC (INTERVENTION CHARACTERISTICS)	
PCC perspectives of patient needs	
Psychological/Psychosocial needs	Ways in which psychological needs of patients are identified and addressed in a care situation (e.g., emotional support)
Physical needs	Ways in which physical needs of patients are identified and addressed in a care situation (e.g., individualized therapies)
PCC implementation measures	
Patient empowerment	Ways in which patients are actively empowered in a care situation (e.g., self-management). This does not include the provision of medical or non-medical information.
Involvement of family and friends	Ways in which family and friends are actively involved in the care process (e.g., teaching care skills, providing support, taking treatment decisions) and extent to which organizations facilitate such involvement
Patient involvement in care	Ways in which patients are actively involved in the care process (e.g., teaching care skills, providing support, taking treatment decisions) and extent to which organization facilitate such involvement
Patient information	Provision of tailored information while taking into account the patient's information needs and preferences
DETERMINANTS OF PCC IMPLEMENTATION RELATED TO THE ORGANIZATIONAL LEVEL: STRATEGIES, STRUCTURES, PROCESSES, & CULTURE (INNER SETTING)	
Strategies	
Organizational incentives & rewards	Ways in which staff members are motivated and rewarded for implementing patient-centered care (e.g., award for "best idea", notice of termination)

Learning	Ways in which the organization collects information at the level of patient-centeredness. For example, feedback from staff members to team leaders (and vice versa). Includes formal (patient surveys) and informal measures.
Management of innovations & change	Ways in which decision-makers and employees of organizations handle changes and implement innovations
Leadership behavior & engagement	Behaviors and official/unofficial rules that characterize the leadership behavior within the care organization, within departments, and within the team, also in relation to different professional groups
Conflict Management	Ways in which conflicts (e.g., task or emotional conflict) within the organization are addressed or prevented
Process-orientation	The organizations' orientation towards the coordination of standard processes which decision makers or care providers introduced or propose to provide more patient-centered care, and factors that might foster or hinder these processes
Resource-orientation	The organizations' orientation and strategies towards maintaining, accumulating, and preserving their resources, such as human resources (e.g., staff qualification) and information resources (e.g., guideline knowledge)
Employee retention & satisfaction	Ways in which care providers try to encourage and foster the long-term retention of employees and to achieve staff satisfaction. This does not include the well-being of individual staff and how this is related to patient-centered care
Add-on services	Provision of services and equipment above mandatory requirements in reaction to peer pressure (due to financial motivation or altruism) or to provide better or more patient-centered care (e.g., new diagnostic tools, new therapeutic concepts). These offers are not directly reimbursed or covered by any funds such as diagnosis related groups, uniform value scale, or nursing schemes.
Structures	
Staffing & Workload	Specification of quotas on employee per patient, workload, and mandatory standards
Technical infrastructure	
Equipment	Specific equipment (e.g., diagnostic tools) available in the organization. Includes non-medical equipment (e.g., flip-charts)
(Health) Information Technology	Introduction or advances in IT infrastructure that were implemented to provide more patient-centered care (e.g., to save time in relation to documentation duties)
Rooms & buildings	Design and architecture of buildings and rooms within the care organization (e.g., single-bed rooms, private consultation rooms, accessible for handicapped)

Processes	
Continuity of care	Ways in which care providers try to achieve continuous care for their patients (e.g., primary nursing, care team per department) or factors that impede continuity of care within an organization (e.g., frequent staff turnover)
Timeliness of care	Ways in which care providers try to achieve timely treatment if needed and how this is balanced against
Flexibility	Ways in which individual care providers react to new or unexpected situations in care provision
Formal communication	Mode and frequency of team meetings and formal internal communication (e.g., tumor board), including information on staff who are involved in the particular meeting (e.g., separate meetings for medical staff only vs., meeting with all staff members of a department including all professions)
Informal communication	Informal ways in which employees communicate or communication is facilitated (e.g., smalltalk when, social media) within the HSCOs
Culture & Climate	Relative priority of patient-centered care expressed through norms, values, and basic assumptions. Aspects of the climate and culture (e.g., social capital)
DETERMINANTS OF PCC IMPLEMENTATION	RELATED TO THE INDIVIDUAL LEVEL: CHARACTERISTICS OF INDIVIDUALS (INNER SETTING)
Coping strategies	Individual strategies to cope with occupational burdens (e.g., working part-time, changing the department, continuous education)
Physical & emotional well-being	Aspects that are important to employee satisfaction, job satisfaction, and well-being at the workplace
Skills & capabilities	
Psychological traits	Aspects of personality (e.g., empathy, recognizing patient needs) and how individuals act upon these. This does not cover particular attitudes
Professional qualifications & development	Specific qualifications related to the job (e.g., further training in palliative care nursing, language barriers)
Communication (verbal)	Communication skills of employees
Attitudes towards PCC	Cognitive, affective, and behavioral intentions towards patient-centered care (e.g., initiatives of employees to advance their skills, behaviors that reflect job motivation)

Reporting checklist for qualitative study.

Based on the SRQR guidelines.

Instructions to authors

Complete this checklist by entering the page numbers from your manuscript where readers will find each of the items listed below.

Your article may not currently address all the items on the checklist. Please modify your text to include the missing information. If you are certain that an item does not apply, please write "n/a" and provide a short explanation.

Upload your completed checklist as an extra file when you submit to a journal.

In your methods section, say that you used the SRQR reporting guidelines, and cite them as:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. Acad Med. 2014;89(9):1245-1251.

	Reporting Item	Page Number
#1	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	2, 3, 6-9
#2	Summary of the key elements of the study using the abstract format of the intended publication; typically	2, 3

		includes background, purpose, methods, results and conclusions	
Problem formulation	#3	Description and signifcance of the problem / phenomenon studied: review of relevant theory and empirical work; problem statement	4, 5
Purpose or research question	#4	Purpose of the study and specific objectives or questions	5
Qualitative approach and research paradigm	#5	Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenolgy, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist / interpretivist) is also recommended; rationale. The rationale should briefly discuss the justification for choosing that theory, approach, method or technique rather than other options available; the assumptions and limitations implicit in those choices and how those choices influence study conclusions and transferability. As appropriate the rationale for several items might be discussed together.	8, 9
Researcher characteristics and reflexivity	#6	Researchers' characteristics that may influence the research, including personal attributes, qualifications / experience, relationship with participants, assumptions and / or presuppositions; potential or actual interaction between researchers' characteristics and the research	7, 8

		questions, approach, methods, results and / or transferability	
Context	#7	Setting / site and salient contextual factors; rationale	6, 7
Sampling strategy	#8	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale	
Ethical issues pertaining to human subjects	#9	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	8, 33
Data collection methods	#10	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources / methods, and modification of procedures in response to evolving study findings; rationale	6-8
Data collection instruments and technologies	#11	Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if / how the instruments(s) changed over the course of the study	6, 7
Units of study	#12	Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	6, 7, 43

Data processing	#13	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymisation / deidentification of excerpts	6-8
Data analysis	#14	Process by which inferences, themes, etc. were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale	8, 9
Techniques to enhance trustworthiness	#15	Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale	8, 9
Syntheses and interpretation	#16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	8-23, 44-46
Links to empirical data	#17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	34-42
Intergration with prior work, implications, transferability and contribution(s) to the field	#18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application / generalizability; identification of unique contributions(s) to scholarship in a discipline or field	23-28

Limitations	#19	Trustworthiness and limitations of findings	3, 27, 28
Conflicts of interest	#20	Potential sources of influence of perceived influence on study conduct and conclusions; how these were managed	33
Funding	#21	Sources of funding and other support; role of funders in data collection, interpretation and reporting	33

BMJ Open

Implementation of patient-centered care: Which organizational determinants matter from decision-maker´s perspective? Results from a qualitative interview study across various health and social care organizations

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Keywords:	Patient-centered care, implementation, QUALITATIVE RESEARCH, decision-maker, health and social care organizations, Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT

Implementation of patient-centered care: Which organizational determinants matter from decision-maker´s perspective? Results from a qualitative interview study across various health and social care organizations

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Abstract

Objectives Health and social care systems, organizations, and providers are under pressure to organize care around patients' needs with constrained resources. To implement patient-centered care (PCC) successfully, barriers must be addressed. Up to now, there has been a lack of comprehensive investigations on possible determinants of PCC across various health and social care organizations (HSCOs). Our qualitative study examines the current understanding and determinants of PCC implementation from decision-makers' perspectives across diverse HSCOs.

Design Qualitative study of n=24 participants in n=20 semi-structured face-to-face interviews conducted in late 2017/ beginning 2018.

Setting and participants Decision-makers were recruited from multiple HSCOs in the region of the city of Cologne based on a maximum variation sampling strategy varying by HSCOs types.

Outcomes The qualitative interviews were analyzed using an inductive and deductive approach according to qualitative content analysis. We let interviewees define PCC and compared their understanding with concepts of PCC. The Consolidated Framework for Implementation Research was used to conceptualize determinants of PCC.

Results Decision-makers expressed a fairly consistent understanding of PCC. They identified similar determinants facilitating or obstructing the implementation of PCC in their organizational contexts. Several determinants at the HSCO´s inner setting (e.g., communication among staff, well-being of employees) were identified as crucial to overcome constrained financial, human, and material resources in order to deliver PCC.

Conclusions The results can help to foster the implementation of PCC in various HSCOs contexts. We identified possible starting points for initiating the redesign of HSCOs towards more patient-centeredness.

Keywords Patient-centered care, implementation, qualitative research, health and social care organizations, decision-maker

Word Count 6836

Article Summary

Strengths and limitations of this study

- This qualitative interview study adds research to a) the decision makers' understanding of patient-centered care (PCC), b) determinants of PCC implementation at the individual and organizational level, and c) the health and social care organizations (HSCOs) coping strategies related to strained resources.
- Based on purposeful sampling but with possible selection bias we interviewed decision-makers across various types of HSCOs to address varying conditions and availabilities of resources across types of HSCOs to implement PCC.
- Interviews were only conducted with decision-makers in leading positions so that differences in perspectives, e.g., staff members in lower positions, cannot be identified through this study.
- Future research should investigate whether the identified determinants are similar in other regions, especially rural areas, as our explorations are geographically restricted to the city of Cologne, Germany.
- Further analyses should apply a more fine-grained view on determinants located outside the sphere of individuals or organizations and may provide policy implications to foster PCC implementation in organizations.

1 Introduction

Patient-centered care (PCC), defined as "providing care that is respectful of, and responsive to, individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions" ([1], p. 40), has become a guiding principle in health and social care. While concepts such as the Chronic Care Model [2] or the Integrative Model of PCC [3] further specify PCC, a common understanding of PCC is lacking in research and practice [4]. Overall, PCC is conceived as a multidimensional concept that includes principles regarding perspectives of patients' psychological, psychosocial, and physical needs. The concept also suggests concrete activities for implementing PCC such as patient information, patient involvement in care, involvement of family and friends, and patient empowerment [3, 5, 6]. The implementation of these activities have been shown to be associated with more positive health outcomes [7, 8]. The understanding of PCC elements often depends on definitions of professionals and the context of health and social care. Nevertheless, there is a consensus about core elements of PCC across professional groups (e.g., psychological needs, patient involvement) but the focus and emphasis differ. These differences can affect the implementation of PCC [4, 9].

While the need and public attention for PCC have increased [10], health and social care organizations (HSCOs) face scarce resources (e.g., financial, personnel, material) due to a shift from acute illnesses towards chronic illnesses and more complex treatment processes in an aging society. Ultimately, such developments can increase economic pressures and requires organizations to maintain, accumulate, and preserve their resources, which is defined as resource-orientation [11] and obstructs PCC [12]. Therefore, health and social care systems, organizations, and individual caregivers are

constantly challenged to organize care according to the tenets of PCC under constrained resources [13].

To ensure successful implementation of PCC, determinants that facilitate and obstruct PCC must be investigated and addressed at all levels and types of care [3, 4, 6, 14]. Research locates determinants of implementation success in health and social care at three levels: 1) the individual level (personality traits and skills [15, 16] or attitudes [17]), 2) the organizational level (e.g., goal setting [18], participating management [16, 19, 20], resources [18], infrastructure [16, 21], and culture [22]), and 3) the healthcare system level (e.g., regulations and patients' rights or climate of politics [14]). The organizational level is a mediator between the individual and the system level and combined with the individual level it plays a major role here, since at these levels specific activities for implementing PCC need to be conducted to fulfill patient needs.

Previous research has contributed to the understanding of determinants of PCC implementation. However, this partly result from the experiences of best-practice examples or organizations that have a great deal of knowledge on PCC (e.g., [18, 22]). Moreover, due to varying conditions for different HSCOs types (e.g., differences in financing structures between ambulatory and inpatient care organizations), availabilities of resources may differ across types of HSCOs. Within the German health care system, health and social care services are delivered at home (e.g., from long-term outpatient nursing or palliative care facilities), in outpatient HSCOs (e.g., offices for general and specialist medical care or psychotherapeutic care,) in inpatient HSCOs (e.g., hospitals for acute medical care, rehabilitation clinics for restorative rehabilitating care or hospice care) or semi-inpatient HSCOs (day-care facility) [23]. These different contexts might be

associated with different determinants for PCC implementation and strategies to deal with resource scarcities.

Our study aims to address these gaps and advance research on PCC implementation and strategies to address determinants across HSCOs. Firstly, we examine the current understanding of PCC from the decision-makers' perspectives across various types of HSCOs. More particularly, we let interviewees define the concept of PCC and compare the main dimensions of their understanding with concepts of PCC and across HSCOs [3]. Secondly, we aim to identify determinants of PCC implementation on the organizational and individual level using a conceptual framework [24]. Finally, coping strategies through which HSCOs may reconcile strained resources with an increasing pressure to implement PCC are explored.

2 Methods

2.1 Study design

The data used in this article stem from the research project OrgValue (Characteristics of Value-Based Health and Social Care from Organizations' Perspectives). OrgValue is embedded within the Cologne Care Research and Development Network (CoRe-Net) [25], which currently includes three subprojects. The first sub-project, the last year of life study - LYOL-C -, focuses on the patients' trajectories and transitions between different providers in their last year of life [26]. The second sub-project - MenDis-CHD - examines the trajectories of and quality of care for patients with coronary heart disease and mental comorbidity. Finally, the third sub-project - OrgValue - analyzes the implementation of patient-centeredness while considering the HCSOs' resource orientation in the model

region of the city of Cologne, Germany. OrgValue is a cross-sectional study integrating mixed methods from qualitative and quantitative social research, thus maximizing the strengths and minimizing the weaknesses of each type of data. The implementation status of patient-centeredness as well as its facilitators and barriers - also in terms of resource orientation - were assessed through face-to-face interviews with decision-makers in various HSCOs contexts. Second, patients' understanding of patient-centeredness and their preferences and needs were examined through face-to-face interviews. Third, the qualitative results provided the basis for a quantitative survey of decision-makers from all HSCOs in Cologne, which will include questions on patient-centeredness, resource orientation and determinants of implementation. Fourth, qualitative interviews with decision-makers from different types of HSCOs will be conducted to develop a uniform measurement instrument on the cost and service structure of HSCOs [11]. The present study presents results of the qualitative interviews with decision-makers in HSCOs.

2.2 Sampling

The HSCOs included in the sample reflect all organizations in the city of Cologne which are involved in the care of patients in their last year of life or patients with coronary heart disease and a mental or psychological co-morbidity (patient groups studied within CoRe-Net) [25]. These included general practitioners (GPs) and private practice specialists (delivering symptom oriented diagnostics and acute treatment), psychotherapists (delivering psychotherapeutic care), long-term outpatient care (delivering nursing and or palliative care), outpatient rehabilitation services and rehabilitation clinics (delivering restorative rehabilitating care), long-term inpatient care (including hospices) (delivering

nursing or palliative care for critically ill patients), and hospitals (delivering acute medical care).

Participants of the interview study were clinical and managerial decision-makers as key informants of these HSCOs caring for the selected vulnerable patient groups. Selecting key informants is a valuable approach, which is frequently used in order to assess the knowledge of employees who generally have decision-making authority [27–29]. A preliminary panel discussion with practice partners of these HSCOs revealed that key informants have the most extensive knowledge about their organization in terms of processes, structures, culture, resource allocation and deficiencies, strategies and organizational behavior, for which we wanted to collect information in our study. It was important that the participants are or were involved in patient care or are in constant exchange with patients or care providers in the organization. Depending on the type of HSCO, clinical and managerial decision-makers can be different persons within an organization (e.g., hospital CEO and chief physician) or one person fulfilling two functions (e.g., GP in private practice). By interviewing multiple representatives per HSCO type, information from multiple perspectives and different degrees of involvement in patient care or managerial processes could be obtained.

Clinical and managerial decision-makers were recruited via networks of practice partners and cold calling. Based on purposeful sampling [30], semi-structured face-to-face narrative interviews were conducted.

2.3 Data collection

The semi-structured qualitative interview guide [30] revolved around three main questions:

- How do decision-makers define PCC?
- What obstructs or facilitates the implementation of PCC in their organizations?
- How do organizations deal with their resources and what resources are needed or lacking to implement PCC?

Each topic was operationalized by core questions facilitating story-telling (e.g., "Do you remember a case where PCC was delivered at its best/not at all?") and narrative-generating sub-questions (e.g., "What were possible reasons that care was (not at all) delivered in a patient-centered fashion?"). The interview guide was flexibly adapted to the decision-maker´s type of care organization, the position or background, or the course of the conversation. Interviews were conducted face-to-face with one interviewee. In three cases, group interviews (with a maximum of three people) were conducted when decision-makers brought in other organizational members who they felt were important to include when talking about the topics outlined in the invitation.

All interviews were conducted by two researchers trained in interviewing with one leading and one assisting in varying combination. The interviews took place at the interviewee's office or in an adjoining room (e.g., a conference room) and lasted an average of 65 minutes (min: 29 minutes, max: 148 minutes). Interviews were audiotaped, transcribed verbatim, and anonymized by an external professional typist. The Ethics

Committee of the Medical Faculty of the University of Cologne approved the study. Interviewees provided written informed consent before the interviews.

2.4 Patient and Public involvement

There was no patient involvement in this study. For the purposes of participatory research representatives from the health and social care practice were involved in the development of the design of the overall research project (OrgValue) at the outset of the study. Representatives were contacted through the Cologne Care Research and Development Network (CoRe-Net). In a collaborative meeting, participants discussed in terms of the qualitative study how to gain access to the study participants, the extent of interviews, and who should be the appropriate contact person as decision-maker in the respective type of organization. All results of the overall study will be disseminated to the participants.

