Qualitative Research

Collaboration and communication in colorectal cancer care: a qualitative study of the challenges experienced by patients and health care professionals

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Abstract

Background. Colorectal cancer is becoming a chronic condition. This has significant implications for the delivery of health care and implies the involvement of a range of health care professionals (HCPs) from different settings to ensure the needed quality and continuity of care.

Objectives. To explore the challenges that patients and HCPs experience in the course of colorectal cancer care and the perceived consequences caused by these challenges.

Methods. Ten semi-structured focus groups were conducted including patients receiving treatment for colorectal cancer, representatives of patient support groups, physicians and other non-physician HCPs from different health care settings. Participants were asked to share their experiences regarding colorectal cancer care. All data were audio- and videotaped, transcribed verbatim and thematically analysed using qualitative content analysis.

Results. Patients and HCPs (total N = 47) experienced collaboration and communication as well as exchange of information between HCPs as challenging. Particularly communication and information exchange with GPs appeared to be lacking. The difficulties identified restricted a well-working coordination of care and seemed to cause inappropriate health care.

Conclusion. Colorectal cancer care seems to require an effective, well-working collaboration and communication between the different HCPs involved ensuring the best possible care to suit patients’ individual needs. However, the perceived challenges and consequences of our participants seem to restrict the delivery of the needed quality of care. Therefore, it seems crucial (i) to include all HCPs involved, especially the GP, (ii) to support an efficient and standardized exchange of health-related information and (iii) to focus on the patients’ entire pathway of care.

Key words: Collaboration, colorectal cancer, communication, general practitioner, qualitative methods, quality of health care.

Introduction

Cancer, especially colorectal cancer, with better methods of screening and early detection as well as advantages in treatment is becoming a chronic condition. This has significant implications for the delivery of health care (1).

Patients with chronic illnesses such as colorectal cancer often have complex health care histories and needs in dealing with their
illness (2,3). Therefore, health care of these patients requires the involvement of a range of health care professionals (HCPs), such as GPs or nurses, across different health care settings to fulfill the patients’ needs (4). Given this complexity, cancer care in general needs to be well coordinated to ensure that all patients receive timely and appropriate care (5). In contrast to these requirements, surveys about experiences of patients in cancer care revealed that a high percentage of those patients experienced difficulties in their pathway of care (2). Additionally, several reports regarding cancer care have called attention to deficits and identified gaps in cancer care delivery (6–8). Continuity in care is also impeded by highly fragmented health care systems.

Despite this current situation, cancer care requires high-quality health care from a medical and economic point of view as well as from the patients’ perspective. Based on a Institute of Medicine report (9), the delivery of care should be efficient, safe, timely, effective, personalized and equitable. So, health care needs to be well coordinated to fulfill these six aims and to ensure the needed quality of care. Key components of well-coordinated care are an effective collaboration and communication among all professionals involved in the patients’ pathway of care across the different settings (10–12).

Although it is known that the delivery of cancer care needs to be improved among the different HCPs involved, detailed knowledge about perceived challenges with an interprofessional view across different settings in colorectal cancer care has not yet been described sufficiently. Nevertheless, this knowledge is a necessary basis to find ways to improve the quality of cancer care. Hence, the aims of the study were to identify (i) which challenges do patients and different HCPs experience in the course of colorectal cancer care and (ii) which consequences can result from these challenges.

Methods

Study design

A pilot project called ‘Information technology for patient-centered healthcare’ (INFOPAT) funded by the German Federal Ministry of Education and Research (2012–16) has been initiated in the Rhine-Neckar region in Germany. This project aims to improve care across different health care settings especially for chronically ill patients. In the first phase of the INFOPAT project, experiences of patients and HCPs in colorectal cancer care should be explored. Based on the explorative character of the research topic, the researcher team decided to use focus groups to collect appropriate data.

