Keeping one step ahead: A qualitative study among Norwegian health-care providers in hospitals involved in care coordination for patients with complex needs

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Abstract

Introduction: Various efforts aim to enhance continuity of care for patients with long-term health-care needs. Since 2012, Norwegian hospitals are mandated to appoint individual care coordinators for patients with complex needs to ensure continuity in the care pathway. New roles must meld with current practice. Implementation has been slow. This study investigates current care coordination across hospital contexts, from the perspective of health-care providers, a scarcely researched area.

Methods: A qualitative study using semi-structured individual, duo, and group interviews with 16 purposefully selected Norwegian health-care providers from different hospitals, departments, professions and with various roles. A thematic cross-case analysis using systematic text condensation was performed.

Results: Common for the interviewees' care coordination experiences was to "keep one step ahead." The scope of their coordination activities varied from diagnostics and treatment to orchestrating long-term, cross-sectional multidisciplinary care. This work was often performed without designated resources. The interviewees applied experience, knowledge, and sensitivity when defining the patients' needs and searching for resources to orchestrate coordination work. They strived to balance the needs of patients with the resources available and adjusted the continuity ambitions on behalf of their patients to what they considered doable in the relevant contexts. However, many told of negotiating special solutions for selected patients with particularly complex needs.

Discussion: Care coordination for patients with complex needs emerged as diverse and context-sensitive. Acknowledgement of coordination activities that go beyond established workflow routines and clinical pathways, together with flexible leadership support and accessible infrastructural resources are needed.

Keywords: Qualitative research, health personnel, hospital departments, delivery of health care, long-term care, continuity of patient care.ternational Journal of Care Coordination.

Background

Fragmented care is a great challenge for people living with complex, long-term needs of health care.[1,2] A growing number of patients are in need of health services from multiple providers and units over time[3,4] and they request improved care coordination.[5,6] Feeling secure when crossing care boundaries, having the opportunity and the means to be involved in care on their own premises, and having access to a contact person who knows them have been found to be central values for patients.[7,8]

Hospitals face special challenges in providing continuity of care for patients with complex needs due to an increasing number of specialized units, numerous professions and specialists involved in treatment and care, and that health-care providers work in shifts.[4,9] These challenges apply to coordination within and between hospital units,[9] as well as transitions between service levels and long-term collaboration among multiple actors and services.[10]

Various models have been introduced in hospitals to secure efficient coordinated care for patients. Examples are clinical pathways,[11] care pathways,[12] processoriented redesign,[10,13] case management,[14] advanced nursing roles with extended coordination responsibility,[15,16] and formal agreements on collaboration.[17] A Norwegian approach has been to assign healthcare providers within clinical staff a personal responsibility for the development of individual care plans and for taking on a coordinator role to guide the patients through a fragmented health-care system.[18]

Studies of coordination work in hospitals have focused on different aspects, such as daily coordination of resources and processes to enhance the continuity of work and treatment of patients across shifts and professions,[9,19] distribution of responsibility,[20] challenges related to design and performance of particular coordinator roles,[15,16,21] the dynamics of collaboration in coordinating processes,[22,23] handoffs, informationsharing or the use of care plans to secure transitions,[24–26] barriers and facilitators to coordinated care,[15,27,28] or on how to handle multimorbidity or complexity.[29] These studies either focus on the needs of a defined patient group,[22,24,30] a particular context with defined collaborating partners,[28,30] or have evaluated the implementation of new organizational models with defined coordinator roles.[15,16]

Hospital patients' needs are diverse, and hospital units vary when it comes to tasks and aims, staff, and organization. For successful development and implementation of coordinators to ensure continuity of care for patients with complex needs in various contexts, there is a need for enhanced knowledge about ongoing coordination practices. However, we have not identified studies covering various hospital contexts, in terms of patient groups and roles, of how health-care providers in their everyday practice define and experience coordination activities aiming at continuity in the health-care trajectory for patients with complex needs.

The aim of this study was therefore to investigate the experiences of health-care providers, both in designated roles and from clinical staff, who take on coordination responsibility to ensure continuity of care for patients with complex needs in various hospital settings.

Methods

This qualitative study employed semi-structured individual, duo, and group interviews with health-care providers from different hospitals, departments, and professions throughout Norway. The study includes experiences of health-care providers with formal care coordination responsibility as well as experiences of clinicians taking on coordinator responsibility. The interviews were conducted in the spring of 2015.