2.5 Data analysis

All transcripts were entered into MAXQDA® software (VERBI GmbH, Berlin, Germany). Qualitative content analysis was chosen to explore the participants' unique perspectives in order to extract on the descriptive level of content and not to provide a deep level of interpretation and underlying meaning [30]. The analysis of the interview content was conducted independently by two multidisciplinary researchers (KIH, HAH, and VV in varying combination) to ensure the validity of the data interpretation by minimizing subjectivity of data interpretation [30]. A coding frame including dimensions of PCC and determinants for implementing PCC at the individual and organizational level was developed by combining deductive and inductive approaches. First, content related

codes were constructed by descriptive coding/subcoding and provisional coding/subcoding [30]. The Consolidated Framework for Implementation Research (CFIR) [24] was used to structure and combine the previously identified codes that denoted determinants of PCC implementation. The CFIR is a well-established framework that combines existing theories for effective implementation and divides five categories of determinants: Intervention Characteristics, Outer Setting, Inner Setting, Characteristics of Individuals, and Processes [24].

The category Intervention Characteristics of the CFIR was denoted by individual patient characteristics derived from the Integrative model of patient-centeredness of Scholl et al. [3]: Biopsychosocial perspective of patient needs (Psychological and Psychosocial needs, Physical needs) and specific activities for implementing PCC (Patient information, Patient involvement in care, Involvement of family and friends, and Patient empowerment) [3, 5, 6]. The categories Inner Setting and Individual Characteristics denoted determinants at the organizational level and the individual level, respectively. The Inner Setting relates to the HSCOs' inner arrangements of strategies, structures, processes, and culture. Characteristics of individuals focus on the employees within the HSCOs. As described above, determinants for PCC implementation that relate to the health care system and interactions between HSCOs settings (Outer Setting) were gathered, but were not part of this study. Finally, in our case, PCC was not one specific formalized intervention, and therefore our study did not intend to explore processes of actual implementation, but rather determinants of PCC implementation status.

The coding frame was repeatedly discussed and re-coded among the researchers and a group of qualitative research experts to ensure its consistency and validity [30]. Appendix

Table 1 provides an overview of the considered categories including a short description for each code. The results were presented as textual fragments of the participants' narratives to illustrate the relationship between the theoretical concepts and the data. Relevant passages were translated into English for this article.

3 Results

In total, 20 interviews were held with 24 decision-makers on 20 different dates. Of the 20 interviews, the interviewees were 24 decision-makers from private practice GPs and specialists (n=3), psychotherapists (n=3), long-term outpatient care (n=4), outpatient rehabilitation services and rehabilitation clinics (n=4), long-term inpatient care (n=3), and hospitals (n=5). Appendix Table 2 provides an overview of participant characteristics in the full sample (n=24).

The remainder of the results section is structured along our three research questions (Figure 1) and according to the CFIR scheme (Appendix Table 1). First, summaries and example quotes are presented to describe the decision-makers' understanding of PCC (intervention characteristics) (Table 1). Second, determinants of PCC implementation related to the organizational (inner setting) (Table 2) and individual level (characteristics of the individual) (Table 3) are described. With regard to our third research question, particular emphasis is placed on organizational strategies to maintain, accumulate, and preserve resources under increasing demands for PCC (resource-orientation).

Insert Figure1

Figure 1: Decision-makers' understanding of PCC and determinants of PCC implementation at the organizational and individual level

3.1 Decision-makers' understanding of PCC (intervention characteristics)

PCC perspectives of patient needs

Psychological and psychosocial needs: The decision-makers pointed out that PCC is characterized by taking the patient seriously and minimizing stress. Individual anxieties and concerns of patients should be respected. Considering the patient's environment was described as central to an adequate planning and successful implementation of the best possible individual care. Environmental aspects cover support by relatives, housing, and general living conditions.

Physical needs: Individual characteristics, such as medical indications, secondary diagnoses, allergies, and how quickly someone recovers, were considered as crucial for the planning and structuring of care. In terms of PCC, it was mentioned to look at the individual in a holistic way and to not only focus on their symptoms and diagnoses. Some interviewees described it as a challenging task to consider and use the patients' resources in order to maintain or regain skills. Particularly in acute care contexts, clinical concerns are prioritized, which, according to some statements, could only be reliably assessed by the providers themselves. It was emphasized that communication is the most important key to identifying physical needs before resources for technical tools or diagnostic procedures (such as radiography) are used to no avail.

PCC implementation activities

Patient empowerment: Interviewees described self-management of patients and relatives as a relevant aspect of PCC. Examples for implementing this dimension of PCC were rarely brought up. The few that were mentioned included the formulation of individual care goals, as well as the encouragement of patients to take on responsibility in the care process. However, taking over all tasks for patients was regarded as providing too much care that is beyond the scope of the provider's role.

Involvement of family and friends: Involvement of family and friends in the care process was mentioned in a wide range of contexts. It was described as an important pillar and resource of the patient, a source of patient-related information (e.g., about the personal preferences or history), and as a source of support in the care process. Different activities were explained that targeted at initiating or upholding the connection with family and friends, such as evenings organized for relatives, possibilities to participate in case meetings, or discussion groups. While successful involvement of the family or friends helped to leverage benefits in the care process, several factors determined its success in practice (e.g., quality of relationship between the patient and the relative). The involvement of family, relatives, or legal guardians was particularly emphasized in long-term inpatient care, but was less pronounced in outpatient settings.

Patient involvement in care: Interviewees described patient involvement in care in terms of continuous patient counseling and support during the care process. Interviewees took different institutionalized approaches to the possibilities, advantages, and disadvantages of patient involvement along the care process (e.g., for shared decision making, in tumor boards or case meetings). The involvement of patients was perceived as particularly

important when the goals of care were defined, since these were patient specific. In long-term inpatient care, involvement was fostered in specific care arrangements (e.g., living groups) and appreciated in general. Still, actual involvement was described as largely dependent on the patient's specific resources (e.g., cognitive or physical abilities) and the individual attitude of the care giver.

Patient information: Informing patients was seen as a basis for involving them and enabling them to participate in decisions. Interviewees described that information is provided to patients personally (e.g., during consultations to find therapeutic consent) or via information materials such as brochures. Independent of the format used, the provision of information was considered being dependent on resources (e.g., time, available staff) and the caregiver's situational awareness for the patient's needs. Medical information needs of patients were described as various and the style of information delivery to the patient (e.g., positivity, honesty) was described as influential for their well-being. In order to ensure that patients are adequately provided with information, the interviewees stated that they should be reassured at the time of leaving whether questions still exist and whether the patient is satisfied. Using patient surveys was proposed to find out whether patients feel sufficiently informed.

Insert Table 1

3.2 Determinants of PCC implementation related to the organizational level: Strategies, structures, processes, and culture (inner setting)

Strategies

Organizational incentives & rewards: In single cases, interviewees described informal (e.g., appreciation) and formal rewarding systems (e.g., remuneration for innovative ideas relating to care improvements or problem-solving within the organization). In contrast, showing non-patient-centered behavior was considered inappropriate and could ultimately threaten continuation of employment. Cancellation of contracts was described as one organizational policy to deal with deficiencies in patient-centered care provision.

Learning: Interviewees described the importance of gaining information on the organization's level of patient-centeredness, but the form and extent of collecting such data varied among care providers. Formalized learning measures included quality circles with regular quality surveys, key indicator analyses, risk profiles, supervision, checklists, patient surveys, and case reviews within the team. These were reported rather by inpatient, larger HSCOs. Less formal forms of gathering information covered complaints by patients, relatives, or staff members. The value of information of these data was evaluated differently across decision-makers. For example, the extent to which patients could make a meaningful judgement about quality features – especially concerning the medical treatment – was questioned.

Management of innovations & changes: Some interviewees perceived the German health care system and the organization they were working in as rigid and reluctant to change. The implementation of innovations in these contexts was therefore perceived as a

complex task of management, because it requires comprehensive adaptation processes, even with less complex innovations. Decision-makers described their dependency on the readiness (willingness and competency) of the middle-level management and the front-line staff for successful implementation of innovations throughout the organization. Both levels need to accept the value of the innovation and implement it in their daily actions. To increase readiness, it requires conviction about the innovation as well as participation and communication in the implementation process. Particularly opinion leaders should be addressed. Medical care centers were described as more innovative than others in terms of structures, i.e. care structure and processes.

Leadership behavior and engagement: Decision-makers described it as important to set an example and to define expectations for a patient-oriented attitude or a "good spirit". To support PCC, control was exerted, e.g., by considering the applicant's attitudes towards patient orientation as decision criteria in the hiring process of employees and management staff. Another strategy mentioned was to demand and encourage for implementation but also to monitor it. Leaders who were not directly involved in patient care felt committed to fostering an environment in which front-line caregivers can do their job with the patient. It was also mentioned that employees need to be able to make decisions independently of their supervisor, to have flat hierarchies, and to formulate clear responsibilities.

Conflict Management: In general, leaders perceived it as a duty and strategy to ensure smooth processes and to manage conflicts. Conflicts within the team were named as one reason for a negative working atmosphere. Patients were described as sensitive to negative moods among team members and as affected by these, particularly in terms of

satisfaction and well-being. Therefore, one provider stated that conflicts should never be dealt in front of a patient and that care provision should always be prioritized.

Process-orientation: Clear-cut definitions and processes helped to warrant adequate care of patients. Time management was seen as an important component for efficient care. Still, a certain degree of flexibility within the processes was important to tailor processes to the specific needs of a patient (see: flexibility of care). For example, a high workload (e.g., too many patients; insufficient number of staff) disrupted a smooth flow of processes and provision of care by increasing waiting times and decreasing the time devoted to the individual patient. Interruptions in the process must be resolved, (e.g., using strategy meetings and quality management evaluations). The importance of interdisciplinarity within process flows and planning was emphasized. Standardized guidelines (e.g., clinical practice guidelines) were considered as a recommendation for objective patient needs, but not as a strict guideline for specific patient care. It was reported that process steps were defined in inpatient nursing using the Plan-Do-Check-Act Cycle (PDCA Cycle) to adapt guidelines to the needs of the residents. Checklists were occasionally used to ensure compliance with process steps, especially when the patient is admitted. The relevance of effective process design seemed particularly high in centers (e.g., breast care centers, medical care centers).

Resource-orientation: Interviewees mostly linked PCC to the availability of various resources. Scarcities of personnel resources, which were described as strongly related to a lack of financial resources, were mentioned most often. For example, organizations had to draw on (more affordable) ancillary staff. This issue was exacerbated by the limited availability of adequately skilled staff, and professional staff facing a high workload

during their shifts. Often, decision-makers perceived difficulties in striking the right balance between PCC and quality demands, on the one hand, and scarce resources and rigid guidelines, on the other. Compared to other organizations, outpatient and inpatient nursing facilities particularly highlighted the problem of scarce resources.

Interviewees described different strategies to maximize PCC under scarce resources. For example, fostering personnel development (e.g., skills and competencies) was identified as supportive to PCC. Collaboration in networks of different providers was another strategy to manage lacking resources for fulfilling patient needs. It became clear that larger organizations (e.g., hospitals) possess broader financial leeway to overcome scarcities or to invest in staff. Moreover, interviewees assumed that non-profit HSCOs tend more to use financial resources for the benefit of PCC (e.g., staff number or quality) – which, according to the interviewees, might be handled differently in organizations under for-profit ownership. Another strategy mentioned as a vision was the organization's focus on a limited range of health care services (e.g., with regard to the complexity and of care needs).

Employee retention & satisfaction: According to the interviewees, caregivers cannot make patients healthy and satisfied if they do not feel equally valued. Therefore, employee satisfaction emerged as one determinant for PCC that is related to resource-orientation. Various strategies were mentioned to strengthen or preserve the employee´s resources, foster staff satisfaction, and ultimately tie professional staff to the organization. Those included, for example, adequate payment, occupational health management, a good working climate, work-life balance (e.g., time for leisure and recreation), opportunities for further training, job autonomy, and supportive technical equipment.

Add-on services: Organizations offered additional (e.g., non-reimbursed) services for patients, which primarily targeted the dimensions of psychosocial needs and continuity of care. Specific activities concerned, for example, services for relatives, and care outside consulting hours or beyond the treatment period. Although these activities were often not reimbursed, decision-makers perceived them as crucial for patients and the care process. Another incentive for providing additional services was peer pressure, meaning that organizations offered additional services (e.g., entertainment) to gain a competitive advantage for their organization or increase business development.

Structures

Staffing & workload: Interviewees described that the number of staff available, the ratio of professional to ancillary staff, and the workload influenced PCC. Staff-related factors (e.g., availability) and the staff-patient ratio were described as a precondition for the provision of patient-centered nursing. Moreover, these factors determined flexibility of the organization in times with high sick leave. Particularly in long-term inpatient care, temporary employment was described as inevitable, yet undesirable (see: professional qualification). Organizational strategies to strengthen personnel resources included the reinvestment of financial surpluses into the body of personnel.

Technical infrastructure: Across organizational boundaries, several interviewees saw available equipment as a precondition for adequate patient treatment. Mostly, the term was automatically referred to as medical or technical equipment. One outpatient caregiver described that patient communication was complemented by use of non-technical equipment (e.g., flip charts), to increase patient involvement in care.

Health information technology was generally confirmed as increasingly relevant during the care process. Different examples for the application of information technology (IT) in health care practice were mentioned, ranging from the integration of individual patient preferences by electronic care planning to the use of tablet PCs to assess patient-related information. Sometimes, insufficient or fragmented IT structures were described as a challenge in everyday practicing, e.g., by hampering cooperation with other care providers or by consuming too much time.

Rooms & buildings: Interviewees described that the arrangement or design of rooms and buildings should ideally match the care processes and meet patient needs. Hospitals and other inpatient providers faced historically developed architectural structures that could hardly be changed. Strategies to deal with physical barriers included a re-design or interior change of rooms and buildings to the fullest possible extent (e.g., media entertainment). Outpatient care providers mentioned the possibility of shifting from one room to another on demand.

Processes

Continuity of care: The importance of continuity in the care process was highlighted. Organizations strived to ensure care provision by the same person throughout the treatment process. Thereby, care providers were assumed to be better able to familiarize with the specific patient, observe and address health state changes. Temporary employment in case of understaffing was regarded as a hindrance to PCC provision, since these employees are usually not familiar with the processes and structures in the particular care organization. Moreover, in case of readmission, re-treatment or follow-up visits, the

opportunity to contact the same HSCOs as previously was considered desirable. The use of guides (e.g., a case manager) was mentioned as a strategy to ensure continuity.

Timeliness of care: Next to continuity, the timeliness of care was stressed as important for PCC. Timeliness means that a patient's access to treatments matches the urgency of that patient's physical or psychological needs. In order to be able to assess the urgency of a situation, according to the interviewees, this requires guidelines and the skills (e.g., to recognize such situations or capacity to act) of those who have the first contact with the patient (e.g., reception staff). The extent of bureaucracy proved to influence timeliness of treatment, including, e.g., approval and reimbursement of therapies, the purchase of special home care equipment, anamnesis of non-relevant information for care needs.

Flexibility of care: In any care situation, the flexibility of care was considered necessary for delivering PCC implying that processes and individuals allow for adjustments in care that value a patient's day-to-day needs and preferences. This may include, e.g., altering standardized care plans when patients prefer to shower on a different day. However, interviewees also reported a lack of flexibility in structures and processes, especially in hospitals. If regular processes and responsibilities are maintained in emergency cases, although immediate action including deviation from the usual procedures is required, this might threaten the patient's health.

Internal communication and networking: Communication processes were separated into formal communication or informal communication. Formal communication covered regular events, such as case meetings, team meetings, or tumor boards. Interviewees described the involvement of various disciplines in formal cooperation, sometimes depending on the specific patient's needs and background, as ways to ensure PCC. The

integration of different knowledge bases for medical treatment decisions and the involvement of additional non-medical (e.g., social-service) perspectives in the care process were described as advantages of formal cooperation structures.

Informal communication channels were mentioned as a complementary, yet faster, way to network and cooperate internally. Possibilities for internal communication were sometimes described by providers of inpatient care as restricted when hierarchies, demarcated departmental structures or activities, and professional boundaries (e.g., between nurses and physicians) existed.

Culture & Climate

Decision makers described the communication and mutual consideration within an organization as a key determinant for a good atmosphere for patients and staff members. Interviewees stated that with the help of good cooperation and a good working atmosphere, all employees are able to follow a patient-oriented attitude and action without the need for specific hierarchies, strategies or training.

Fostering an active collaborative culture within neighborhoods and with other HSCOs was also mentioned as a strategy to improve patient care. Decision makers considered non-profit HSCOs better able to work in the interest of the patient since making profit does not need to be balanced against patient needs. Also, decision makers named specific guiding principles usually with a religious origin, which shape their organization's culture. The implementation of these principles was assumed to be supported, e.g., by signing a mission statement form or having an inspiring leader, who actively represents the culture and values of the organization.

Insert Table 2

3.3 Determinants of PCC implementation related to the individual level: Characteristics of individuals (Inner setting)

Coping strategies: Finding a position in which employees are able to provide care according to their qualification and beliefs was considered necessary for being able to cope with the challenging task of providing care. Interviewees named the attendance of mentoring meetings, exchange with colleagues or the development of joint practices as opportunities to better cope with challenging situations. In very problematic situations related to personal conflicts with patients, interviewees considered referral to another care provider as necessary.

Physical and emotional well-being: Interviewees described a direct link between the physical and emotional well-being of caregivers and the provision of PCC, since only those employees who experience well-being can also provide good care in the long run. Moreover, employees who experience well-being in a care organization were considered more likely to remain employed for a longer time and therefore support the provision of continuous care (see: continuity of care). Interviewees considered a reduction of working hours or job-sharing strategies to leave room for sufficient recovery from the demanding task of care provision.

Skills and capabilities: Interviewees mentioned *psychological traits, professional qualifications and development, and communication skills* as important factors at the

individual level to determine the provision of PCC. Staff members who are motivated, empathic, respectful, patient, open, flexible, active listeners and who have good problem-solving skills were considered to be better able to provide PCC than those lacking these traits. Moreover, orientation towards the patient is supported when care provider and patient get along well with each other. Interviewees highlighted the importance of looking at psychological traits when recruiting new staff members in order to create a functioning team. Additionally, sufficient qualification and willingness of staff members for professional development was considered a prerequisite for PCC provision. Being able to communicate in the patients' mother tongue was considered as relevant as the educational background of the care provider. A high level of, e.g., registered nurses instead of nursing assistants, facilitates care coordination since every staff member can take over all tasks. Staff members who are trained for the treatment of particular patient groups (e.g., breast cancer, dementia, palliative care) can take over more specialized tasks and relieve general nurses from several duties. Communication skills including withstanding difficult and unpleasant conversations were considered particularly important competences. Having a plan in mind for communicating bad news, such as diagnoses, and being honest were both considered necessary for managing such situations without overwhelming patients. Interviewees stated that the best medical care could even be endangered if it was not accompanied by adequate communication and easily understandable explanation of the disease and treatment process.