Participants and recruitment

Within the INFOPAT project, a wide range of different views on colorectal cancer care should be explored. Based on the goal to generate focus groups with a mix of participants in terms of experiences and background, we followed the strategy of purposive sampling. Therefore, patients diagnosed with colorectal cancer [ECOG 0–1 (13)], representatives from patient support groups, physicians and non-physician HCPs in the Rhine-Neckar region, Germany, were identified as potential participants. Patients, who fulfilled the following criteria, were excluded: younger than 18 years, suffering from severe acute psychiatric disorders as well as moderately to severe dementia. Patients were recruited through the National Center for Tumor Diseases (NCT) in Heidelberg, Germany, where they also received their cancer treatment. Further patients were approached through an umbrella organization for patient support groups in Heidelberg. Recruited physicians were involved in colorectal cancer care at the NCT (oncological specialists) as well as in ambulatory settings (GPs, oncologist). Non-physician HCPs (nurses, stoma therapists, social workers, physiotherapists and nutritionists), who were included, worked either at the NCT or the University Hospital Heidelberg and were involved in colorectal cancer care. Additionally, health care assistants who were working in primary care practices were included in the study sample. A description of the role of a health care assistant in Germany can be found by Freund et al. (14).

The study was approved by the Ethics Committee of the University Hospital Heidelberg (S-497–2012). All participants gave their written informed consent. The participants’ anonymity and confidentiality were ensured throughout the study.

Data collection

All focus groups took place at the University Hospital Heidelberg and lasted until no more new aspects emerged. Based on a literature review and subsequent expert discussions, the researcher team developed and pilot-tested a semi-structured interview guide with open-ended questions to obtain and explore the participants’ experiences in colorectal cancer care. The focus groups were conducted by experienced researcher (IB, DO and FE) who used the same interview questions in a flexible way in the different focus groups. The moderator tried to be as less involved as possible to allow discussions between participants but keep the actual topic in mind during the focus group discussions. This approach allowed the researcher team to learn something new from the participants as well as get responses concerning the specific research interests. Before conducting the focus groups the recruited participants were divided into three groups (patients, physicians and non-physician HCPs) regarding their experiences and perspective on the topic. This approach followed the segmentation strategy described by Morgan (15) and ensured homogeneous group compositions within each focus group. However, it was not possible to ensure that all participants of a focus group were strangers because HCPs, who did not work in the ambulatory setting, worked in the same organization. But each moderator was aware of possible different group dynamics that might arise within a group of acquaintances and adjusted his style of moderation. All focus group discussions were audio- and videotaped and afterwards transcribed verbatim. Videotapes were used to assist with the transcription of group data. Additionally, socio-demographic data were collected anonymously using a study-specific questionnaire.

Data analysis

The transcribed texts of all focus groups were the basis to perform the qualitative content analysis. Data were taken from the transcribed texts, edited and analysed (16,17). This was done by using a preliminary category system (search grid), which was based on a previously performed literature research and expert discussions within an interprofessional researcher team (nursing, physiotherapy, medicine and philosophy). In addition, the category system was continuously adapted during the analysis process, if the data revealed additional and new information that did not fit into the previous category system.

In a first step, 3 out of 10 transcriptions were analysed independently by 3 members of the researcher team (IB, DO and MKa) to get a first impression of relevant additional key issues. Following that, the key findings were discussed within the researcher team and the preliminary category system was adapted. Afterwards all key issues were labelled as codes and these codes were organized into main- and subcategories. Each code was clearly defined and linked with samples from the transcriptions. This process was repeated with the other seven transcriptions. Finally, all categories were discussed within the...
interprofessional researcher team and further modified until consensus on the final category system was reached. Labelling categories in the text was performed by using the software ATLAS.ti (version 7.0.80).

**Presentation of results**
In order to facilitate a better readability, the tables provided represent the key findings as main categories as well as the corresponding subcategories and aspects of each subcategory. Tables that present the categories enable differentiation between the different participant groups’ perspective with respect to mentioned aspects. Example quotations for the identified aspects can be found in the Appendix 1.