Setting

Norway has a publicly funded health-care system mainly free of charge for patients at the point of service. Specialized health care is run and owned by the state.[17] Primary health and social care is organized and financed by the municipalities. Similar to other Western countries,[1,18] Norway has implemented national reforms aiming to reduce fragmentation of services.[31]

In 2001, patients with complex needs gained a legal right to an individual care plan coordinated by one of the service providers.[32] In 2012, the hospitals were legally required to appoint a patient care coordinator for patients with complex or long-term needs of services to secure continuity of care in the individual patient trajectory.[33] This applies to patients needing services from two or more different units and professions over time, independent of medical condition(s) or from

which hospital departments the patient receives treatment.[34] It is statutory for each hospital to have their own Coordination Unit that is responsible for implementation and development of these arrangements.

Interviewees

Given the exploratory aim of the study, we used purposive sampling to include health-care providers, from different hospitals and different departments, with broad experience in coordination activities aiming at continuity of care for patients with complex needs. We sought out interviewees both in designated or formal coordinator roles, as well as interviewees with coordination experience from taking on coordination responsibility in clinical work without having a designated mandate. Additionally, we sought variation in the interviewees' workplace, tasks, profession, experiences with care coordination, and in the patient groups within their responsibility. The coordination activities in focus were activities directed at patients with complex or long-term needs of services from different units and professions with a variety of medical conditions, identical to the target group for the legally required patient care coordinator. We aimed at representing a variety of settings where this new universal coordinator role was to be implemented, as well as health-care providers in different work roles and with varied professional background who might be candidates to fill this new statutory coordinator role in hospitals.

The recruitment was carried out as a stepwise process, including one hospital at a time to ensure variation in the interviewees' experiences regarding care coordinator roles. A nationwide survey conducted by the first author (AH) in August 2014 on Norwegian hospitals' implementation of patient care coordinator roles was used as a basis to select the hospitals for this study. Each hospital's Coordination Unit was asked to identify candidate interviewees from their hospital based on given criteria. From two of the hospitals, we requested interviewees among clinical staff from various departments with the desired experience; from the other four hospitals, we requested designated coordinators. The Coordination Units forwarded our request to department leaders. The leaders then identified candidate interviewees and conveyed an information letter presenting the study with a consent form included. The Coordination Unit returned the consent forms with contact information from those willing to participate. Candidate interviewees were then contacted by AH. All approached candidates, except one, agreed to be interviewed.

Data collection

Sixteen health providers were interviewed, seven individually, two in a duo interview, and seven in groups. The interviews were semi-structured, audio recorded, and transcribed verbatim.

Providers in clinical positions from different departments in the same hospital were interviewed in groups. Group interviews were chosen in order to facilitate reflections on coordination work in different settings between the clinicians. These interviews were inspired by focus group techniques with the interviewer in a moderator role.[35,36] The interviewees in designated coordinator positions were interviewed individually to allow for going more into details about the particular coordinator role. Two of the candidate interviewees were sharing a designated coordinator position. When asked, they both wanted to participate in the study. They suggested to be interviewed together, explaining that they had different professional background and had experiences from different aspects of the coordinator role. This duo interview followed the structure of the individual interviews. AH conducted all the interviews with DG participating in the first group interview. The interviews took place at the interviewee's workplace, except for the individual interviews of the two coordinators on system level (see Table 1), which were conducted through telephone. The average time for the two group interviews was 85 min (70 to 100 min) and for the seven individuals and the one duo interviews was 55 min (41 to 83 min).

The following guiding questions were applied for both types of interviews: What do you define as coordination work aiming at continuity of care for the patient? How do you perform this type of coordination work? How do you experience being a coordinator or taking on coordination responsibility? Reflection notes were taken immediately after the interviews.

Analysis

The analysis followed the four steps of systematic text condensation (STC).[37] STC is a procedure for thematic cross-case analysis that is inspired by Giorgi's psychological phenomenological analysis. However, STC is also recommended when the approach is descriptive as in this case, aiming at presenting the interviewees experiences as they express them - not searching for an underlying meaning of what they present.[37]

To gain an overall impression and formulate preliminary themes (step 1), AH listened through, proofread, and read all the transcripts. The coauthors read the two most comprehensive transcripts. Based on this, 11 themes were initially formulated. Through discussions between all authors, these were revised to seven.

In step 2, units of meaning - data elements from the interview transcripts relevant for elucidating the research question - were coded into groups subordinated to these seven themes by AH using the data software NVivo11.[38] A comprehensive collection of quotations from all interviews, structured according to the seven themes, was read by the coauthors. The themes and code groups were then discussed and negotiated repeatedly in the author group resulting in a reduction to three themes: knowing what is the objective of good coordination, legitimacy for the coordinator role and coordination work, and having access to the necessary coordination resources.