Attitudes towards PCC: Interviewees stated that PCC largely depends on the employee´s engagement and feeling of responsibility for care. Intrinsically motivated staff had a feeling of responsibility and compensated for disruptions during the care process. Care

providers need to have a positive attitude towards the patient, but this should also be supported by the care team and supervisors, e.g., by acting as role models, placing high value on patient-centered behaviors during employment probation or allowing enough time for the care of each patient.

Insert Table 3

4 Discussion

Providers of health and social care services face increasing pressure to implement PCC into their daily practice. This study explored the decision-makers' understanding of PCC, potential determinants that facilitate or obstruct its implementation, and strategies to reconcile PCC with resource scarcity. When describing optimal care for patients, the interviewees usually addressed all core elements of PCC, as described in established concepts on PCC [3], reflecting a general agreement regarding the dimensions of PCC. Patient empowerment was explicitly addressed as a relevant aspect of PCC by only one interviewee. Conversely, in an expert survey (e.g., patient representatives, researchers, clinicians) patient empowerment was rated among the top five dimensions regarding relevance and clarity [31]. This aspect might therefore not be given full consideration in the practical implementation of PCC.

Notably, the dimensions of PCC seem to have a different relevance in the different care contexts. It became clear that on the one hand, psychological and psychosocial needs are prioritized in long-term care (outpatient and inpatient care, hospice) and in psychotherapy. In acute medical care (e.g., hospital), physical needs were given priority.

Possibly, the involvement of relatives and friends in care was more pronounced in inpatient long-term care and hospices, since patients are often no longer able to advocate their own wishes and preferences. Moreover, these providers heavily rely on relatives as a source for the patient's history or preferences (e.g., individual manners; preferred meal times). In contrast, when patient-provider relationships are relatively short-term, when organizations are relatively disease-focused (e.g., in hospitals or specialist care), and when the patient condition is relatively stable, the involvement of relatives and friends plays a minor part from the decision makers' perspective.

With regard to patient involvement in care, interviewees in acute inpatient care expressed skepticism about the involvement of patients in formal meetings (e.g., tumor boards). Meetings were described as emotionally challenging or too complex to understand for patients due to professional jargon. A survey in breast cancer care showed that this perception applied particularly to surgeons and oncologists, but less to nurses and patient advocates [32]. For Germany, a study of breast cancer patients in hospitals revealed that only one in eight patients was offered to participate in multidisciplinary tumor conferences, but invitation strongly depended on the respective individual hospitals. However, the fact that roughly half of the invited patients actually participated in tumor conferences suggests that not all patients expected to be involved or informed to the same degree [33]. Ultimately, this corroborates the notion to consider each patient individually, which is inherent to PCC [1].

On the organizational level, the general commitment towards PCC with an emphasis on leadership behavior and support as well as an organizational culture of learning emerged as key determinants for PCC implementation (as in [14, 16, 19, 20]). This aspect relates

closely to other determinants, since our interviews suggested that patient-oriented behavior needs to be valued, rewarded, or, if not achieved, reacted to appropriately by organizational leaders.

The definition of standardized processes (internal, e.g., Standard Operating Procedures) and care procedures (external, e.g., clinical practice guidelines) was considered important in order to effectively control processes and to provide care adherent to standards of care. However, interviewees stated that guidelines would only give orientation and processes and standards must be flexibly adaptable to the individual needs of patients. An individualized standardization within HSCOs can therefore be concluded as a yardstick for PCC [34, 35].

Interviewees described organizations' strategies towards maintaining, accumulating, and preserving their resources as they perceived difficulties in striking the right balance between PCC, quality demands, scarce resources and rigid guidelines. Human resources were perceived as the most important resources as they are linked to other resources (e.g., time or money). Fostering personnel qualifications and development as well as the concept of care for caregivers [18] were therefore identified as main strategies to preserve different kinds of resources (personnel, financial, time) to support PCC. All interviewees stated that only healthy and satisfied caregivers are able to provide PCC on an ongoing basis. This corresponds to the finding that patient satisfaction is lower in hospitals with more burned-out, dissatisfied, and frustrated nursing staff [36]. Accordingly, strategies to maintain or improve the emotional and physical well-being of staff were described across different types of organizations. While individuals need to be qualified for their job, it is

the organizations' task to foster staff well-being and provide sufficient opportunities for continuous education [16].

As a strategy to increase patient value in care with equal resource consumption [37] and to organize care around the patient [38] it was proposed to concentrate care within the HSCOs. This corresponds to Christensen's et al. [39] idea to reorganize HSCOs towards types of organizations related to the complexity of the patient's problem of care. For example, in the case of hospitals, they suggest that managerial control could be regained if general hospitals were replaced by two types of organizations. One type, called a "value-adding process clinic", delivers standardized, routine treatments for patients with well-diagnosed conditions at predictably high quality. The other type, called a "solution shop", organizes care for more complex and ill-diagnosed patients [39].

Individual characteristics that determined the provision of PCC, e.g., empathy or the individual attitudes towards the uniqueness of patients and their needs, can only partly be influenced directly by the organizations. Therefore, the recruitment of adequate staff was highlighted as a main challenge.

Another key facilitator that emerged was continuity of patient care within and across organizations, which is consistent with previous work on PCC (e.g., [21, 31, 40]). While continuity in appointments or in people providing care cannot always be ensured due to work schedules, IT infrastructure was considered as one option to reduce problems with fragmented care. A complete and fast exchange of patient information should facilitate care within and across organizations, since a complete personal and disease history is available and does not need to be elicited at each new visit. Policy makers should therefore discuss more intensively opportunities of improved IT structures in HSCOs [1].

Limitations

Our results need to be seen in light of several limitations of this study. Firstly, interviews were only conducted with decision-makers in leading positions. The perspective of staff members in lower positions is not considered. Therefore, any differences in perspective cannot be identified through this study. However, people in lower positions would not have provided us with information about management-related, personnel-related or resource-related information and strategies in the organization, which was also an aim of this study. Secondly, we only included representatives in the city of Cologne, which implies that we did not capture PCC determinants related to more rural areas. Finally, our sample might suffer from selection bias. We assume that participants had a higher intrinsic motivation and interest in the particular research topic and might also be more likely to engage in activities that foster PCC. Third, the understanding of PCC, its implementation and determinants often depend on individual definitions and the context of care, and, require an in-depth analysis to find commonalities and refined understandings of higher order meanings. However, the aim of this study was to provide an overview of core dimensions of PCC and determinants of PCC implementation considering various contexts. Additional analyses focusing on specific principles and activities or determinants of PCC will be published separately.

To conclude, as reflected by the wide range of determinants identified, PCC implementation requires performance measures that evaluate multiple dimensions [41]. Some of those dimensions may be influenced by short-acting (e.g., equipment; design of rooms and buildings), while others require certain mid-term or long-term strategies (e.g., networks or culture). One particular pillar for the success of PCC seems to be the active

involvement and engagement of management and decision-makers. These persons are particularly positioned to relay the high importance for PCC [18], thereby supporting an atmosphere that values PCC [6] and implementation efforts [20].

Future research should investigate whether the identified determinants are similar in other regions, especially rural areas. Moreover, quantitative data on systematic differences between types or ownership of HSCOs are needed to validate the explorations of this work. Finally, future research should apply a more fine-grained view on conditions and regulations of the health and social care system, such as reimbursement regulations, and their association with PCC implementation [10]. These determinants are located outside the sphere of individuals or organizations and may provide policy implications to foster PCC implementation in organizations.

Tables

Table 1: Decision makers' understanding of PCC (intervention characteristics)

INTERVENTION CHARACTERISTICS	Quotes
PCC perspectives of patient needs	
Psychological/Psychosocial needs	On the day of admission, [we determine] the guests' demands and needs. This is not even primarily about medical things; all of that is very important as well [...]. But then, of course, we look at the family unit and so on. Like... are there some things that you would still like to arrange, that are important to you. That just often goes in the direction of psychosocial needs as well. Patients tend to come in then because they are not seriously... or do not feel taken seriously. Or because [...] sometimes report having been curtly brushed aside. I think that tends to be more of an emotional rather than a truly treatment-related problem. […] the qualitative view of my care is the other. And I say, quality does not only mean that I have cured someone, but I can also accompany someone very well when dying. And that's our job to see who needs what. What do we have to do in terms of care and what does the individual need to be happy?
Physical needs	Well, first you have the purely medical dimension. So you say, the patient comes in to the hospital with this and that disease if it has been diagnosed, or the patient comes in as an emergency, and you find out what is wrong. And then there is a medical guideline, a care pathway, or something that you can still objectively measure quite well I think. [...] And then at some point, a medical status is reached where you tell the patient, well, now you are fit enough to be able to go back home. That is one dimension. So many things may be noticed then that may otherwise be missed if you basically only have the focus. Someone comes in with kidney pain, urine is tested and antibiotics administered, and you do not look left or right. I think […] the most important thing is to accept the patient, to accept him where he is, with the pain, with the aches, with that "*I'm here for nothing and I'm sorry that I disturb you*". These are crucial key sentences: Telling the patient at this point, […] "*You have a worry. And that's the worry we're going to look at here. There is no evaluation of worry. There is no evaluation that this is a big worry and that is a small one. You don't always have to come in here with a heart attack*".
PCC implementation activities	
Patient empowerment	Well, generally, I think it is always good when patients can do it themselves, in the spirit of self-management, I am always for that actually, that they take care of themselves. I would not call somewhere on behalf of a patient if I felt that the patient can do it himself, right? [...] I would consider that excessive care. But, the patient is actually very alone and must be basically an expert for his disease pattern and the possibilities, which the health service offers, so that he reaches his goal quickly.

	If there aren't relatives to care, it's very, very difficult. [...] they're [hospitals] also badly staffed, no question. But nevertheless, I think, the resident cannot do anything about this [...] if someone cannot eat independently, then immediately comes the subject, that he should get a stomach tube and we say, no. If you sit there, pass the food, it works.
Involvement of family and friends	Particularly on the ground, in nursing care itself, a key point is certainly the willingness to talk as well. That family and friends are not a bothersome evil or, well, the annoying [...] son, husband, whatever, but actually, well, an attachment figure. First of all, an appreciation of the importance of this family member or friend to the person in need of care. Determining that plays a role as well of course. Well, from a purely technical perspective, simply supporting us. And that is, sometimes it makes things easier, these family members or friends who come in, but sometimes, well, it is like an additional resident who is very time-consuming too and needs to talk a lot and even needs psychological support.
Patient involvement in care	Well, patient orientation means that the patient is guided through the entire treatment and from the physician or medical side does not have to make an effort regarding the progress of treatment. That the patient's needs are responded to. And the treatment is discussed and conducted together with the patient. [...] [I] would almost call that cruel, that is...that would be much too difficult, I would not want to advocate my family and friends either to sit in on a tumor board. I believe I would not sit in on the tumor board that decides on my own fate either if I ever had cancer. […] well, then there are things where a guest with a brain tumor, for example, absolutely wants to have a [prosthesis] implanted. That makes no medical sense. In terms of nursing care, it makes no sense either, it only causes the guest discomfort, right? [...] Here we can only inform, and ultimately, the final decision must be made by the guest. We are already trying to find goals […] most of them interdisciplinary and very close to everyday life. And of course the patients have to join in. Well, they are also asked... Most of them say first, […] "*I want to be the same as before*," right? And then to concretize that […]. Then you can check it better at the end.
Patient information	But about your question on psycho-oncology, there is at least something offered [...] And we offer the corresponding information materials on our counter too. [...] I think I may not point those out to my patients enough. [...] [Y]es, that often falls between the cracks a little bit in the, let's say, in the rush of treatment. […] we are asking about the friendliness of the staff and whether information is provided before interventions and so we are already trying to find out a bit, if the patients have the feeling that they are being informed about the things that are important. [...] [You] can have the best medicine on the one hand if the patient does not... is not reasonably communicated with the patient, then he will not have felt this as patient-oriented. Then he'll go home and say "*I don't know what's wrong with me*".

Table 2: Determinants of PCC implementation related to the organizational level (inner setting)

INNER SETTING	Quotes
Strategies	
Organizational incentives & rewards	We have introduced idea management in which all employees can participate. [description of innovation] is then acknowledged and the employee then receives [...] a goodie for participation; it is then assessed in our QM steering committee, the idea and the employee, or if a team participates, they then receive a [...] financial compensation. I mean, we also have some things go wrong, of course, someone or other makes a mistake sometimes here as well, then go there and say, we made this mistake; we try to limit the consequences, but we handle it openly. [...] Then the covering up, denying, etc., starts. I mean, I used to have employees that exhibited those behaviors, but as I said, I used to have them. What we cannot do, we cannot evaluate whether the implementation has been successful. We can't do that. So we cannot say, rather only give incentives and motivate and be supportive in the sense of as long as voluntariness... So if I am person-centered... As long as they allow this in the organization.
Learning	But the starting point are the cases, and in every quality circle, so every quarter of a year, the patient feedback – which includes not only complaints but positive things as well – it is then presented to us by the complaints officer [...]. So they are specific patient assessments. Again, the patient is ultimately unable to assess that [medical treatment quality]. Rather, it tends to be the softer things. So, were you friendly to people; did the food taste good? Of course, those are also all things that play a much greater role for the patient because the patient can also assess them. So I always kind of claim that a hospital that has great food is popular with patients because the patient then says, well, if they can cook well, the rest will surely work well too. If an organization has longstanding employees who have not been permanently in learning status or have undergone changes, then they are rigid organizations, then it is difficult to break them open by new employees. They won't stay either.
Management of innovations & change	So I see the health care sector or the hospital sector as a very conservative sector, so the willingness to do things anew is not very pronounced. So because medicine is certainly also, I say, an experiential science, perhaps it is also connected with it. […] since so many people interact like bears in a machine, it is of course also extremely difficult to turn any adjusting screw without completely getting the overall system out of step. Well, that is ... as an executive director, you have to a little bit resist the temptation of saying, we will just do that now. […] this works very well when an innovation promises advantages. So that's the crucial thing you have to show the employees... have to prove to employees that what you bring to the market is an innovation that ultimately makes everyday life easier. And that is why change, of course, must be well managed. And it is also quite clear, probably just like in all other professions that young employees are better able to engage in change […]. And there you just have to convince in a completely different way and bring along some solutions so that these people can also be engaged. My problem is the team members, because they say "*you don't change anything, too*".
Leadership behavior & engagement	[...] then we are back to the management system again; how do I place people in certain functions and how do I design the tasks so that they can practice person-centeredness as well. Or can do so in their work. [...] And I find it very important, regardless of vacancy and personnel need, I find the application procedure extremely important. Very, very important. And only because I need someone does not mean that I will take anyone [...]. And so I do that in every interview; I tell everyone, think about what is important to you. How would you want to be treated, or what if it was your mother? And to really stay alert with everyone and look.

	So because there are very different interests […]. This means that the nursing staff is subject to nursing services. And the doctors to the medical service. This means that the doctor is medically authorized to give instructions, but not with regard to the organization, which makes many processes inefficient. This has now become possible […] so here the head physician also conducts staff interviews with all non-medical staff. And we see ourselves as a team. All in all, this works very well.
Conflict Management	When there are conflicts, they must be discussed, but outside of patient care. And of course not in the presence of the patient. We really do not do that here. The fact is, we of course have to ensure here that we have our heads clear for our work. And that means that we are very attentive in dealing with each other, that we do not allow any conflicts to drag on but think in terms of solutions in that area as well. In rapid solutions, that is.
Process-orientation	Of course, there are exceptions, but it should also be the case, I think, that this is already a little QM-orientated, of course, the procedures are controlled. Which we also monitor, help guide, and then again evaluate after the fact. [...] Here [...] the issue is to efficiently care for routine patients, consistently at maximum medical quality. […] we [doctors and nurses] feel we need more staff. […] the management always says "*you must first try this by restructuring*", then also partly foreign management consultancies are brought in […] as an independent company, yes, they look at the processes, then make suggestions to the management as to how they see the moaning at our level is justified, yes or no. What is relatively rigidly specified, for example, is to keep to certain times. […] but with which elements […] that is given with us. But the perfect care is going wrong right now. Because we have far too many institutions around the patient that can no longer look at the actual core at all. Too many organizational structures. You can't have a checklist on the patient. Because every patient comes completely different. The checklist is a great um around structures and perfect management of a practice, structure in the case work, […] the structures that are not patient structures are right. So the whole thing around is perfectly organized.
Resource-orientation	[...] We have a good rate of skilled employees; we are at, I think, [>65] percent right now [...]. That is good. Nevertheless, if I advertise a nursing assistant position because I cannot only hire specialists, because then I do not have enough people because they are more expensive than the assistants. Sure, I have to find a good mix. Well, here, we always tend to choose medical quality over money here. But if I wanted to run it that profitably, then I could not maintain the medical quality. Patients are at the center, as well as I understand it now, and everything else is orientated around them. It really is not such a small effort, if you consider how many not very inexpensive people then virtually take care of a patient. […] And the whole thing then works where you also focus on certain things, yes, centered or concentrated. And does not claim to treat almost all clinical pictures in the same way with such a complex and complete treatment or to treat patients with these many clinical pictures in this way. [...] Beds in the hallways. Yeah? But then you cannot provide adequate care at all with the same resources. That is the same way. Yeah? Then we have to say, either we stop taking more patients.
Employee retention & satisfaction	And to that extent [...] you have to also [...] consider, well, working conditions you create for employees. And that, too, I would say, leads to, when employees feel comfortable, when they are not rushed, them ideally being able to be patient-oriented in their work or communicating differently with patients. Anyway, I believe that patient centeredness does not work without employee centeredness. Because especially in a job where you work so closely with people [...]. When people are not well, they cannot take good care of patients. And we try to manage that somehow through numerous small and medium-sized measures, whatever we can afford (grins). [...] [E]very Monday, there is a fruit basket, for instance. [...] And that is a little measure, that does not cost a whole lot, but as far as the responses we get, it is pretty well received. Of course, the salary is part of that, but this is actually no longer the decisive factor. [...] It is really the team, the reliable off-duty time, can I have that or not? And the less or the more vacancies I have, the harder it becomes to ensure reliable off-duty time, weekends off.