**Results**
Overall, 10 focus groups were conducted between March and October 2013 with a total of 47 participants. Table 1 summarizes the characteristics of participating patients (N = 12); representatives from patient support groups (N = 2); physicians working as oncological specialist at the NCT (N = 5); physicians working in the ambulatory setting as GP (N = 11) or oncologist (N = 1) and non-physician HCPs working at the NCT or University Hospital Heidelberg as nurse (N = 6), stoma therapist (N = 1), social worker (N = 2), physiotherapist (N = 2) or nutritionist (N = 1), as well as non-physician HCPs working as health care assistant in a general practice (N = 4). The compositions of the 10 conducted focus groups are presented in Table 2.

One-third of the participating patients (N = 4) were living with their diagnosis for less than 1 year, four patients between 1 and 2 years and four patients for at least 6 years. The average duration since diagnosis was 1.7 years (median with interquartile range: 0.8; 6.7).

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**Table 1. Characteristics of focus group participants (N = 47)**

|                     | Patients | Patient representatives | Non-physician HCPs | Physicians |
|---------------------|----------|-------------------------|--------------------|------------|
| N                   | 12       | 2                       | 16                 | 17         |
| Sex (male)          | 83.3% (N = 10) | 50.0% (N = 1)         | 18.8% (N = 3)      | 58.8% (N = 10) |
| Age (years)         | 61.5 (58; 67.2) | (44; 62)             | 38.0 (28.5; 50)   | 43.0 (35; 56.5) |
| Education ≥ 12 years| 50.0% (N = 6)       | 100.0% (N = 2)       | 43.7% (N = 7)     | –          |
| Professional experience (years) | (10; 38) | 20 (5; 26)             | 75% (N = 12)      | 29.4% (N = 5) |
| Health care setting  | NCT/hospital | –                      | 25% (N = 4)       | 70.6% (N = 12) |
|                     | Ambulatory setting | –                      | –              |            |

*Staff from patient support groups.

*Md (IQR), median with interquartile range.

*Minimum; maximum.

*NCT, National Center for Tumor Diseases/University Hospital Heidelberg, Germany.

*Nurses (N = 6), stoma therapist (N = 1), social workers (N = 2), physiotherapist (N = 2) and nutritionist (N = 1).

*Health care assistants working in a general practice.

*GPs (N = 11) and oncologist (N = 1).

**Table 2. Compositions of conducted focus groups (N = 10)**

| User group | Number | Description |
|------------|--------|-------------|
|            | Focus groups (N) | Participants (total N) |
| Patients   | 3      | 14          |
| Physicians | 4      | 17          |
| Non-physician HCPs | 3 | 16          |
| Total      | 10     | 47          |

Overall, the key results presented below show that patients and HCPs experienced challenges in colorectal cancer care mainly as a lack of collaboration and communication and as an accompanying poor information transfer between all HCPs and persons involved in the patients’ pathway of care. These experienced difficulties further resulted in an ineffective coordination of care and led to inappropriate health care.

**Perceived challenges in colorectal cancer care**

**Lack of collaboration and communication between involved persons**
Most participants experienced a lack of collaboration and communication in cancer care between all in the patients’ pathway of care involved (Table 3). Difficulties in collaboration and communication were faced among HCPs as well as between different health care settings.

With a growing number of HCPs involved, adequate collaboration and communication was perceived as getting more difficult. Moreover, non-physician HCPs expressed the need to gain more information about the patient itself, next to written medical facts. Therefore, facilitation of personal communication was seen as an important component of care. On the other hand, patients outlined that HCPs had a strong focus on their specialization. This fixation on a certain medical field was perceived to lead to an absence of communication regarding accompanying illnesses between HCPs involved.

As a basis of an effective communication across different settings, the focus group participants perceived the inclusion of all involved providers and health care settings as important. Therefore, participants expressed the need to facilitate networking between the different health care settings and providers involved to strengthen
communication and collaboration. Especially GPs were seen to play a major role by including all persons in the care process involved.

Poor information transfer

Focus group participants experienced problems regarding the exchange of information during the process of cancer care. These problems were caused by a lack of collaboration, insufficient involvement of care providers and organizational deficits as well as a shortage of structures (Table 4).