Add-on services	Well, working with family and friends, that simply happens. And this work is important to us, but it is nowhere to be found in the expert opinion to determine the long-term care dependency level; it does not ask whether you constantly have to talk with the wife or whether you have a friend or family member [...] all that does not exist at all. But lots of friends and family members do need to talk with us. Whether because of a bad conscience or worries or whatever. That is not reflected anywhere. In the rooms area, I will say, or everything that has to do with the quality of lodging, all the way to entertainment, well, those are really the hotel components that play a great role too. [...] But the patients clearly have hotel-like expectations from the hospital. [...] And particularly when patients are feeling better, when the level of suffering recedes, the hotel-like expectations are there, and that I believe is something that patients would clearly perceive as patient orientation too because these topics, if you look at [Hospital assessments website] or things like that, very often are, well ... [the] medicine is assumed to be OK.
Structures	
Staffing & Workload	[...] we are always fully staffed to our nurse-to-patient ratios. And it is still always tight. A week like this, where we're sick, that is extremely high; we do not have a high illness rate. [...] Then I am truly almost at my wit's end [...] As long as no staff is added, no new clients, no more individuals in need of care can be admitted. That gives you an idea of how many residents are being cared for by one caregiver. And this inevitably often already really leads to an assembly line care. This means that the number of employees depends on the number of patients. And there is just a staff index, if it's overfilled it is nice for the patient, bad for us, because we don't get paid.
Technical infrastructure	
Equipment	Or someone comes in from the hospital and suddenly requires oxygen. And stands here without an oxygen unit. But I don't have something like that sitting in the basement. I also work with flip charts, still. Gladly. Because I noticed that what you can see is quite different to what is merely said. Patients take pictures of it, or sometimes, they take the flip chart paper with them. Yeah. So there are quite a few things. I work with chairs or with postcards, with cuddly toys, with drawing, with stones. So with everything that makes it more tangible. And somehow helps to translate the words and make them palpable.
(Health) Information Technology	When referring a patient from A to B [...], well, when someone comes from the outside [...], I would say, we physicians in Germany mostly communicate by letter or by fax. The fax is truly still the standard. And I find that so creepy. When we have generated the nursing plan, this standardized nursing plan, which we of course individually complete with the needs of the guest, we add measures here [...]. [W]e use IT-supported documentation here so that we can go to the various levels at any time [...], in each shift, whether the early shift, late shift, or night shift, ultimately to have reminders of what is to be done now.
Rooms & buildings	It is a little cramped here (laughing) for some exercises I do. But I am lucky in that my colleague toward the front of the building has a larger room. Right? Right. So there are solutions for that. We then tried by means of the TVs you saw in the waiting rooms, by offering drinks [...] To try, although you cannot directly reduce the waiting time, to make it as tolerable as possible. That works to some extent, and to some extent it does not. We mostly have double-occupancy rooms. We do not have bathrooms in the rooms but have to take the respective measures [...] across the hallways to the showers and such. So in terms of the [...] environment, this is really not ideal.
Processes	

Continuity of care	This means that we try to manage in terms of the duty roster in such a way that the next days of the same shift, the same staff member always sees the resident. So that the resident does not constantly ... he already has to get used to the early shift, late shift, night shift, to different faces. But to ensure that, if possible, the same staff member goes in. [...] most of them [...] know that they get all-round care here [...] that we take care of patients even after discharge; they then come to us again for outpatient wound checks, for consultations. Of course, that is very time-intensive, and it costs the management more than if they were sent away immediately afterward, but that is what patients applaud here and why they like to come here. I believe that many patients benefit from having someone to look after them over a longer period of time. Especially as many patients also have many psychosomatic problems. I think it is important to stay in touch and not always cover all sorts of things directly with examinations.
Timeliness of care	Professional competencies [have] specified that within 24 hours, a corresponding, adequate medical device must be available [...]. That means you have to submit an application to get this alternating pressure mattress. Then the person responsible for the budget has to check if that's in the budget or not, OK? Then I might have to ask the management board. In the meantime, the user who actually needs it has developed a skin injury. This means that we are pleased that we have visits twice a week and that the laws ensure that if you have SAPV, cooperation, you can reach a doctor 24 hours a day. And that is of course also the case here. And the residents benefit from this because as soon as the condition or symptoms change, we can react immediately and very quickly. It is simply illogical for me, if there is an insurance card, why not let the card be given and send the patient directly to a treatment room. […] And then you can say *"thank you for the card, you get it right back, now go to the treatment room"*, it doesn't matter whether he is Roman Catholic and whether he signs the treatment contract […] at the moment. We want the patient to be well. The patient, he is in pain.
Flexibility	We have a very young man with [neurodegenerative disease]. [...] Very advanced already. For him, I need completely different services than for an 85-year-old who was a wife and mother [...]. They are worlds apart. And I find that totally important, and it is our job to see who needs what. [...] what else is really important is that depending on the way the individual feels that day, you can also respond to changing needs, right? That you don't say, well, you get a partial bath five times a week and a complete bath once a week, and on that one day, the person does not want to or cannot get into the bathtub or shower, and, well, how do you respond then, right?
Formal communication	We do case conferences regarding the residents. We say, there is a problem, or a resident has a wish, how can we respond to it? The social support service participates in team discussions. And the aim is basically to present pretty much every patient to the tumor board once [...] to obtain a recommendation that is based not on the opinion of only one physician but on the opinion of many. The one in the back must know what the one in front is doing. Either through continuous communication, or as we have just done, through communication via computer. It says: the patient is there, you have to call there immediately, please pay attention to this or if someone is in a bad way. And also on call. Some kind of emergency. A pick-up and drop-off service is organized. The patient is […] transferred to the ward. In my time, […] we went down to the intensive care unit as a team of doctors and nurses, […], the doctor spoke with the doctor, the nurses with the nurse, we exchanged, we exchanged crosswise […]. […] a transport service […] has no exchange at all. This means that one must orientate oneself according to the file situation, documented file situation. How much more work, how much more time and how much more insufficient is this?
Informal communication	[...] those are actually short paths [...] [Y]ou talk to each other a lot, you do a lot unofficially too, that can have advantages and disadvantages [...]. You just call your colleague; well, for QM, a lot of what we do may not be official enough, but (laughing) on the other hand, it is also very effective, rather than always sticking to these, well, otherwise regulated pathways.

	Well another obstacle is certainly, of course, the hierarchy at the hospital, which is, of course, extremely pronounced in comparison with other sectors. That is changing to some extent. But it certainly through [...] separate departmental structures [...] and the collaboration between the three professional groups in the hospital.
Culture & Climate	The patient feels whether it harmonizes and functions in a practice or not immediately. These are looks, this is the tension, this is the vibration in a practice, the patient immediately notices this. [...] And the moment he opens the door, the radar is on, "*is everything is okay here, can I stay here, am I really in a good care here*". And when the patient feels tension, in a hospital, in a practice, and realizes that they are already grumbling at each other, the fear is actually already there for the patient, well, if they are already yelling at each other here, "*where am I? I hope I get out of here all right*." Well, for me, that has a lot to do with values as well. And I think that due to the fact that we are an enterprise serving ideological ends and are affiliated with enterprises purely serving ideological ends, we do encounter different attitudes, among staff members too [...] I do experience that willingness too. In the general setting, to really commit to focusing on the patient. And the rest is really cultivated and also lived corporate culture, simply to say that there is a good spirit here. Because here in a manageably large house a relatively good togetherness prevails, this usually also succeeds, I say, to get people into this mainstream somewhere.

Table 3: Determinants of PCC implementation related to the individual level (characteristics of individuals)

CHARACTERISTICS OF INDIVIDUALS	Quotes
Coping strategies	But still, sometimes it is just a fact that such a topic really touches you. I would say for myself, yes, that makes it easier for me, when I do sometimes have short pathways somehow. And I think there is a difference whether you call someone and say, listen, I just had an extreme case. Or whether you meet and talk in the kitchen. It might be something very personal, just here, where someone reminds me of things that I have a problem with myself. Or I'm in trouble and I'm struggling. […] Then I can't be helpful, because I am always affected by it then, right? For example. Or that the patient thinks himself "*no, I can't do that with him either*". Like this. Or do I not want to or am I afraid of what [...]. And then it doesn't fit and then you can also end the therapy... Should you end it. Then. Or say, you'd better find someone else. Absolutely. You can have the highest salary, but if you cannot apply what you have learned, you will become worn out after some time; then you will not want to do it any longer either.
Physical & emotional well-being	[...] well, residents can only do as well as the staff members are doing. That is very, very important to me when managing a facility; the residents are important, but so are the staff members. When the staff members are not doing well because I am an unfair boss, I have created really bad working conditions, then it is impossible for the residents to do well. And also try to suppress any emotional fluctuations on my part, right? So not to carry them outside, because that must be... he [the patient] is supposed to be comfortable here. And then somehow not somehow affected by our sensitivities. And that also means that when I care, I say, in the sense of person-centeredness, I must also recognize where my limits are. So where I can no longer deal with certain person-centeredness. But I have to be able to say that. This includes a value framework.
Skills & capabilities	
Psychological traits	If you work with people, you need empathy. But a staff member can also say, wow, Ms. X, I really have a problem with her, or I do not like her. I think that is human, and in the team, you have to then see to it that you organize it differently. And not put two people together who dislike each other.
Professional qualifications & development	And if a temporary employment agency tells me, this one has lots of experience, and then I have someone standing here and he does not even know at all how to bathe someone or how to dress someone. Since we [...] particularly have employees with lots of experience, not just continued education. […] we benefit a lot from the fact that we all have the additional training as a palliative specialist so. The patient also sees a pick-up and drop-off service. […] That's someone who says, "*yes, I have to move a bed*". That's why the bed gets stuck here and sometimes bangs there. Patient may have a thigh fracture, the patient bangs against the elevator wall, the patient cries out, classical picture, because the carrier knows nothing at all to deal with it.

Communication (verbal)	I always try to package that well. Because I have been doing that for [>10 years]. And I have noticed that when you throw survival statistics, etc., at patients, particularly patients with a poor prognosis, patients are very quickly shocked and demoralized. I am always open with my patients. I do not lie to my patients. Out of principle. So I do not lie to make things easier for them either. You [...] can have the best medicine on the one hand if [...] no reasonable communication [takes place] with the patient, the patient will not experience it as patient-oriented. Then the patient will go home and say, I do not know what is going on with me.
Attitudes towards PCC	They all bend backwards here [...] that the people here feel very comfortable. And that they feel dignified. [...] and then, it is typically the mobile nursing service, particularly when there are no friends or family, is then morally, ultimately, and ethically feels obligated to really jump in and organize and do and whatever. Then, I think, if we did not have such good staff members who are so committed, it really could hardly be done.

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Author's Contribution

All members designed the study. KIH, HAH and VV designed and conducted data collection, critically reviewed by LA. KIH drafted and revised the paper in close collaboration with VV and HAH. KIH is guarantor. LA, SS, LK, and HP critically revised the paper.

Ethics approval

Ethics committee of the Medical Faculty of the University of Cologne.

Competing interests

None declared.

Data sharing statement

No additional data available.

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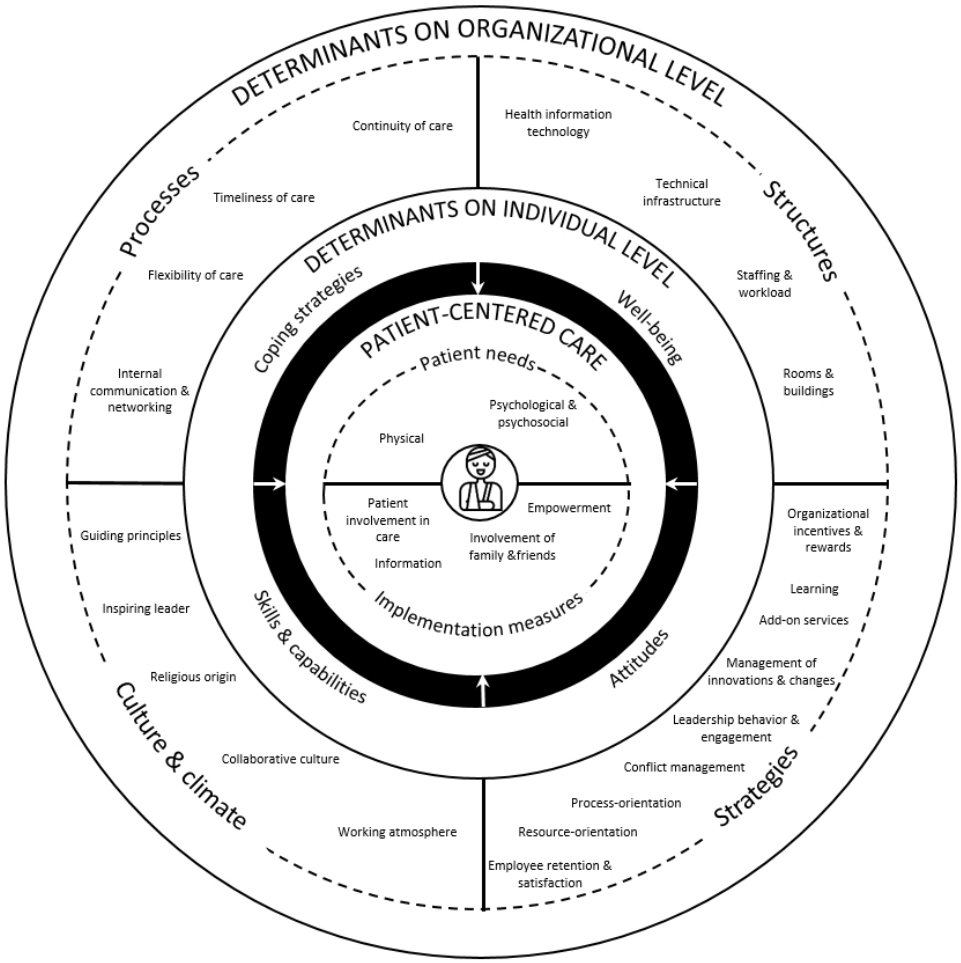

Appendix

The Consolidated Framework for Implementation Research (Damschroder et al., 2009) was used as the basic framework for structuring the interview themes. The determinants within the category outer setting included in this framework were not relevant for this particular study and are therefore not included in the following table. Moreover, additional determinants were identified through the interviews and therefore added in this table. Some determinants were rephrased for better aligning with the data collected in this study.

Appendix Table 1: Adaption of the Consolidated Framework for Implementation Research (CFIR) (Damschroder et al., 2009)

DECISION-MAKERS' UNDERSTANDING OF PCC (INTERVENTION CHARACTERISTICS)	
PCC perspectives of patient needs	
Psychological/Psychosocial needs	Ways in which psychological needs of patients are identified and addressed in a care situation (e.g., emotional support)
Physical needs	Ways in which physical needs of patients are identified and addressed in a care situation (e.g., individualized therapies)
PCC implementation activities	
Patient empowerment	Ways in which patients are actively empowered in a care situation (e.g., self-management). This does not include the provision of medical or non-medical information.
Involvement of family and friends	Ways in which family and friends are actively involved in the care process (e.g., teaching care skills, providing support, taking treatment decisions) and extent to which organizations facilitate such involvement
Patient involvement in care	Ways in which patients are actively involved in the care process (e.g., teaching care skills, providing support, taking treatment decisions) and extent to which organization facilitate such involvement
Patient information	Provision of tailored information while taking into account the patient's information needs and preferences
DETERMINANTS OF PCC IMPLEMENTATION RELATED TO THE ORGANIZATIONAL LEVEL: STRATEGIES, STRUCTURES, PROCESSES, & CULTURE (INNER SETTING)	
Strategies	

Organizational incentives & rewards	Ways in which staff members are motivated and rewarded for implementing patient-centered care (e.g., award for "best idea", notice of termination)
Learning	Ways in which the organization collects information at the level of patient-centeredness. For example, feedback from staff members to team leaders (and vice versa). Includes formal (patient surveys) and informal measures.
Management of innovations & change	Ways in which decision-makers and employees of organizations handle changes and implement innovations
Leadership behavior & engagement	Behaviors and official/unofficial rules that characterize the leadership behavior within the whole organization, within departments, and within the team, also in relation to different professional groups
Conflict Management	Ways in which conflicts (e.g., task or emotional conflict) within the organization are addressed/prevented
Process-orientation	The organizations' orientation towards the coordination of standard processes which decision-makers or care providers introduced or propose to provide more patient-centered care, and factors that might foster or impede these processes
Resource-orientation	The organizations' orientation and strategies towards maintaining, accumulating, and preserving their resources, such as human resources (e.g., staff qualification) and information resources (e.g., guideline knowledge)
Employee retention & satisfaction	Ways in which care providers try to encourage and foster the long-term retention of employees and to achieve staff satisfaction. This does not include the well-being of individual staff and how this is related to patient-centered care
Add-on services	Provision of services and equipment above mandatory requirements in reaction to peer pressure (due to financial motivation or altruism) or to provide better or more patient-centered care (e.g., new diagnostic tools, new therapeutic concepts). These offers are not directly reimbursed or covered by any funds such as diagnosis related groups, uniform value scale, or nursing schemes.
Structures	
Staffing & Workload	Specification of quotas on employee per patient, workload, and mandatory standards
Technical infrastructure	
Equipment	Specific equipment (e.g., diagnostic tools) available in the organization. Includes non-medical equipment (e.g., flip-charts)
(Health) Information Technology	Introduction or advances in IT infrastructure that were implemented to provide more patient-centered care (e.g., to save time in relation to documentation duties)

Rooms & buildings	Design and architecture of buildings and rooms within the care organization (e.g., single-bedrooms, private consultation rooms, accessible for handicapped)
Processes	
Continuity of care	Ways in which care providers try to achieve continuous care for their patients (e.g., primary nursing, care team per department) or factors that impede continuity of care within an organization (e.g., frequent staff turnover)
Timeliness of care	Ways in which care providers try to achieve timely treatment if needed and how this is balanced against
Flexibility	Ways in which individual care providers react to new or unexpected situations in care provision
Formal communication	Mode and frequency of team meetings and formal internal communication (e.g., tumor board), including information on staff who are involved in the particular meeting (e.g., separate meetings for medical staff, e.g., meeting with all staff members of a department including all professions)
Informal communication	Informal ways in which employees communicate or communication is facilitated (e.g., smalltalk, social media) within the HSCOs
Culture & Climate	Relative priority of patient-centered care expressed through norms, values, and basic assumptions. Aspects of the climate and culture (e.g., social capital)
DETERMINANTS OF PCC IMPLEMENTATION RELATED TO THE INDIVIDUAL LEVEL: CHARACTERISTICS OF INDIVIDUALS (INNER SETTING)	
Coping strategies	Individual strategies to cope with occupational burdens (e.g., working part-time, changing the department, continuous education)
Physical & emotional well-being	Aspects that are important to employee satisfaction, job satisfaction, and well-being at the workplace
Skills & capabilities	
Psychological traits	Aspects of personality (e.g., empathy, recognizing patient needs) and how individuals act upon these. This does not cover particular attitudes
Professional qualifications & development	Specific qualifications related to the job (e.g., further training in palliative care nursing, language barriers)
Communication (verbal)	Communication skills of employees

Attitudes towards PCC	Cognitive, affective, and behavioral intentions towards patient-centered care (e.g., initiatives of employees to advance their skills, behaviors that reflect job motivation)

Appendix Table 2: Interviewees by gender, age, type of care organization, and organizational tenure)

Characteristics	Total (n=24)
Gender	
Male	15
Female	9
Age (years)	
25-34	1
35-44	6
45-54	11
55-64	6
Type of HSCOs	
GPs and private practice specialists	3
Psychotherapy	3
Long-term outpatient care	4
Outpatient rehabilitation services and rehabilitation clinics	4
Long-term inpatient care (including hospices)	5
Hospitals	5
Organizational tenure (years)	
less than 5	5
5-10	5
10-19	10
>20	2

Note: Organizational tenure not available from n=2 interviewees. GP = General Practitioner.

Reporting checklist for qualitative study.

Based on the SRQR guidelines.

Instructions to authors

Complete this checklist by entering the page numbers from your manuscript where readers will find each of the items listed below.

Your article may not currently address all the items on the checklist. Please modify your text to include the missing information. If you are certain that an item does not apply, please write "n/a" and provide a short explanation.

Upload your completed checklist as an extra file when you submit to a journal.

In your methods section, say that you used the SRQR reporting guidelines, and cite them as:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. Acad Med. 2014;89(9):1245-1251.

		Reporting Item	Page Number
	#1	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	2, 3, 6-12
	#2	Summary of the key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results and conclusions	2, 3
Problem formulation	#3	Description and signifcance of the problem / phenomenon studied: review of relevant theory and empirical work; problem statement	4-6
Purpose or research question	#4	Purpose of the study and specific objectives or questions	6
Qualitative approach and research paradigm	#5	Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenolgy, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist / interpretivist) is also recommended; rationale. The rationale should briefly discuss the justification for choosing that theory, approach, method or technique rather than other options available; the assumptions and limitations implicit in those choices and how those choices	9-12

		influence study conclusions and transferability. As appropriate the rationale for several items might be discussed together.	
Researcher characteristics and reflexivity	#6	Researchers' characteristics that may influence the research, including personal attributes, qualifications / experience, relationship with participants, assumptions and / or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results and / or transferability	8-11
Context	#7	Setting / site and salient contextual factors; rationale	7-9
Sampling strategy	#8	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale	
Ethical issues pertaining to human subjects	#9	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	9/10, 41
Data collection methods	#10	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources / methods, and modification of procedures in response to evolving study findings; rationale	9-10
Data collection instruments and technologies	#11	Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if / how the instruments(s) changed over the course of the study	9, 10
Units of study	#12	Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	7-10, Appendix
Data processing	#13	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymisation / deidentification of excerpts	8-11
Data analysis	#14	Process by which inferences, themes, etc. were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale	10-12
Techniques to enhance trustworthiness	#15	Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale	10-12
Syntheses and interpretation	#16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	12-26, Appendix

Links to empirical data	#17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	32-40
Intergration with prior work, implications, transferability and contribution(s) to the field	#18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application / generalizability; identification of unique contributions(s) to scholarship in a discipline or field	26-29, 31
Limitations	#19	Trustworthiness and limitations of findings	3, 30, 31
Conflicts of interest	#20	Potential sources of influence of perceived influence on study conduct and conclusions; how these were managed	41
Funding	#21	Sources of funding and other support; role of funders in data collection, interpretation and reporting	41

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Implementation of patient-centered care: Which organizational determinants matter from decision-maker´s perspective? Results from a qualitative interview study across various health and social care organizations

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Implementation of patient-centered care: Which organizational determinants matter from decision-maker´s perspective? Results from a qualitative interview study across various health and social care organizations

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Abstract

Objectives Health and social care systems, organizations, and providers are under pressure to organize care around patients' needs with constrained resources. To implement patient-centered care (PCC) successfully, barriers must be addressed. Up to now, there has been a lack of comprehensive investigations on possible determinants of PCC across various health and social care organizations (HSCOs). Our qualitative study examines determinants of PCC implementation from decision-makers' perspectives across diverse HSCOs.

Design Qualitative study of n=24 participants in n=20 semi-structured face-to-face interviews conducted from August 2017 to May 2018.

Setting and participants Decision-makers were recruited from multiple HSCOs in the region of the city of Cologne based on a maximum variation sampling strategy varying by HSCOs types.

Outcomes The qualitative interviews were analyzed using an inductive and deductive approach according to qualitative content analysis. The Consolidated Framework for Implementation Research was used to conceptualize determinants of PCC.

Results Decision-makers identified similar determinants facilitating or obstructing the implementation of PCC in their organizational contexts. Several determinants at the HSCO´s inner setting and the individual level (e.g., communication among staff, well-being of employees) were identified as crucial to overcome constrained financial, human, and material resources in order to deliver PCC.

Conclusions The results can help to foster the implementation of PCC in various HSCOs contexts. We identified possible starting points for initiating the tailoring of interventions and implementation strategies, and the redesign of HSCOs towards more patient-centeredness.

Keywords Patient-centered care, implementation, qualitative research, health and social care organizations, decision-maker

Word Count 6527

Article Summary

Strengths and limitations of this study

- Based on purposeful sampling we interviewed decision-makers and addressed varying conditions and availabilities of resources across types of HSCOs to implement PCC.
- Our sample might suffer from selection bias as participants might have had a higher intrinsic motivation and interest in the research topic than non-participants Interviews were only conducted with decision-makers in leading positions so that differences in perspectives across hierarchies cannot be identified through this study.
- Future research should investigate whether the identified determinants are similar in other regions, especially rural areas, as our explorations are geographically restricted to the city of Cologne, Germany.
- Further analyses should apply a more fine-grained view on determinants located outside the sphere of individuals or organizations and may provide policy implications to foster PCC implementation in organizations.

1 Introduction

Patient-centered care (PCC), defined as "providing care that is respectful of, and responsive to, individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions" ([1], p. 40), has become a guiding principle in health and social care. While concepts such as the Chronic Care Model [2] or the Integrative Model of PCC [3] further specify PCC, a common understanding of PCC is lacking in research and practice [4]. Overall, PCC is conceived as a multidimensional concept that includes principles regarding perspectives of patients' psychological, psychosocial, and physical needs. The concept also suggests concrete activities for implementing PCC such as patient information, patient involvement in care, involvement of family and friends, and patient empowerment [3, 5, 6]. The implementation of these activities have been shown to be associated with more positive health outcomes [7, 8]. The understanding of PCC elements often depends on definitions of professionals and the context of health and social care. Nevertheless, there is a consensus about core elements of PCC across professional groups (e.g., psychological needs, patient involvement) but the focus and emphasis differ [4, 9].

While the need and public attention for PCC have increased [10], HSCOs face scarce resources (e.g., financial, personnel, material) due to a shift from acute illnesses towards chronic illnesses and more complex treatment processes in an aging society. Ultimately, such developments can increase economic pressures and require organizations to maintain, accumulate, and preserve their resources, which is defined as resource-orientation [11] and obstructs PCC [12]. Therefore, health and social care systems,

organizations, and individual caregivers are constantly challenged to organize care according to the tenets of PCC under constrained resources [13].

To ensure successful implementation of PCC, determinants that facilitate and obstruct PCC must be investigated and addressed at all levels and types of care [3, 4, 6, 14]. Research locates determinants of implementation success in health and social care at three levels: 1) the individual level (personality traits and skills [15, 16] or attitudes [17]), 2) the organizational level (e.g., goal setting [18], participating management [16, 19, 20], resources [18], infrastructure [16, 21], and culture [22]), and 3) the healthcare system level (e.g., regulations and patients' rights or climate of politics [14]). The organizational level is a mediator between the individual and the system level and combined with the individual level it plays a major role here, since at these levels specific activities for implementing PCC need to be carried out to fulfill patient needs.

Previous research has contributed to the understanding of determinants of PCC implementation. However, this partly result from the experiences of best-practice examples or organizations that have a great deal of knowledge on PCC (e.g., [18, 22]). Moreover, due to varying conditions for different HSCOs types (e.g., differences in financing structures between ambulatory and inpatient care organizations), availabilities of resources may differ across types of HSCOs. Within the German health care system, health and social care services are delivered at home (e.g., from long-term outpatient nursing or palliative care facilities), in outpatient HSCOs (e.g., offices for general and specialist medical care or psychotherapeutic care,) in inpatient HSCOs (e.g., hospitals for acute medical care, rehabilitation clinics for restorative rehabilitating care or hospice care) or semi-inpatient HSCOs (day-care facility) [23]. These different contexts might be

associated with different determinants for PCC implementation and strategies to deal with resource scarcities.

Our study aims to address these gaps and advance research on determinants for PCC implementation and strategies to address determinants across HSCOs. Implementation of PCC is here defined as decision-makers' perspectives about PCC activities related to patient's needs that are or should be implemented in their organizational contexts and routine care. We aim to identify determinants of PCC implementation on the organizational and individual level using a conceptual framework [24]. Moreover, coping strategies through which HSCOs may reconcile strained resources with an increasing pressure to implement PCC are explored. The study provides a general overview of determinants for PCC implementation across different HSCO contexts and identified possible starting points for initiating the tailoring of interventions and implementation strategies, and the redesign of HSCOs towards more patient-centeredness.

2 Methods

2.1 Study design

The data used in this article stem from the research project OrgValue (Characteristics of Value-Based Health and Social Care from Organizations' Perspectives). OrgValue is embedded within the Cologne Care Research and Development Network (CoRe-Net) towards value-based care for vulnerable patients in Cologne [25], which currently includes three subprojects. The sub-project OrgValue analyzes the implementation of patient-centeredness while considering the HCSOs' resource orientation in the model region of the city of Cologne, Germany. The implementation of patient-centeredness was

assessed through face-to-face interviews with decision-makers in various HSCOs contexts.[11]. This study presents results of the qualitative interviews with decision-makers in HSCOs.

2.2 Sampling

The HSCOs included in the sample reflect all types of organizations in the city of Cologne which are involved in the care of patients in their last year of life or patients with coronary heart disease and a mental or psychological co-morbidity (patient groups studied within CoRe-Net) [25]. These included general practitioners (GPs) and private practice specialists (delivering symptom oriented diagnostics and acute treatment), psychotherapists (delivering psychotherapeutic care), long-term outpatient care (delivering nursing and or palliative care), outpatient rehabilitation services and rehabilitation clinics (delivering restorative rehabilitating care), long-term inpatient care (including hospices) (delivering nursing or palliative care for severely ill patients), and hospitals (delivering acute medical care).

Participants of the interview study were clinical and managerial decision-makers as key informants of these HSCOs caring for the selected vulnerable patient groups. Selecting key informants is a valuable approach, which is frequently used in order to assess the knowledge of employees who generally have decision-making authority [26–28]. A preliminary panel discussion with practice partners from these HSCOs revealed that key informants have the most extensive knowledge about their organization in terms of processes, structures, culture, resource allocation and deficiencies, strategies and organizational behavior, for which we wanted to collect information in our study. It was

important that the participants are or were involved in patient care or are in constant exchange with patients or care providers in the organization. Depending on the type of HSCO, clinical and managerial decision-makers can be different persons within an organization (e.g., hospital CEO and chief physician) or one person fulfilling two functions (e.g., GP in private practice). By interviewing multiple representatives per HSCO type, information from multiple perspectives and different degrees of involvement in patient care or managerial processes could be obtained. Clinical and managerial decision-makers were recruited via networks of practice partners and cold calling. Based on purposeful sampling [29], semi-structured face-to-face narrative interviews were conducted.

2.3 Data collection

The semi-structured qualitative interview guide [29] revolved around three main questions:

- How do decision-makers define PCC?
- What obstructs or facilitates the implementation of PCC in their organizations?
- How do organizations deal with their resources and what resources are needed or lacking to implement PCC?

Each topic was operationalized by core questions facilitating story-telling and narrative-generating sub-questions. The interview guide was flexibly adapted to the decision-maker´s type of care organization, the position or background, or the course of the conversation. The first step was to assess decision-maker`s understanding about PCC

according to Scholl et al. [3] in order to ensure that there was a consensus on core elements of PCC (Key questions were: "What characterizes PCC in your organization?"; "Do you remember a case where PCC was delivered at its best/not at all?" (needs and activities)) (see online supplementary appendix 1). The discussion about the understanding of PCC was the basis to derive determinants of PCC implementation and strategies to address determinants across HSCOs in a second step (Key questions were: "What were possible reasons that care was (not at all) delivered in a patient-centered fashion?"; "What are strategies in your organization to create the conditions necessary for PCC?"). Interviews were conducted face-to-face with one interviewee. In three cases, group interviews (with a maximum of three people) were conducted when decision-makers brought in other organizational members who they felt were important to include when talking about the topics outlined in the study invitation.

All interviews were conducted by two researchers trained in interviewing with one leading and one assisting in varying combination. The interviews took place at the interviewee's office or in an adjoining room (e.g., a conference room) and lasted on average of 65 minutes (min: 29 minutes, max: 148 minutes). Interviews were audiotaped, transcribed verbatim, and anonymized by an external professional typist. The Ethics Committee of the Medical Faculty of the University of Cologne approved the study (reference number: 17-210). Interviewees provided written informed consent before the interviews.

2.4 Patient and Public involvement

There was no patient involvement in this study. For the purposes of participatory research representatives from the health and social care practice were involved in the development of the design of the overall research project (OrgValue) at the outset of the study. Representatives were contacted through the Cologne Care Research and Development Network (CoRe-Net). In a collaborative meeting, participants discussed in terms of the qualitative study how to gain access to the study participants, the extent of interviews, and who should be the appropriate contact person as decision-maker in the respective type of organization. All results of the overall study will be disseminated to the participants.

2.5 Data analysis

All transcripts were entered into MAXQDA® software (VERBI GmbH, Berlin, Germany). Qualitative content analysis was chosen to explore the participants' unique perspectives in order to extract on the descriptive level of content and not to provide a deep level of interpretation and underlying meaning [29]. The analysis of the interview content was conducted independently by two multidisciplinary researchers (KIH, HAH, and VV in varying combination) to ensure the validity of the data interpretation by minimizing subjectivity of data interpretation [29]. A coding frame including core elements of PCC and determinants for implementing PCC was developed by combining deductive and inductive approaches. First, content related codes were constructed by descriptive coding/subcoding and provisional coding/subcoding [29]. The conceptual model of Scholl et al. [3] was used to identify codes that denoted the decision-maker`s understanding about PCC activities related to patient's needs (see online supplementary

appendix 1). Several dimensions of the Consolidated Framework for Implementation Research (CFIR) [24] were used to structure and combine the identified codes that denoted determinants of PCC implementation. The CFIR is a well-established framework that combines existing theories for determinants of effective implementation and divides five categories of determinants: Intervention Characteristics, Outer Setting, Inner Setting, Characteristics of Individuals, and Processes [24]. We used the categories "Inner Setting" and "Characteristics of Individuals" of the CFIR framework to capture and categorize the determinants of PCC implementation.

The Inner Setting relates to the HSCOs' inner arrangements of strategies, structures, processes, and culture. Characteristics of individuals focus on the employees within the HSCOs. As described above, determinants for PCC implementation that relate to the health care system and interactions between HSCOs settings (Outer Setting) were gathered, but were not part of this study. Finally, in our case, PCC was not one specific formalized intervention, and therefore our study did not intend to explore processes of actual implementation, but rather determinants of PCC implementation.

The coding frame was repeatedly discussed and re-coded among the researchers and a group of qualitative research experts to ensure its consistency and validity [29]. Appendix Table 1 provides an overview of the considered categories including a short description for each code. The results are presented as textual fragments of the participants' narratives to illustrate the relationship between the theoretical concepts and the data. Relevant passages were translated into English for this article.

3 Results

In total, 20 interviews were held with 24 decision-makers on 20 different dates. The 24 interviewed decision-makers divided into private practice GPs and specialists (n=3), psychotherapists (n=3), long-term outpatient care (n=4), outpatient rehabilitation services and rehabilitation clinics (n=4), long-term inpatient care (n=3), and hospitals (n=5). Appendix Table 2 provides an overview of interviewee characteristics in the full sample (n=24).

The remainder of the results section is structured along our research questions (Figure 1) and according to the CFIR scheme (Appendix Table 1). Determinants of PCC implementation related to the organizational (inner setting) (Table 1) and individual level (characteristics of the individual) (Table 2) are described with emphasis on organizational strategies to maintain, accumulate, and preserve resources under increasing demands for PCC (resource-orientation).

Insert Figure1

Figure 1: Determinants of PCC implementation at the organizational and individual level

3.1 Determinants of PCC implementation related to the organizational level: Strategies, structures, processes, and culture

Strategies

Organizational incentives & rewards: In single cases, interviewees described informal (e.g., appreciation) and formal rewarding systems (e.g., remuneration for innovative ideas relating to care improvements or problem-solving within the organization). In contrast, showing non-patient-centered behavior was considered inappropriate and could ultimately threaten continuation of employment. Cancellation of contracts was described as one organizational policy to deal with deficiencies in patient-centered care provision.

Learning: Interviewees described the importance of gaining information on the organization's level of patient-centeredness, but the form and extent of collecting such data varied among care providers. Formalized learning measures included quality circles with regular quality surveys, key indicator analyses, risk profiles, supervision, checklists, patient surveys, and case reviews within the team. These were reported rather by inpatient, larger HSCOs. Less formal forms of gathering information covered complaints by patients, relatives, or staff members. The value of information of these data was evaluated differently across decision-makers. For example, the extent to which patients could make a meaningful judgement about quality features – especially concerning the medical treatment – was questioned.

Management of innovations & changes: Some interviewees perceived the German health care system and the organization they were working in as rigid and reluctant to change. The implementation of innovations in these contexts was therefore perceived as a

complex management task, because it requires comprehensive adaptation processes, even with less complex innovations. Decision-makers described their dependency on the readiness (willingness and competency) of the middle-level management and the front-line staff for successful implementation of innovations throughout the organization. Both levels need to accept the value of the innovation and implement it in their daily actions. To increase readiness, it requires conviction about the innovation as well as participation and communication in the implementation process. Particularly opinion leaders should be addressed. Medical care centers were described as more innovative than others in terms of structures, i.e. care structure and processes.