Non-physician HCPs experienced insufficient collaboration between the different HCPs involved due to a lack of knowledge about the duties and responsibilities of each in the process of care involved provider and setting. This lack of knowledge led to severe problems regarding the exchange of information. Moreover, several participants experienced situations, where needed information was not available. Therefore, patients as well as HCPs illustrated the urgent need to improve an efficient transfer of information to secure appropriate health care. So, GPs further explained their need to have reliable information about the ongoing process of care. Without having the necessary information, GPs underlined that they were not able to carry on further health care and treat patients according to their individual needs. Non-physician HCPs reported similar problems concerning the availability of information. Overall, the exchange of information was experienced as extremely difficult when health care across different settings was needed.

Loss of information was also provoked by organizational deficits. Participating physicians outlined a poor information exchange, especially if they referred a patient to a specialist or different health care setting. Patients as well as HCPs expressed the need to facilitate an efficient and organized transfer of medical information. Moreover, it was seen as essential to have consistent standards for developing medical records as well as for transferring medical information.

In addition, HCPs experienced a shortage of structures, which impeded the exchange of information between HCPs involved. The need to exchange knowledge between the different professions involved was discussed. Given structures seem to be an essential basis to enable a well-working interprofessional exchange of knowledge.

Perceived consequences caused by an inadequate collaboration and communication

The above-described difficulties regarding collaboration and communication between HCPs involved in colorectal cancer care caused further perceived consequences to the care process (Table 5). Most participants had to face insufficient collaboration and communication as well as a poor information transfer, which influenced the quality of care. These difficulties not only led to inappropriate health care but also caused problems in care across different settings. Especially the transition between different health care settings and providers seemed to be challenging in the process of cancer care without having a well-working collaboration and communication in place.

Patients as well as HCPs saw a lack of collaboration and communication and an inadequate information exchange as a risk to the continuity of care. Without information about the previous and ongoing process of care, focus group participants expressed that it was challenging to secure the needed continuity and quality of care. From the participating patients point of view, inadequate attention to accompanying illness was seen as a further consequence. Therefore, patients themselves tried to secure an appropriate care, which pays attention to all accompanying illnesses. Moreover, patients complained about redundant clinical examinations and tests. From their point of view these were also caused by deficits in collaboration and communication. All in all participants outlined that insufficient collaboration and communication made it challenging to deliver the best possible care.

Additionally, physicians participating in the focus groups outlined the missing focus on the entire process of cancer care and the

### Table 3. Perceived challenges in colorectal cancer care—lack of collaboration and communication between involved persons

| Subcategory                                           | Aspects                                      | Aspect mentioned by |
|-------------------------------------------------------|----------------------------------------------|---------------------|
| Lack of communication between HCPs                    | Collaboration with involved HCPs             | a, b, c             |
|                                                      | Personal communication                        | c                   |
|                                                      | Communication of accompanying illnesses      | a                   |
| Lack of communication across different health care settings | Inclusion of all involved HCPs                | b                   |
|                                                      | Communication with GPs                        | b                   |
|                                                      | Networking between involved health care settings and providers | b                   |

a, patients; b, physicians; c, non-physician HCPs.

### Table 4. Perceived challenges in colorectal cancer care—poor information transfer

| Subcategory                                               | Aspects                                      | Aspect mentioned by |
|----------------------------------------------------------|----------------------------------------------|---------------------|
| Loss of information caused by insufficient collaboration  | Knowledge about duties and responsibility of other involved HCPs | c                   |
|                                                      | Information transfer                          | a, b, c             |
| Loss of information caused by insufficient involvement   | Involvement of GPs                            | b                   |
|                                                      | Provision of information for non-physician HCPs | c                   |
| Loss of information caused by organizational deficits    | Transfer of medical records                   | a, b, c             |
|                                                      | Consistent standards for developing medical records | b                   |
| Shortage of structures, which facilitate the information transfer | Consistent standards for transferring information | c                   |

a, patients; b, physicians; c, non-physician HCPs.
resulting insufficient agreement among HCPs involved as well as between different health care settings.