Leadership behavior and engagement: Decision-makers described it as important to set an example and to define expectations for a patient-oriented attitude or a "good spirit". To support PCC, control was exerted, e.g., by considering the applicant's attitudes towards patient orientation as decision criteria in the hiring process of employees and management staff. Another strategy mentioned was to demand and encourage for implementation but also to monitor it. Leaders who were not directly involved in patient care felt committed to fostering an environment in which front-line caregivers can do their job with the patient. It was also mentioned that employees need to be able to make decisions independently of their supervisor, to have flat hierarchies, and to formulate clear responsibilities.

Conflict Management: In general, leaders perceived it as a duty and strategy to ensure smooth processes and to manage conflicts. Conflicts within the team were named as one reason for a negative working atmosphere. Patients were described as sensitive to negative moods among team members and as affected by these, particularly in terms of

satisfaction and well-being. Therefore, one provider stated that conflicts should never be dealt in front of a patient and that care provision should always be prioritized.

Process-orientation: Clear-cut definitions and processes helped to warrant adequate care of patients. Time management was seen as an important component for efficient care. Still, a certain degree of flexibility within the processes was important to tailor processes to the specific needs of a patient (see: flexibility of care). For example, a high workload (e.g., too many patients; insufficient number of staff) disrupted a smooth flow of processes and provision of care by increasing waiting times and decreasing the time devoted to the individual patient. Interruptions in the process must be resolved, (e.g., using strategy meetings and quality management evaluations). The importance of interdisciplinarity within process flows and planning was emphasized. Standardized guidelines (e.g., clinical practice guidelines) were considered as a recommendation for objective patient needs, but not as a strict guideline for specific patient care. It was reported that process steps were defined in inpatient nursing using the Plan-Do-Check-Act Cycle (PDCA Cycle) to adapt guidelines to the needs of the residents. Checklists were occasionally used to ensure compliance with process steps, especially when the patient is admitted. The relevance of effective process design seemed particularly high in centers (e.g., breast care centers, medical care centers).

Resource-orientation: Interviewees mostly linked PCC to the availability of various resources. Scarcities of personnel resources, which were described as strongly related to a lack of financial resources, were mentioned most often. For example, organizations had to draw on (more affordable) ancillary staff. This issue was exacerbated by the limited availability of adequately skilled staff, and professional staff facing a high workload

during their shifts. Often, decision-makers perceived difficulties in striking the right balance between PCC and quality demands, on the one hand, and scarce resources and rigid guidelines, on the other. Compared to other organizations, outpatient and inpatient nursing facilities particularly highlighted the problem of scarce resources.

Interviewees described different strategies to maximize PCC under scarce resources. For example, fostering personnel development (e.g., skills and competencies) was identified as supportive to PCC. Collaboration in networks of different providers was another strategy to manage lacking resources for fulfilling patient needs. It became clear that larger organizations (e.g., hospitals) possess broader financial leeway to overcome scarcities or to invest in staff. Moreover, interviewees assumed that non-profit HSCOs tend more to use financial resources for the benefit of PCC (e.g., staff number or quality) – which, according to the interviewees, might be handled differently in organizations under for-profit ownership. Another strategy mentioned as a vision was the organization's focus on a limited range of health care services (e.g., with regard to the complexity and of care needs).

Employee retention & satisfaction: According to the interviewees, caregivers cannot make patients healthy and satisfied if they do not feel equally valued. Therefore, employee satisfaction emerged as one determinant for PCC that is related to resource-orientation. Various strategies were mentioned to strengthen or preserve the employee´s resources, foster staff satisfaction, and ultimately tie professional staff to the organization. Those included, for example, adequate payment, occupational health management, a good working climate, work-life balance (e.g., time for leisure and recreation), opportunities for further training, job autonomy, and supportive technical equipment.

Add-on services: Organizations offered additional (e.g., non-reimbursed) services for patients, which primarily targeted the dimensions of psychosocial needs and continuity of care. Specific activities concerned, for example, services for relatives, and care outside consulting hours or beyond the treatment period. Although these activities were often not reimbursed, decision-makers perceived them as crucial for patients and the care process. Another incentive for providing additional services was peer pressure, meaning that organizations offered additional services (e.g., entertainment) to gain a competitive advantage for their organization or increase business development.

Structures

Staffing & workload: Interviewees described that the number of staff available, the ratio of professional to ancillary staff, and the workload influenced PCC. Staff-related factors (e.g., availability) and the staff-patient ratio were described as a precondition for the provision of patient-centered nursing. Moreover, these factors determined flexibility of the organization in times with high sick leave. Particularly in long-term inpatient care, temporary employment was described as inevitable, yet undesirable (see: professional qualification). Organizational strategies to strengthen personnel resources included the reinvestment of financial surpluses into the body of personnel.

Technical infrastructure: Across organizational boundaries, several interviewees saw available equipment as a precondition for adequate patient treatment. Mostly, the term was automatically referred to as medical or technical equipment. One outpatient caregiver described that patient communication was complemented by use of non-technical equipment (e.g., flip charts), to increase patient involvement in care.

Health information technology was generally confirmed as increasingly relevant during the care process. Different examples for the application of information technology (IT) in health care practice were mentioned, ranging from the integration of individual patient preferences by electronic care planning to the use of tablet PCs to assess patient-related information. Sometimes, insufficient or fragmented IT structures were described as a challenge in everyday practicing, e.g., by hampering cooperation with other care providers or by consuming too much time.

Rooms & buildings: Interviewees described that the arrangement or design of rooms and buildings should ideally match the care processes and meet patient needs. Hospitals and other inpatient providers faced historically developed architectural structures that could hardly be changed. Strategies to deal with physical barriers included a re-design or interior change of rooms and buildings to the fullest possible extent (e.g., media entertainment). Outpatient care providers mentioned the possibility of shifting from one room to another on demand.

Processes

Continuity of care: The importance of continuity in the care process was highlighted. Organizations strived to ensure care provision by the same person throughout the treatment process. Thereby, care providers were assumed to be better able to familiarize with the specific patient, observe and address health state changes. Temporary employment in case of understaffing was regarded as a hindrance to the provision of continuous care and therefore to PCC, since these employees are usually not familiar with the processes and structures in the particular care organization. Moreover, in case of readmission, re-treatment or follow-up visits, the opportunity to contact the same HSCOs

as previously was considered desirable. The use of guides (e.g., a case manager) was mentioned as a strategy to ensure continuity.

Timeliness of care: Next to continuity, the timeliness of care was stressed as important for PCC. Timeliness means that a patient's access to treatments matches the urgency of that patient's physical or psychological needs. In order to be able to assess the urgency of a situation, according to the interviewees, this requires guidelines and skills (e.g., to recognize such situations or capacity to act) of those who have the first contact with the patient (e.g., reception staff). The extent of bureaucracy proved to influence timeliness of treatment, including, e.g., approval and reimbursement of therapies, the purchase of special home care equipment, anamnesis of non-relevant information for care needs.

Flexibility of care: In any care situation, the flexibility of care was considered necessary for delivering PCC implying that processes and individuals allow for adjustments in care that value a patient's day-to-day needs and preferences. This may include, e.g., altering standardized care plans when patients prefer to shower on a different day. However, interviewees also reported a lack of flexibility in structures and processes, especially in hospitals. If regular processes and responsibilities are maintained in emergency cases, although immediate action including deviation from the usual procedures is required, this might threaten the patient's health.

Internal communication and networking: Communication processes were separated into formal communication or informal communication. Formal communication covered regular events, such as case meetings, team meetings, or tumor boards. Interviewees described the involvement of various disciplines in formal cooperation, sometimes depending on the specific patient's needs and background, as ways to ensure PCC. The

integration of different knowledge bases for medical treatment decisions and the involvement of additional non-medical (e.g., social-service) perspectives in the care process were described as advantages of formal cooperation structures.

Informal communication channels were mentioned as a complementary, yet faster, way to network and cooperate internally. Possibilities for internal communication were sometimes described by providers of inpatient care as restricted when hierarchies, demarcated departmental structures or activities, and professional boundaries (e.g., between nurses and physicians) existed.

Culture & Climate

Decision makers described the communication and mutual consideration within an organization as a key determinant for a good atmosphere for patients and staff members. Interviewees stated that with the help of good cooperation and a good working atmosphere, all employees are able to follow a patient-oriented attitude and action without the need for specific hierarchies, strategies or training.

Fostering an active collaborative culture within neighborhoods and with other HSCOs was also mentioned as a strategy to improve patient care. Decision makers considered non-profit HSCOs better able to work in the interest of the patient since making profit does not need to be balanced against patient needs. Also, decision makers named specific guiding principles, usually with a religious origin, which shape their organization's culture. The implementation of these principles was assumed to be supported, e.g., by signing a mission statement form or having an inspiring leader, who actively represents the culture and values of the organization.

Insert Table 1

3.2 Determinants of PCC implementation related to the individual level: Characteristics of individuals

Coping strategies: Finding a position in which employees are able to provide care according to their qualification and beliefs was considered necessary for being able to cope with the challenging task of providing care. Interviewees named the attendance of mentoring meetings, exchange with colleagues or the development of joint practices as opportunities to better cope with challenging situations. In very problematic situations related to personal conflicts with patients, interviewees considered referral to another care provider as necessary.

Physical and emotional well-being: Interviewees described a direct link between the physical and emotional well-being of caregivers and the provision of PCC, since only those employees who experience well-being can also provide good care in the long run. Moreover, employees who experience well-being in a care organization were considered more likely to remain employed for a longer time and therefore support the provision of continuous care (see: continuity of care). Interviewees considered a reduction of working hours or job-sharing strategies to leave room for sufficient recovery from the demanding task of care provision.

Skills and capabilities: Interviewees mentioned *psychological traits, professional qualifications and development, and communication skills* as important factors at the

individual level to determine the provision of PCC. Staff members who are motivated, empathic, respectful, patient, open, flexible, active listeners and who have good problem-solving skills were considered to be better able to provide PCC than those lacking these traits. Moreover, orientation towards the patient is supported when care provider and patient get along well with each other. Interviewees highlighted the importance of looking at psychological traits when recruiting new staff members in order to create a functioning team. Additionally, sufficient qualification and willingness of staff members for professional development was considered a prerequisite for PCC provision. Being able to communicate in the patients' mother tongue was considered as relevant as the educational background of the care provider. A high level of, e.g., registered nurses instead of nursing assistants, facilitates care coordination since each staff member can take over all tasks. Staff members who are trained for the treatment of particular patient groups (e.g., breast cancer, dementia, palliative care) can take over more specialized tasks and relieve general nurses from several duties. Communication skills including withstanding difficult and unpleasant conversations were considered particularly important competences. Having a plan in mind for communicating bad news, such as diagnoses, and being honest were both considered necessary for managing such situations without overwhelming patients. Interviewees stated that the best medical care could even be endangered if it was not accompanied by adequate communication and easily understandable explanation of the disease and treatment process.

Attitudes towards PCC: Interviewees stated that PCC largely depends on the employee´s engagement and feeling of responsibility for care. Intrinsically motivated staff had a feeling of responsibility and compensated for disruptions during the care process. Care

providers need to have a positive attitude towards the patient, but this should also be supported by the care team and supervisors, e.g., by acting as role models, placing high value on patient-centered behaviors during employment probation or allowing enough time for the care of each patient.

Insert Table 2

4 Discussion

Providers of health and social care services face increasing pressure to implement PCC into their daily practice. This study explored potential determinants that facilitate or obstruct PCC implementation, and strategies to reconcile PCC with resource scarcity. The determinants of PCC in the inner setting of HSCOs and at the individual level are influenced by factors at the outer setting (system level) in the provision of PCC. These interactions are addressed in the discussion of the results, although the results on the determinants at the outer setting and their influences on PCC are not presented in this article. When describing optimal care for patients, the interviewees usually addressed all core elements of PCC, as described in established concepts on PCC [3], reflecting a general agreement regarding the dimensions of PCC (see online supplementary appendix 1).

So far, no structures or incentive systems for organizations and providers exist on a national level in Germany to implement PCC. A few initiatives have been launched, such as training programs on shared decision-making as part of health care professional education [30]. However, our preliminary results on the analysis of PCC determinants at

the system level so far indicate that such training programs are not sufficient. Rather, HSCOs and providers need to manage the implementation of PCC themselves. Therefore, the discussion of organizational strategies for implementing PCC is becoming particularly important. Interviewees described organizations' strategies towards maintaining, accumulating, and preserving their resources as they perceived difficulties in striking the right balance between PCC, quality demands, scarce resources and rigid guidelines. Indications of the interviewees regarding the challenges at the system level (outer setting) emphasize that financing conditions such as contribution rate stability, the separation between revenues from statutory or private health insurance, or an avoidance of financial responsibility at the system level hinder organizations from meeting the needs of a growing number of patients with an increased need for care. As a result, HSCOs are hindered from investing in health innovations in order to ensure care that is in line with health care advancements. Human resources were therefore perceived as the most important resources because they are linked to other resources (e.g., time or money) and can be influenced by the organization. Fostering personnel qualifications and development as well as the concept of care for caregivers [18] were therefore identified as main strategies to preserve different kinds of resources (personnel, financial, time) to support PCC. All interviewees stated that only healthy and satisfied caregivers are able to provide PCC on an ongoing basis. This corresponds to the finding that patient satisfaction is lower in hospitals with more burned-out, dissatisfied, and frustrated nursing staff [31]. Accordingly, strategies to maintain or improve the emotional and physical well-being of staff were described across different types of organizations. While

individuals need to be qualified for their job, it is the organizations' task to foster staff well-being and provide sufficient opportunities for continuous education [16].

Individual characteristics that determined the provision of PCC, e.g., empathy or the individual attitudes towards the uniqueness of patients and their needs, can only partly be influenced directly by the organizations. In line with this, the recruitment of adequate staff was highlighted as a main challenge by decision-makers. Another important determinant for PCC at the individual level was the professional expertise of the employees. Our preliminary results on the analysis of determinants from the outer setting point out that decision-makers wished for a more academic education of health professionals that, however, has not yet been integrated into current legal reforms. It was generally perceived as difficult to recruit staff with both professional expertise and soft skills. Soft skills such as empathy were also not learned through previous educational structures. Instead, the organizations try to convey these skills through the culture of the organization or through the example of leadership.

On the organizational level, the general commitment towards PCC with an emphasis on leadership behavior and support as well as an organizational culture of learning emerged as key determinants for PCC implementation (as in [14, 16, 19, 20]). These aspects closely relate to other determinants, since our interviews suggested that patient-oriented behavior needs to be valued, rewarded, or, if not achieved, reacted to appropriately by organizational leaders. Another key facilitator that emerged was continuity of patient care within and across organizations, which is consistent with previous work on PCC (e.g., [21, 32, 33]). While continuity in appointments or in people providing care cannot always be ensured due to work schedules, IT infrastructure was considered as one option to

reduce problems with fragmented care. A complete and fast exchange of patient information should facilitate care within and across organizations, since a complete personal and disease history is available and does not need to be elicited at each new visit. Policy makers should therefore discuss more intensively opportunities of improved IT structures in HSCOs [1].

According to some decision-makers, especially in inpatient care, an external incentive for PCC would be to compete with other HSCOs. This perceived peer pressure, a PCC determinant in the outer setting, encourages HSCOs to develop strategies for more PCC. They spend extra resources and offer add-on services that enable PCC as consequence of the peer pressure effects and a lack of sufficient reimbursement by the health care system.

The definition of standardized processes (internal, e.g., Standard Operating Procedures) and care procedures (external, e.g., clinical practice guidelines) was considered important in order to effectively control processes and to provide care adherent to standards of care. However, interviewees stated that guidelines would only give orientation and processes and standards must be flexibly adaptable to the individual needs of patients. An individualized standardization within HSCOs can therefore be concluded as a yardstick for PCC [34, 35].

As a strategy to increase patient value in care with equal resource consumption [36] and to organize care around the patient [37] it was proposed to concentrate care within the HSCOs. This corresponds to Christensen's et al. [38] idea to reorganize HSCOs towards types of organizations related to the complexity of the patient's problem of care. For example, in the case of hospitals, they suggest that managerial control could be regained if general hospitals were replaced by two types of organizations. One type, called a

"value-adding process clinic", delivers standardized, routine treatments for patients with well-diagnosed conditions at predictably high quality. The other type, called a "solution shop", organizes care for more complex and ill-diagnosed patients [38].

Limitations

Our results need to be seen in light of several limitations of this study. First, interviews were only conducted with decision-makers in leading positions. The perspective of staff members in lower positions was not considered. Therefore, any differences in perspective cannot be identified through this study. However, people in lower positions would not have provided us with information about management-related, personnel-related or resource-related information and strategies in the organization, which was also an aim of this study. Second, we only included representatives in the city of Cologne, which implies that we did not capture PCC determinants related to more rural areas. Third, our sample might suffer from selection bias. We assume that participants had a higher intrinsic motivation and interest in the particular research topic and might also be more likely to engage in activities that foster PCC. Finally, the understanding of PCC, its implementation in organizations and associated determinants often depend on individual definitions and the context of care. It requires an in-depth analysis to find commonalities and refined understandings of higher order meanings. However, the aim of this study was to provide an overview of determinants of PCC implementation considering various contexts. To complement our findings, additional analyses focusing on determinants of PCC in the outer setting will be published separately.

To conclude, as reflected by the wide range of determinants identified, PCC implementation requires performance measures that evaluate multiple dimensions [39].

Some of those dimensions may be influenced by short-acting (e.g., equipment; design of rooms and buildings), while others require certain mid-term or long-term strategies (e.g., building networks or a culture). One particular pillar for the success of PCC seems to be the active involvement and engagement of management and decision-makers. These persons are particularly positioned to relay the high importance for PCC [18], thereby supporting an atmosphere that values PCC [6] and implementation efforts [20].

Future research should investigate whether the identified determinants are similar in other regions, especially rural areas. Moreover, quantitative data on systematic differences between types or ownership of HSCOs are needed to validate the explorations of this work. Finally, future research should apply a more fine-grained view on conditions and regulations of the health and social care system, such as reimbursement regulations, and their association with PCC implementation [10]. These determinants are located outside the sphere of individuals or organizations and may provide policy implications to foster PCC implementation in organizations.

Tables

Table 1: Determinants of PCC implementation related to the organizational level (inner setting)

INNER SETTING	Quotes
Strategies	
Organizational incentives & rewards	We have introduced idea management in which all employees can participate. [description of innovation] is then acknowledged and the employee then receives [...] a goodie for participation; it is then assessed in our QM steering committee, the idea and the employee, or if a team participates, they then receive a [...] financial compensation.
	I mean, we also have some things go wrong, of course, someone or other makes a mistake sometimes here as well. We then go there and say, we made this mistake; we try to limit the consequences, but we handle it openly. [...] Then the covering up, denying, etc., starts. I mean, I used to have employees that exhibited those behaviors, but as I said, I used to have them.
	What we cannot do, we cannot evaluate whether the implementation has been successful. We can't do that. So we can't say, rather only give incentives and motivate and be supportive in the sense of as long as voluntariness... So if I am person-centered... As long as they allow that in the organization.
Learning	But the starting point are the cases, and in every quality circle, so every quarter of a year, the patient feedback – this includes not only complaints but positive things as well – it is then presented to us by the complaints officer [...]. So they are specific patient assessments.
	Again, the patient is ultimately unable to assess that [medical treatment quality]. Rather, it tends to be the softer things. So, were you friendly to people; did the food taste good? Of course, those are also all things that play a much greater role for the patient because the patient can also assess them. So I always kind of claim that a hospital that has great food is popular with patients because the patient then says, well, if they can cook well, the rest will surely work well too.
	If an organization has longstanding employees who have not been permanently in learning status or have undergone changes, then they are rigid organizations, then it is difficult to break them open by new employees. They won't stay either.
Management of innovations & change	So I see the health care sector or the hospital sector as a very conservative sector, so the willingness to do things anew is not very pronounced. So because medicine is certainly also, I say, an experiential science, perhaps it is also connected with it. […] since so many people interact like cars in a machine, it is of course also extremely difficult to turn any adjusting screw without completely getting the overall system out of step. Well, that is ... as an executive director, you have to a little bit resist the temptation of saying, we will just do that now.
	[…] this works very well when an innovation promises advantages. So that's the crucial thing you have to show the employees... have to prove to employees that what you bring to the market is an innovation that ultimately makes everyday life easier.
	And that is why change, of course, must be well managed. And it is also quite clear, probably just like in all other professions that young employees are better able to engage in change […]. And there you just have to convince in a completely different way and bring along some solutions so that these people can also be engaged.
	My problem is the team members, because they say "*you don't change anything, too*".
Leadership behavior & engagement	[...] then we are back to the management system again; how do I place people in certain functions and how do I design the tasks so that they can practice person-centeredness as well. Or can do so in their work.

	[...] And I find it very important, regardless of vacancy and personnel need, I find the application procedure extremely important. Very, very important. And only because I need someone does not mean that I will take anyone [...]. And so I do that in every interview; I tell everyone, think about what is important to you. How would you want to be treated, or what if it was your mother? And to really stay alert with everyone and look. So because there are very different interests […]. This means that the nursing staff is subject to nursing services. And the doctors to the medical service. This means that the doctor is medically authorized to give instructions, but not with regard to the organization, which makes many processes inefficient. This has now become possible […] so here the head physician also conducts staff interviews with all non-medical staff. And we see ourselves as a team. All in all, this works very well.
Conflict Management	When there are conflicts, they must be discussed, but outside of patient care. And of course not in the presence of the patient. We really do not do that here. The fact is, we of course have to ensure here that we have our heads clear for our work. And that means that we all are very attentive in dealing with each other, that we do not allow any conflicts to drag on but think in terms of solutions in that area as well. In rapid solutions, that is.
Process-orientation	Of course, there are exceptions, but it should also be the case, I think, that this is already a little QM-orientated, of course, the procedures are controlled. Which we also monitor, help guide, and then again evaluate after the fact. [...] Here [...] the issue is to efficiently care for routine patients, consistently at maximum medical quality. […] we [doctors and nurses] feel we need more staff. […] the management always says "*you must first try this by restructuring*", then also partly foreign management consultancies are brought in […] as an independent company, yes, they look at the processes, then make suggestions to the management as to how they see the moaning at our level is justified, yes or no. What is relatively rigidly specified, for example, is to keep to certain times. […] but with which elements […] that is then with us. But the perfect care is going wrong right now. Because we have far too many institutions around the patient that can no longer look at the actual core at all. Too many organizational structures. You can't have a checklist on the patient. Because every patient comes completely different. The checklist is a great unit around structures and perfect management of a practice, structure in the case work, […] the structures that are not patient structures are right. So the whole thing around is perfectly organized.
Resource-orientation	[...] We have a good rate of skilled employees; we are at, I think, [>65] percent right now [...]. That is good. Nevertheless, if I advertise a nursing assistant position because I cannot only hire specialists, because then I do not have enough people because they are more expensive than the assistants. Sure, I have to find a good mix. Well, here, we always tend to choose medical quality over money here. But if I wanted to run it that profitably, then I could not maintain the medical quality. Patients are at the center, as well as I understand it now, and everything else is orientated around them. It really is not such a small effort, if you consider how many not very inexpensive people then virtually take care of a patient. […] And the whole thing then works where you also focus on certain things, yes, centered or concentrated. And does not claim to treat almost all clinical pictures in the same way with such a complex and complete treatment or to treat patients with these many clinical pictures in this way. [...] Beds in the hallways. Yeah? But then you cannot provide adequate care at all with the same resources. That is the same way. Yeah? Then we have to say, either we stop taking more patients.
Employee retention & satisfaction	And to that extent [...] you have to also [...] consider, well, working conditions you create for employees. And that, too, I would say, leads to, when employees feel comfortable, when they are not rushed, them ideally being able to be patient-oriented in their work or communicating differently with patients. Anyway, I believe that patient centeredness does not work without employee centeredness. Because especially in a job where you work so closely with people [...]. When people are not well, they cannot take good care of patients. And we try to manage that somehow through numerous small and medium-sized measures, whatever we can afford (grins). [...] [E]very Monday, there is a fruit basket, for instance. [...] And that is a little measure, that does not cost a whole lot, but as far as the responses we get, it is pretty well received.

	Of course, the salary is part of that, but this is actually no longer the decisive factor. [...] It is really the team, the reliable off-duty time, can I have that or not? And the less or the more vacancies I have, the harder it becomes to ensure reliable off-duty time, weekends off.
Add-on services	Well, working with family and friends, that simply happens. And this work is important to us, but it is nowhere to be found in the expert opinion to determine the long-term care dependency level; it does not ask whether you constantly have to talk with the wife or whether you have a friend or family member [...] all that does not exist at all. But lots of friends and family members do need to talk with us. Whether because of a bad conscience or worries or whatever. That is not reflected anywhere. In the rooms area, I will say, or everything that has to do with the quality of lodging, all the way to entertainment, [...] those are really the hotel components that play a great role too. [...] But the patients clearly have hotel-like expectations from the hospital. [...] And particularly when patients are feeling better, when the level of suffering recedes, the hotel-like expectations are there, and that I believe is something that patients would clearly perceive as patient orientation too because these topics, if you look at [Hospital assessments website] or things like that, very often are, well ... [the] medicine is assumed to be OK.
Structures	
Staffing & Workload	[...] we are always fully staffed to our nurse-to-patient ratios. And it is still always tight. A week like this, where [...] sick, that is extremely high; we do not have a high illness rate. [...] Then I am truly almost at my wit's end [...] As long as no staff is added, no new clients, no [...] individuals in need of care can be admitted. That gives you an idea of how many residents are being cared for by one caregiver. And this inevitably often already really leads to an assembly line care. This means that the number of employees depends on the number of patients. And there is just a staff index, if [...] overfilled it is nice for the patient, bad for us, because we don't get paid.
Technical infrastructure	
Equipment	Or someone comes in from the hospital and suddenly requires oxygen. And stands here without an oxygen unit. But I don't have something like that sitting in the basement. I also work with flip charts, still. Gladly. Because I noticed that what you can see is quite different to what is merely said. Patients take pictures of it, or sometimes, they take the flip chart paper with them. Yeah. So there are quite a few things. I work with chairs or with postcards, with cuddly toys, with drawing, with stones. So with everything that makes it more tangible. And somehow helps to translate the words and make them palpable.
(Health) Information Technology	When referring a patient from A to B [...], well, when someone comes from the outside [...], I would say, we physicians in Germany mostly communicate by letter or by fax. The fax is truly still the standard. And I find that so creepy. When we have generated the nursing plan, this standardized nursing plan, which we of course individually complete with the needs of the guest, we add measures here [...]. [W]e use IT-supported documentation here so that we can go to the various levels at any time [...], in each shift, whether the early shift, late shift, or night shift, ultimately to have reminders of what is to be done now.
Rooms & buildings	It is a little cramped here (laughing) for some exercises I do. But I am lucky in that my colleague toward the front of the building has a larger room. Right? Right. So there are solutions for that. We then tried by means of the TVs you saw in the waiting rooms, by offering drinks [...] To try, although you cannot directly reduce the waiting time, to make it as tolerable as possible. That works to some extent, and to some extent it does not. We mostly have double-occupancy rooms. We do not have bathrooms in the rooms but have to take the respective measures [...] across the hallways to the showers and such. So in terms of the [...] environment, this is really not ideal.

Processes	
Continuity of care	This means that we try to manage in terms of the duty roster in such a way that the next days of the same shift, the same staff member always sees the resident. So that the resident does not constantly ... he already has to get used to the early shift, late shift, night shift, to different faces. But to ensure that, if possible, the same staff member goes in. [...] most of them [...] know that they get all-round care here [...] that we take care of patients even after discharge, they then come to us again for outpatient wound checks, for consultations. Of course, that is very time-intensive, and it costs the management more than if they were sent away immediately afterward, but that is what patients applaud here and why they like to come here. I believe that many patients benefit from having someone to look after them over a longer period of time. Especially, since many patients also have many psychosomatic problems. I think it is important to stay in touch and not always cover all sorts of things directly with examination.
Timeliness of care	Professional competencies [have] specified that within 24 hours, a corresponding, adequate medical device must be available [...]. That means you have to submit an application to get this alternating pressure mattress. Then the person responsible for the budget has to check if that is in the budget or not, OK? Then I might have to ask the management board. In the meantime, the user who actually needs it has developed a skin injury. This means that we are pleased that we have visits twice a week and that the laws ensure that if you have SAPV, for example, you can reach a doctor 24 hours a day. And that is of course also the case here. And the residents benefit from this because as soon as the condition or symptoms change, we can react immediately and very quickly. It is simply illogical for me, if there is an insurance card, why not let the card be given and send the patient directly to a treatment room. […] And then you can say *"thank you for the card, you get it right back, now go to the treatment room"*, it doesn't matter whether he is Roman Catholic and whether he signs the treatment contract […] at the moment. We want the patient to be well. The patient, he is in pain.
Flexibility	We have a very young man with [neurodegenerative disease]. [...] Very advanced already. For him, I need completely different services than for an 85-year-old who was a wife and mother [...]. They are worlds apart. And I find that totally important, and it is our job to see who needs what. [...] what else is really important is that depending on the way the individual feels that day, you can also respond to changing needs, right? That you don't say, well, you get a partial bath five times a week and a complete bath once a week, and on that one day, the person does not want to or cannot get into the bathtub or shower, and, well, how do you respond then, right?
Formal communication	We do case conferences regarding the residents. We say, there is a problem, or a resident has a wish, how can we respond to it? The social support service participates in team discussions. And the aim is basically to present pretty much every patient to the tumor board once [...] to obtain a recommendation that is based not on the opinion of only one physician but on the opinion of many. The one in the back must know what the one in front is doing. Either through continuous communication, or as we have just done, through communication via computer. It says: the patient is there, you have to call there immediately, please pay attention to this or if someone is in a bad way. And also on call. Some kind of emergency. A pick-up and drop-off service is organized. The patient is […] transferred to the ward. In my time, […] we went down to the intensive care unit as a team of doctors and nurses, […], the doctor spoke with the doctor, the nurses with the nurse, we exchanged, we exchanged crosswise […]. […] a transport service […] has no exchange at all. This means that one must orientate oneself according to the file situation, documented file situation. How much more work, how much more time and how much more insufficient is this?

Informal communication	[...] those are actually short paths [...] [Y]ou talk to each other a lot, you do a lot unofficially too, that can have advantages and disadvantages [...]. You just call your colleague; well, for QM, a lot of what we do may not be official enough, but (laughing) on the other hand, it is also very effective, rather than always sticking to these, well, otherwise regulated pathways. Well another obstacle is certainly, of course, the hierarchy at the hospital, which is, of course, extremely pronounced in comparison with other sectors. That is changing to some extent. But it certainly through [...] separate departmental structures [...] and the collaboration between the [...] professional groups in the hospital.
Culture & Climate	The patient feels whether it harmonizes and functions in a practice or not immediately. These are looks, this is the tension, this is the vibration in a practice, the patient immediately notices this. [...] And the moment he opens the door, the radar is on, "*is everything is okay here, can I stay here, am I really in a good care here*". And when the patient feels tension, in a hospital, in a practice, and realizes that they are already grumbling at each other, the fear is actually already there for the patient, well, if they are already yelling at each other here, "*where am I? I hope I get out of here all right*." Well, for me, that has a lot to do with values as well. And I think that due to the fact that we are an enterprise serving ideological ends and are affiliated with enterprises purely serving ideological ends, we do encounter different attitudes, among staff members too [...] I do experience a willingness too. In the general setting, to really commit to focusing on the patient. And the rest is really cultivated and also lived corporate culture, simply to say that there is a good spirit here. Because here in a manageably large house a relatively good togetherness prevails, this usually also succeeds, I say, to get people into this mainstream somewhere.

Table 2: Determinants of PCC implementation related to the individual level (characteristics of individuals)

CHARACTERISTICS OF INDIVIDUALS	Quotes
Coping strategies	But still, sometimes it is just a fact that such a topic really touches you. I would say for myself, yes, that makes it easier for me, when I do sometimes have short pathways somehow. And I think there is a difference whether you call someone and say, listen, I just had an extreme case. Or whether you meet and talk in the kitchen. It might be something very personal, just here, where someone reminds me of things that I have a problem with myself. Or I'm in trouble and I'm struggling. […] Then I can't be helpful, because I am always affected by it then, right? For example. Or that the patient thinks himself "*no, I can't do that with him either*". Like this. Or do I not want to or am I afraid of what [...]. And then it doesn't fit and then you can also end the therapy... Should you end it. Then. Or say, you'd better find someone else. – Absolutely. You can have the highest salary, but if you cannot apply what you have learned, you will become worn out after some time; then you will not want to do it any longer either.
Physical & emotional well-being	[...] well, residents can only do as well as the staff members are doing. That is very, very important to me when managing a facility; the residents are important, but so are the staff members. When the staff members are not doing well because I am an unfair boss, I have created really bad working conditions, then it is impossible for the residents to do well. And also try to suppress any emotional fluctuations on my part, right? So not to carry them outside, because that must be... he [the patient] is supposed to be comfortable here. And then somehow not somehow affected by our sensitivities. And that also means that when I care, I say, in the sense of person-centeredness, I must also recognize where my limits are. So where I can no longer deal with certain person-centeredness. But I have to be able to say that. This includes a value framework.
Skills & capabilities	
Psychological traits	If you work with people, you need empathy. But a staff member can also say, wow, Ms. X, I really have a problem with her, or I do not like her. I think that is human, and in the team, you have to then see to it that you organize it differently. And not put two people together who dislike each other.
Professional qualifications & development	And if a temporary employment agency tells me, this one has lots of experience, and then I have someone standing here and he does not even know at all how to bathe someone or how to dress someone. Since we [...] particularly have employees with lots of experience, not just continued education. […] we benefit a lot from the fact that we all have the additional training as a palliative specialist so. The patient also sees a pick-up and drop-off service. […] That's someone who says, "*yes, I have to move a bed*". That's why the bed gets stuck here and sometimes bangs there. Patient may have a thigh fracture, the patient bangs against the elevator wall, the patient cries out, classical picture, because the carrier knows nothing at all to deal with it.

Communication (verbal)	I always try to package that well. Because I have been doing that for [>10 years]. And I have noticed that, when you throw survival statistics, etc., at patients, particularly patients with a poor prognosis, patients are very quickly shocked and demoralized. I am always open with my patients. I do not lie to my patients. Out of principle. So I do not lie to make things easier for them either. You [...] can have the best medicine on the one hand if [...] no reasonable communication [takes place] with the patient, the patient will not experience it as patient-oriented. Then the patient will go home and say, I do not know what is going on with me.
Attitudes towards PCC	They all bend backwards here [...] that the people here feel very comfortable. And that they feel dignified. [...] and then, it is typically the mobile nursing service, particularly when there are no friends or family, then morally, ultimately, and ethically feels obligated to really jump in and organize and do and whatever. Then, I think, if we did not have such good staff members who are so committed, it really could hardly be done.

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Author's Contribution

All members designed the study. KIH, HAH and VV designed and conducted data collection, critically reviewed by LA. KIH drafted and revised the paper in close collaboration with VV and HAH. KIH is guarantor. LA, SS, LK, and HP critically revised the paper.

Ethics approval

Ethics committee of the Medical Faculty of the University of Cologne (application Nr. 17-210).

Competing interests

None declared.

Data sharing statement

No additional data available.

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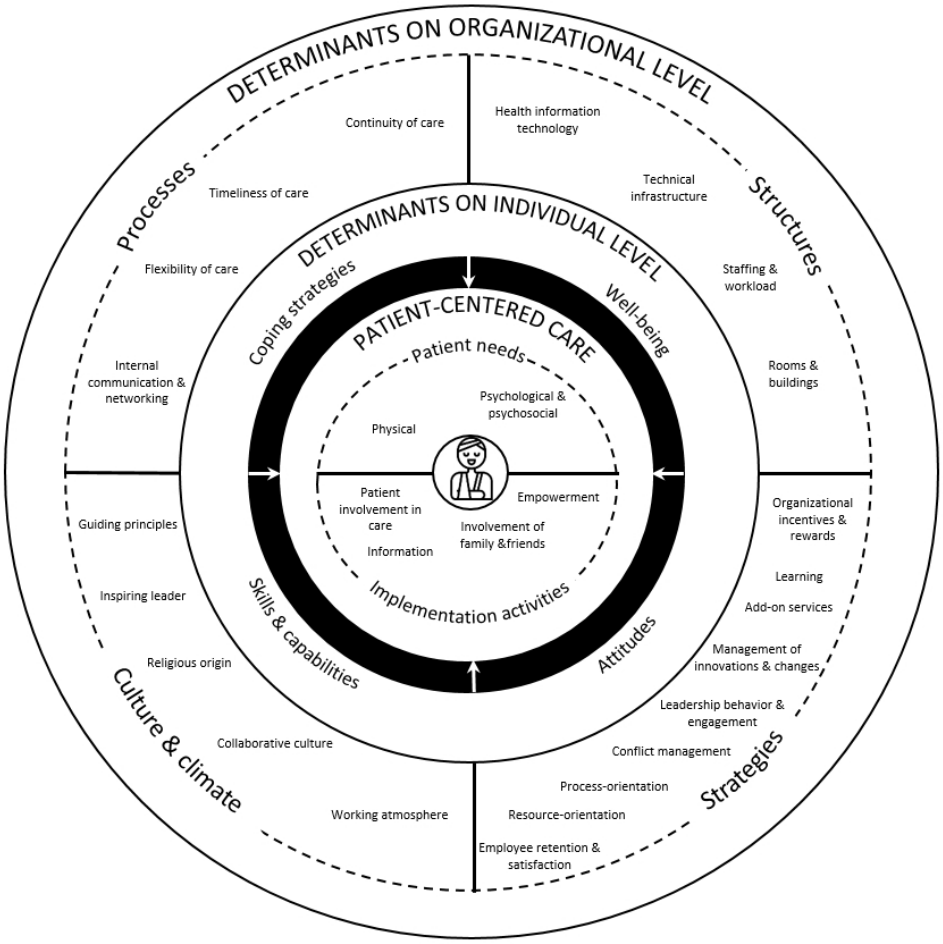

The Consolidated Framework for Implementation Research (Damschroder et al., 2009) was used as the basic framework for structuring the interview themes. The determinants within the category outer setting included in this framework were not relevant for the particular study and are therefore not included in the following table. Moreover, additional determinants were identified through the interviews and are therefore added in this table. Some determinants were rephrased for better aligning with the data collected in this study.