Next to the described findings, further aspects of interest in the conducted focus groups were the patient–physician communication, discharge planning as well as problems regarding the transition between different health care settings and providers. Theses aspects are also important in colorectal cancer care but will not be further addressed in this article.

Discussion

Summary of main findings

In this qualitative focus group study, we explored experiences of patients and HCPs to identify challenges and resulting consequences in colorectal cancer care. Overall, our findings show that collaboration and communication as well as sharing of information between HCPs particularly in different settings were experienced as challenging. Moreover, our data highlight that our focus group participants perceived communication and information sharing with GPs not to work well in the care process. From the participants’ point of view, all the perceived difficulties further appeared to restrict an effective coordination of care and lead to inappropriate health care as well as risk the best possible care.

Strengths and weaknesses

This study incorporated a mixed sample of participants in order to collect a wide range of experiences from all those who are involved in colorectal cancer care and considered cancer care at all stages of the disease. In contrast to previous studies, which mostly focused on physicians, we understand colorectal cancer care as an interprofessional mission and therefore included patients as well as physicians and other non-physician HCPs from different health care settings in our study sample. Moreover, the study was conducted by an interprofessional team of researcher (nursing, physiotherapy, medicine and philosophy) to enable a broad perspective during design and analysis of this study.

On the other hand, limitations in recruitment of participants need to be acknowledged. For instance, the number of participants (in particular of patients) could have been higher. It is possible that a higher number of participants could have led to different findings. Furthermore, we were not able to include all possible HCPs professions and specialists in our study sample and therefore focused on professions and specialists, who are involved in this specific cancer care setting in Germany. Additionally, the unique structures and roles of HCPs in the German health care system might restrict a general transfer of our findings into different countries. HCPs, who worked at the NCT or the University Hospital Heidelberg, were asked to participate through other employees of these institutions.

Main findings in the light of the literature

In general, an effective communication and collaboration among all persons, who are involved in the patients’ pathway of care, is seen as one major aspect of good organization of health care and health care services (5,9,18). Similar to findings in the literature, our data reveal difficulties in communication and collaboration and perceived resulting consequences of these difficulties. Moreover, our participants expressed the need to improve communication among HCPs, particularly in different health care settings, to ensure the needed quality of care. Additionally, participating HCPs underlined it was important to know about duties and responsibilities of other providers and health care settings involved. This finding is in line with previous results (18) and, from our participants point of view, demonstrates that knowledge about all providers and settings involved seems to be crucial for a well-organized and coordinated health care. Without an effective communication and collaboration in colorectal cancer care clear coordination of tasks appear to be challenging and health care remains fragmented (6). The consequences that might arise through difficulties in coordination of care are demonstrated by our data as well. In contrast to important aspects of high quality of care (1,5,18), from our participants point of view, the delivery of colorectal cancer care appears as delayed, incomplete and/or not suitable with regard to the patients’ need. These perceived challenges in the delivery of colorectal cancer care seem to be critical because these challenges might restrict high quality of care and potentially risk the patients’ safety.

Regarding the management of care the GP has a particularly important function in cancer care as he has many roles inherent. On the one hand, GPs are the ones who take general care of all diseases (comorbidities), offer palliative care, support patients in the coordination of referrals, provide pain relief and so on (11,19). On the other hand, GPs do know patients mostly for a longer period of time and are therefore familiar with the patient as well as the individual social and familial context, which is particularly important when emotional support is needed (19). Additionally, the findings of Bulsara et al. (20) demonstrate that patients value the close relationship and rely upon their GP for clarification of information and treatment options provided for example by the hospital. In contrast to the importance of GPs in cancer care, our data show that the involvement of GPs was perceived as lacking and therefore communication among GPs, specialists and other non-physician HCPs in inpatient care was described as challenging. Previous studies (11,19,21,22) have highlighted that a lack of information is a barrier for GPs to fulfill their many important roles and treat patients according to their needs.