Appendix Table 1: Adaption of the Consolidated Framework for Implementation Research (CFIR) (Damschroder et al., 2009)

DETERMINANTS OF PCC IMPLEMENTATION RELATED TO THE ORGANIZATIONAL LEVEL: STRATEGIES, STRUCTURES, PROCESSES, & CULTURE (INNER SETTING)	
Strategies	
Organizational incentives & rewards	Ways in which staff members are motivated and rewarded for implementing patient-centered (e.g., award for "best idea", notice of termination)
Learning	Ways in which the organization collects information at the level of patient-centeredness. For example, feedback from staff members to team leaders (and vice versa). Includes formal (patient surveys) and informal measures.
Management of innovations & change	Ways in which decision-makers and employees of organizations handle changes and implement innovations
Leadership behavior & engagement	Behaviors and official/unofficial rules that characterize the leadership behavior within the care organization, within departments, and within the team, also in relation to different professional groups
Conflict Management	Ways in which conflicts (e.g., task or emotional conflict) within the organization are addressed or prevented
Process-orientation	The organizations' orientation towards the coordination of standard processes which decision-makers or care providers introduced or propose to provide more patient-centered care, and factors that might foster or impede these processes
Resource-orientation	The organizations' orientation and strategies towards maintaining, accumulating, and preserving their resources, such as human resources (e.g., staff qualification) and information resources (e.g., guideline knowledge)
Employee retention & satisfaction	Ways in which care providers try to encourage and foster the long-term retention of employees and to achieve staff satisfaction. This does not include the well-being of individual staff and how this is related to patient-centered care
Add-on services	Provision of services and equipment above mandatory requirements in reaction to peer pressure (due to financial motivation or altruism) or to provide better or more patient-centered care (e.g., new diagnostic tools, new therapeutic concepts). These offers are not directly reimbursed or covered by any funds such as diagnosis related groups, uniform value scale, or nursing schemes.

Structures	
Staffing & Workload	Specification of quotas on employee per patient, workload, and mandatory standards
Technical infrastructure	
Equipment	Specific equipment (e.g., diagnostic tools) available in the organization. Includes non-medical equipment (e.g., flip-charts)
(Health) Information Technology	Introduction or advances in IT infrastructure that were implemented to provide more patient-centered care (e.g., to save time in relation to documentation duties)
Rooms & buildings	Design and architecture of buildings and rooms within the care organization (e.g., single-bed rooms, private consultation rooms, accessible for handicapped)
Processes	
Continuity of care	Ways in which care providers try to achieve continuous care for their patients (e.g., primary nursing, care team per department) or factors that impede continuity of care within an organization (e.g., frequent staff turnover)
Timeliness of care	Ways in which care providers try to achieve timely treatment if needed and how this is balanced against
Flexibility	Ways in which individual care providers react to new or unexpected situations in care provision
Formal communication	Mode and frequency of team meetings and formal internal communication (e.g., tumor board), including information on staff who are involved in the particular meeting (e.g., separate meetings for medical staff or, e.g., meeting with all staff members of a department including all professions)
Informal communication	Informal ways in which employees communicate or communication is facilitated (e.g., small kitchen, social media) within the HSCOs
Culture & Climate	Relative priority of patient-centered care expressed through norms, values, and basic assumptions. Aspects of the climate and culture (e.g., social capital)
DETERMINANTS OF PCC IMPLEMENTATION	RELATED TO THE INDIVIDUAL LEVEL: CHARACTERISTICS OF INDIVIDUALS (INNER SETTING)
Coping strategies	Individual strategies to cope with occupational burdens (e.g., working part-time, changing the department, continuous education)

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Physical & emotional well-being	Aspects that are important to employee satisfaction, job satisfaction, and well-being at the workplace
Skills & capabilities	
Psychological traits	Aspects of personality (e.g., empathy, recognizing patient needs) and how individuals act or perceive. This does not cover particular attitudes
Professional qualifications & development	Specific qualifications related to the job (e.g., further training in palliative care nursing, language barriers)
Communication (verbal)	Communication skills of employees
Attitudes towards PCC	Cognitive, affective, and behavioral intentions towards patient-centered care (e.g., initiatives for employees to advance their skills, behaviors that reflect job motivation)

Appendix Table 2: Interviewees by gender, age, type of care organization, and organizational tenure)

Characteristics	Total (n=24)
Gender	
Male	15
Female	9
Age (years)	
25-34	1
35-44	6
45-54	11
55-64	6
Type of HSCOs	
GPs and private practice specialists	3
Psychotherapy	3
Long-term outpatient care	4
Outpatient rehabilitation services and rehabilitation clinics	4
Long-term inpatient care (including hospices)	5
Hospitals	5
Organizational tenure (years)	
less than 5	5
5-10	5
10-19	10
>20	2

Note: Organizational tenure not available from n=2 interviewees. GP = General Practitioner.

Supplementary Appendix 1: Decision-makers' understanding of PCC

The conceptual model of Scholl et al. [3] was used to identify codes that denoted the decision-maker`s understanding about PCC activities related to patient's needs (see Appendix Table 3).

Appendix Table 3: Adaption of the conceptual model of Scholl et al. (2014) to identify codes that denoted the decision-maker`s perspectives about the understanding of patients' needs and PCC activities

DECISION-MAKERS' UNDERSTANDING OF PCC	
PCC perspectives of patient needs	
Psychological/Psychosocial needs	Ways in which psychological needs of patients are identified and addressed in a care situation (e.g., emotional support)
Physical needs	Ways in which physical needs of patients are identified and addressed in a care situation (e.g., individualized therapies)
PCC activities	
Patient empowerment	Ways in which patients are actively empowered in a care situation (e.g., self-management). This does not include the provision of medical or non-medical information.
Involvement of family and friends	Ways in which family and friends are actively involved in the care process (e.g., teaching care skills, providing support, taking treatment decisions) and extent to which organizations facilitate such involvement
Patient involvement in care	Ways in which patients are actively involved in the care process (e.g., teaching care skills, providing support, taking treatment decisions) and extent to which organization facilitate such involvement
Patient information	Provision of tailored information while taking into account the patient's information needs and preferences

In the following, summaries and example quotes (Appendix Table 4) are presented to describe decision-maker`s perspectives about the understanding of patients' needs and PCC activities.

PCC perspectives of patient needs

Psychological and psychosocial needs: The decision-makers pointed out that PCC is characterized by taking the patient seriously and minimizing stress. Individual anxieties and concerns of patients should be respected. Considering the patient's environment was described as central to an adequate planning and successful implementation of the best possible individual care. Environmental aspects cover support by relatives, housing, and general living conditions.

Physical needs: Individual characteristics, such as medical indications, secondary diagnoses, allergies, and how quickly someone recovers, were considered as crucial for the planning and structuring of care. In terms of PCC, it was mentioned to look at the individual in a holistic way and to not only focus on their symptoms and diagnoses. Some interviewees described it as a challenging task to consider and use the patients' resources in order to maintain or regain skills. Particularly in acute care contexts, clinical concerns are prioritized, which, according to some statements, could only be reliably assessed by the providers themselves. It was emphasized that communication is the most important key to identifying physical needs before resources for technical tools or diagnostic procedures (such as radiography) are used to no avail.

PCC activities

Patient empowerment: Interviewees described self-management of patients and relatives as a relevant aspect of PCC. Examples for implementing this dimension of PCC were rarely brought up. The few that were mentioned included the formulation of individual care goals, as well as the encouragement of patients to take on responsibility in the care process. However, taking over all tasks for patients was regarded as providing too much care that is beyond the scope of the provider's role.

Involvement of family and friends: Involvement of family and friends in the care process was mentioned in a wide range of contexts. It was described as an important pillar and resource of the patient, a source of patient-related information (e.g., about the personal preferences or history), and as a source of support in the care process. Different activities were explained that targeted at initiating or upholding the connection with family and friends, such as evenings organized for relatives, possibilities to participate in case meetings, or discussion groups. While successful involvement of the family or friends helped to leverage benefits in the care process, several factors determined its success in practice (e.g., quality of relationship between the patient and the relative). The involvement of family, relatives, or legal guardians was

particularly emphasized in long-term inpatient care, but was less pronounced in outpatient settings.

Patient involvement in care: Interviewees described patient involvement in care in terms of continuous patient counseling and support during the care process. Interviewees took different institutionalized approaches to the possibilities, advantages, and disadvantages of patient involvement along the care process (e.g., for shared decision making, in tumor boards or case meetings). The involvement of patients was perceived as particularly important when the goals of care were defined, since these were patient specific. In long-term inpatient care, involvement was fostered in specific care arrangements (e.g., living groups) and appreciated in general. Still, actual involvement was described as largely dependent on the patient's specific resources (e.g., cognitive or physical abilities) and the individual attitude of the care giver.

Patient information: Informing patients was seen as a basis for involving them and enabling them to participate in decisions. Interviewees described that information is provided to patients personally (e.g., during consultations to find therapeutic consent) or via information materials such as brochures. Independent of the format used, the provision of information was considered being dependent on resources (e.g., time, available staff) and the caregiver's situational awareness for the patient's needs. Medical information needs of patients were described as various and the style of information delivery to the patient (e.g., positivity, honesty) was described as influential for their well-being. In order to ensure that patients are adequately provided with information, the interviewees stated that they should be reassured at the time of leaving whether questions still exist and whether the patient is satisfied. Using patient surveys was proposed to find out whether patients feel sufficiently informed.

Appendix Table 4: Decision makers' understanding of PCC

PCC perspectives of patient needs	Quotes
Psychological/Psychosocial needs	On the day of admission, [we determine] the guests' demands and needs. This is not even primarily about medical things; all of that is very important as well [...]. But then, of course, we look at the family unit and so on. Like... are there some things that you would still like to arrange, that are important to you. That just often goes in the direction of psychosocial needs as well.
	Patients tend to come in then because they are not seriously... or do not feel taken seriously. Or because they sometimes report having been curtly brushed aside. I think that tends to be more of an emotional rather than a truly treatment-related problem.
	[…] the qualitative view of my care is the other. And I say, quality does not only mean that I have cured someone, but I can also accompany someone very well when dying.
	And that's our job to see who needs what. What do we have to do in terms of care and what does the individual need to be happy?
Physical needs	Well, first you have the purely medical dimension. So you say, the patient comes in to the hospital with this and that disease if it has been diagnosed, or the patient comes in as an emergency, and you find out what is wrong. And then there is a medical guideline, a care pathway, or something that you can still objectively measure quite well I think. [...] And then at some point, a medical status is reached where you tell the patient, well, now you are fit enough to be able to go back home. That is one dimension.
	So many things may be noticed then that may otherwise be missed if you basically only have the focus. Someone comes in with kidney pain, urine is tested and antibiotics administered, and you do not look left or right.
	I think […] the most important thing is to accept the patient, to accept him where he is, with the pain, with the aches, with that "*I'm here for nothing and I'm sorry that I disturb you*". These are crucial key sentences: Telling the patient at this point, […] "*You have a worry. And that's the worry we're going to look at here. There is no evaluation of worry. There is no evaluation that this is a big worry and that is a small one. You don't always have to come in here with a heart attack*".
PCC activities	
Patient empowerment	Well, generally, I think it is always good when patients can do it themselves, in the spirit of self-management, I am always for that actually, that they take care of themselves.
	I would not call somewhere on behalf of a patient if I felt that the patient can do it himself, right? [...] I would consider that excessive care.
	But, the patient is actually very alone and must be basically an expert for his disease pattern and the possibilities, which the health service offers, so that he reaches his goal quickly.
	If there aren't relatives to care, it's very, very difficult. [...] they're [hospitals] also badly staffed, no question. But nevertheless, I think, the resident cannot do anything about this [...] if someone cannot eat independently, then immediately comes the subject, that he should get a stomach tube and we say, no. If you sit there, pass the food, it works.

Involvement of family and friends	Particularly on the ground, in nursing care itself, a key point is certainly the willingness to talk as well. That family and friends are not a bothersome evil or, well, the annoying [...] son, husband, whatever, but actually, well, an attachment figure. First of all, an appreciation of the importance of this family member or friend to the person in need of care. Determining that plays a role as well of course. Well, from a purely technical perspective, simply supporting us. And that is, sometimes it makes things easier, these family members or friends who come in, but sometimes, well, it is like an additional resident who is very time-consuming to care and needs to talk a lot and even needs psychological support.
Patient involvement in care	Well, patient orientation means that the patient is guided through the entire treatment and from the physician or medical side does not have to make an effort regarding the progress of treatment. That the patient's needs are responded to. And the treatment is discussed and conducted together with the patient. [...] [I] would almost call that cruel, that is...that would be much too difficult, I would not want to advise the family and friends either to sit in on a tumor board. I believe I would not sit in on the tumor board that decides on my own fate either if I ever had cancer. […] well, then there are things where a guest with a brain tumor, for example, absolutely wants to have a [prosthesis] implanted. That makes no medical sense. In terms of nursing care, it makes no sense either, it only causes the guest discomfort, right? [...] then we can only inform, and ultimately, the final decision must be made by the guest. We are already trying to find goals […] most of them interdisciplinary and very close to everyday life. And of course the patients have to join in. Well, they are also asked... Most of them say first, […] "*I want to be the same as before*," right? And then to concretize that […]. Then you can check it better at the end.
Patient information	But about your question on psycho-oncology, there is at least something offered [...] And we offer the corresponding information materials on our counter too. [...] I think I may not point those out to my patients enough. [...] [Y]es, that often falls between the cracks a little bit in the, let's say, in the rush of treatment. […] we are asking about the friendliness of the staff and whether information is provided before interventions and so we are already trying to find out a bit, if the patients have the feeling that they are being informed about the things that are important. [...] [You] can have the best medicine on the one hand if the patient does not... is not reasonably communicated with the patient, then he will not have felt this as patient-oriented. Then he'll go home and say "*I don't know what's wrong with me*"

Reporting checklist for qualitative study.

Based on the SRQR guidelines.

Instructions to authors

Complete this checklist by entering the page numbers from your manuscript where readers will find each of the items listed below.

Your article may not currently address all the items on the checklist. Please modify your text to include the missing information. If you are certain that an item does not apply, please write "n/a" and provide a short explanation.

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In your methods section, say that you used the SRQR reporting guidelines, and cite them as:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. Acad Med. 2014;89(9):1245-1251.

		Reporting Item	Page Number
	#1	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	2, 3, 6-12
	#2	Summary of the key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results and conclusions	2, 3
Problem formulation	#3	Description and signifcance of the problem / phenomenon studied: review of relevant theory and empirical work; problem statement	4-6
Purpose or research question	#4	Purpose of the study and specific objectives or questions	6
Qualitative approach and research paradigm	#5	Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenolgy, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist / interpretivist) is also recommended; rationale. The rationale should briefly discuss the justification for choosing that theory, approach, method or technique rather than other options available; the assumptions and limitations implicit in those choices and how those choices	9-12

		influence study conclusions and transferability. As appropriate the rationale for several items might be discussed together.	
Researcher characteristics and reflexivity	#6	Researchers' characteristics that may influence the research, including personal attributes, qualifications / experience, relationship with participants, assumptions and / or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results and / or transferability	8-11
Context	#7	Setting / site and salient contextual factors; rationale	7-9
Sampling strategy	#8	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale	
Ethical issues pertaining to human subjects	#9	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	9/10, 41
Data collection methods	#10	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources / methods, and modification of procedures in response to evolving study findings; rationale	9-10
Data collection instruments and technologies	#11	Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if / how the instruments(s) changed over the course of the study	9, 10
Units of study	#12	Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	7-10, Appendix
Data processing	#13	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymisation / deidentification of excerpts	8-11
Data analysis	#14	Process by which inferences, themes, etc. were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale	10-12
Techniques to enhance trustworthiness	#15	Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale	10-12
Syntheses and interpretation	#16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	12-26, Appendix

Links to empirical data	#17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	32-40
Intergration with prior work, implications, transferability and contribution(s) to the field	#18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application / generalizability; identification of unique contributions(s) to scholarship in a discipline or field	26-29, 31
Limitations	#19	Trustworthiness and limitations of findings	3, 30, 31
Conflicts of interest	#20	Potential sources of influence of perceived influence on study conduct and conclusions; how these were managed	41
Funding	#21	Sources of funding and other support; role of funders in data collection, interpretation and reporting	41

Correction: *Implementation of patient-centred care: which organisational determinants matter from decision maker's perspective? Results from a qualitative interview study across various health and social care organisations*

Hower KI, Vennedey V, Hillen HA, *et al*. Implementation of patient-centred care: which organisational determinants matter from decision maker's perspective? Results from a qualitative interview study across various health and social care organisations. *BMJ Open* 2019;9:e027591. doi: 10.1136/bmjopen-2018-027591

Some information regarding last authorship, collaborators and the trial registration number were left out in the previous version of this manuscript. The missing details are as follows:
The last authorship is on behalf of CoRe-Net.

The collaborators are Christian Albus, Lena Ansmann, Frank Jessen, Ute Karbach, Ludwig Kuntz, Holger Pfaff, Christian Rietz, Ingrid Schubert, Frank Schulz-Nieswandt, Stephanie Stock, Julia Strupp, Raymond Voltz, Nadine Scholten.

Also, the trial registration number is DRKS00011925.

BMJ Open 2019;**9**:e02759corr1. doi:10.1136/bmjopen-2018-027591corr1