As indicated in the literature (11), our focus group participants underlined the necessity of structures for creation, transfer and receipt of information. A suggestion to facilitate collaboration and communication among involved HCPs in the literature is for example the use of electronic medical records or other informatics tools, which could connect different providers and offer structures on how information should be exchanged (11,12,22). A further aspect, which was indicated by our focus group participants, was the lack of inclusion of all HCPs involved in the patients’ pathway of care and the hereby addressed importance of a multidisciplinary and interprofessional approach in colorectal cancer care. This finding is in line with previous research, which emphasizes that the organization and delivery of cancer care requires well-coordinated teamwork and should be centred on the patient (22).
Conclusion

In conclusion, our findings demonstrate that colorectal cancer care seems to require an effective, well-working collaboration and communication of all involved HCPs to ensure the best possible care, which suits the individual patients’ needs. However, the perceived challenges and consequences of our focus group participants seem to restrict the delivery of this needed quality of care.

On the basis of our findings, three important aspects of cancer care coordination, which appeared to be crucial from our participants point of view to ensure high quality of cancer care, could be identified: (i) consideration of all HCPs, who are involved in the patients’ pathway of care, especially the GP, (ii) support of an efficient and standardized exchange of health-related information among HCPs independent of the health care setting and (iii) focus on the patients’ entire pathway of care.

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Declaration

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Appendix 1. Key findings regarding perceived challenges and consequences in colorectal cancer care linked with quotations

Perceived challenges in colorectal cancer care—lack of collaboration and communication between involved persons

| Subcategory                                                                 | Aspects                                                                 | Aspect mentioned by | Example quotation                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lack of communication between HCPs                                          | Collaboration with involved HCPs                                        | a, b, c             | One of my patients had a surgery in [name of the city] and the communication between HCPs involved, that means radiologist, who did the first clinical diagnostics, gastroenterologist, general practitioner, clinic... it was utterly shocking. I'm surprised that he is still alive. Yes, honestly. There was no agreement about who should do what and when. (GP2-05) |
|                                                                             | Personal communication                                                   | c                   | [...] you will get answers to your questions. But it is not the case that they [the physicians] have an additional half an hour to talk to you about the patient—what they think how the patient is doing, how the patient is feeling. (HCP1-08) |
|                                                                             | Communication of accompanying illnesses                                  | a                   | I mean, when someone suffers from diabetes and has a stoma and something is infected and doesn't heal properly. Usually the ones, who are responsible for taking care of the stoma, both physicians and stoma therapists, don’t know that the patient has diabetes [...] the communication doesn't work at all. (Patient4-02) |
| Lack of communication across different health care settings                 | Inclusion of all involved HCPs                                            | b                   | [...] from time to time you feel lost. First the patient because he feels to be left in the rain and then the general practitioner, he is the one, who takes care of the patient in such situations, but usually he [the GP] is left out and not included in the communication process. (GP3-05) |
|                                                                             | Communication with GPs                                                   | b                   | I remember a patient, who had a surgery in [name of the clinic] and the communication about the follow-up care— I always had to ask what is going to happen next, when is the next appointment and so on. (GP4-05) |
|                                                                             | Networking between involved health care settings and providers           | b                   | [...] What we [GPs] expect from physicians working at the hospital is, that they give us a complete discharge letter if the patient is send home and that it not takes 6 months until we get this discharge letter. (GP5-05) |

a, patients; b, physicians; c, non-physician HCPs.

Perceived challenges in colorectal cancer care—poor information transfer

| Subcategory                                                                 | Aspects                                                                 | Aspect mentioned by | Example quotation                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Loss of information caused by insufficient collaboration                     | Knowledge about duties and responsibility of other involved HCPs        | c                   | I think that this is a problem from time to time [...] if different institutions are involved in the patients care process—each single institution doesn’t know what the others have been doing before or still doing. (HCP2-08) |
|                                                                             | Information transfer                                                    | a, b, c             | [...] everything went wrong, I did explain exactly what kind of chemotherapy I used to get. But for some reasons this information got lost and they wanted to give me the wrong treatment. Then I faxed and mailed them a part of my treatment plan. But it never had been put into my medical record, also the dosage of my first treatment was too high—I collapsed. (Patient1-03) |
| Loss of information caused by insufficient involvement                      | Involvement of GPs                                                     | b                   | I got no discharge letter. He [the patient] appears at my doctor's office. I'm the one who he trusts and tells, that he has no appetite, that he is losing weight, but I have no clue [...] I have no information from the clinic. [...] Now he is taking some medication until I can figure out, which medication this is. He shows me his severe tremor. Where does it come from? Now he has an appointment on Friday [in the clinic] and I told him to ask the physician to send me a discharge letter. I'm there, if something happens, it would be helpful. (GP3-09) |
|                                                                             | Provision of information for non-physician HCPs                          | c                   | They [the mobile nursing service] say: We have no discharge letter, we have absolutely no information. We are supposed to take care of the patient, but we have no clue what is going on. [...] they are left alone without any information. (HCP4-07) |
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| Subcategory | Aspects | Aspect mentioned by | Example quotation |
|-------------|---------|---------------------|-------------------|
| Involvement of HCPs in other health care settings | In case the wife says that her husband has been in the university hospital before, than I am calling the university hospital, if she has no printed health related information with her. The GP is not available during the nights and what I always have to do is to improvise. (Physician2-04) |
| Loss of information caused by organizational deficits | Transfer of medical records | I referred several patients to a specialized treatment center for pain and always have the problem, that patients come back and never have a medication plan with them and I have to figure out what medication they get now [...]. (GP2-10) |
| | Consistent standards for developing medical records | We scan all medical documents. Even if the sonography was done downstairs [in the same institution] the information is not available in our system. Therefore, we have to write of or scan everything. (Physician2-04) |
| | Consistent standards for transferring information | And then, there is such a pile [of medical results] on top of the printer and then someone just flips through it. Or there is some mix-up with the digits in the fax number and it is sent to a wrong department and then it takes three month until you get the fax. And then it's said, yes we have been waiting for this information back then and the general practitioner says: I did send it already and it just ended up in the wrong department. (HCP1-06) |
| Shortage of structures, which facilitate the information transfer | Structures to ensure information transfer | I recently had some further training on how to take care of wounds and there was a colleague, who works at a welfare center. And she said to me, she would appreciate it, if there would be a possibility to ask when you need some further information [...]. (HCP5-06) |

a, patients; b, physicians; c, non-physician HCPs.

Perceived consequences caused by inadequate collaboration and communication

| Subcategory | Aspects | Aspect mentioned by | Example quotation |
|-------------|---------|---------------------|-------------------|
| Inappropriate health care | Continuity of care at risk | [...] it is always difficult to get the needed information [...] They [the patient] still get some treatments here, but we do not know what is actually going on [...]—How long will he stay? How long has he been here? Is he already been sent home? All these information's are not available to us. (HCP1-08) |
| | Inadequate attention to accompanying illness | [...] [the physician] gave me, because I have been in pain, some medication with cortisone, but cortisone is contraindicated by diabetes. And it was extremely exhausting to put things straight. And these are the sort of things, which sound not relevant or problematic right now, but the amount of such events, that's what matters. (Patient1-02) |
| | Best possible health care at risk | [...] that's what happens unfortunately from time to time, even here, that you think: okay, the patient lost weight for the last four or five weeks. And actually now it's more or less too late, but someone had the idea to call the dietary adviser [...]. That's when you think, okay, you could have called me earlier. (HCP1-08) |
| | Redundant examinations | No one is asking me when my last blood examination or x-ray was. They just want to do a new x-ray, even though it is already been done [...]. That is truly a deficit in the medical field, that they always think you can do everything twice. (Patient1-02) |
| | Missing focus on the whole pathway of care | [...] and what was bothering me was that the clinic, the surgeon, never gave me any information what will be the next step [in the patients' pathway of care] that has to be done. Nothing. (GP4-05) |

a, patients; b, physicians; c, non-physician HCPs.