In the third step, the meaning units in the code groups within each theme were condensated into an abstraction containing the content of the included meaning units. This text was used as a foundation for refining the themes, and constituted a starting point for the presentation of the study results. Quotations from the interview transcripts were selected to illustrate the themes.

In the final step, we wrote the result section building on the condensates, further refining the themes and the text. The theme headings were revised to cover the final results for each theme. Ultimately, we validated the final text against the interviews.

Table 1. Interviewee characteristics.

Characteristics	Number
Gender	
Female	15
Male	1
Profession	
Nurses	11
Physicians	2
Medical secretaries	2
Social worker	1
Position in relation to coordination work	
Formal coordinator position within established clinical pathway	4
Dedicated coordinator position for defined patient group	1
Dedicated coordinator position on a system level	2
Clinician with coordination responsibility in units where most patients get a personal contact among the healthcare providers (rehabilitation, psychiatry, substance abuse)	4
Clinician taking on coordination responsibility for selected patients	4
Administrative position, leader of department	1
Hospital setting	
Wards	8
Outpatient clinics	3
Centre/ambulatory service	3
Coordination unit	2
Main patient group (n > 16. Some had more than one main patient group)	
Cancer: lung, breast, bowel and rectal cancer	6

Children with complex conditions and rare syndromes	1
Dementia	1
Need of technological breathing assistance	1
Psychosis and other severe mental health problems	2
Severe traumatic brain injury and other neurological conditions	2
Stroke	1
Substance abuse	1
All diagnoses (position on system level)	2
Work practice	Mean (range)
Years since started to work in clinical setting	18 (5–31)
Years since started to work in current department	7 (2–18)

Results

The interviewees worked in 15 different departments at six different hospitals. Seven worked part time or full time in designated coordinator positions dedicated to an established pathway (n=4), a defined patient group (n=1), or with responsibility for coordination in the hospital on a system level (n=2). Eight were healthcare providers who had taken on informal coordination responsibility for patients within their clinical role. One was the leader of a department.

The interviewees presented a diverse range of coordination activities, from follow-up of care transitions or being available as a contact person to implementation of clinical pathways or orchestration of long-term multidisciplinary care across contexts by continuously adjusting care to complex and shifting needs.

The findings were categorized into three main themes: "Keeping one step ahead," "Identifying and activating coordination resources," and "Justifying the priority and quality standards of coordination work."

Keeping one step ahead

The most prominent common feature defining the interviewees' coordination activities was to plan for the next step, being in front of things, anticipating expected progression of the illness or disability, and trying to predict the patients' future needs for services and support.

> I must sort of keep one step ahead to get the measures in place in time. That is how we can make them feel safe. (Specialized nurse in palliative team)

The goal of the coordination activities was mainly said to be providing continuous support that was adapted to the patients' anticipated needs. Several told of how they worked to enhance continuity for the individual patient by mono- or multidisciplinary teams working together around the patients.

For particularly vulnerable patients, establishing long-lasting relations with one or a few health-care providers was emphasized as important. Due to the organization of the staff or to shifts and conflicting responsibilities, however, it was said to be demanding to take on personal responsibility for the continuity around one specific patient in many of the represented departments, both during hospital stays, and especially for following admissions or consultations. Some of the interviewees, also those without designated coordinator roles, took on responsibility as contact persons for patients between hospital visits when they saw this as necessary. This typically concerned patients with progressive conditions in contact with outpatient clinics or ambulatory services. One nurse talked about how she arranged that selected patients with particularly severe disease and functional impairments at regular intervals met an experienced specialized physician who

knew them well. She told that she facilitated maintaining the patient's relationship with one doctor, while at the same time allowing experiences with these patients for junior doctors in training.

Establishing fixed points of contact in primary care was reported as particularly important. Nurses working in outpatient clinics with dementia and incurable cancer described how they prioritized establishing relations between patients and central providers in primary care at an early stage when expecting increased needs of services.

> (...) we are in contact with the "dementia coordinators" [in the home care services] so that they can be prepared and plan ahead. (Nurse, geriatric outpatient clinic)

A nurse in cancer care told how she sometimes had to negotiate with the patients about contacting the cancer care coordinator in the municipality when she considered the burden of the worsening health situation too heavy for the patient and his family. She referred to examples where both the patient and family were reluctant to accept the need of receiving help at home, experiencing this as conflict between ensuring continuity and the patient's or the family's hopes and understanding of the situation.

The variation in the scope and extent of the coordination among the interviewees influenced the area of responsibility they took on regarding keeping ahead. While some limited their coordination activities to the primary responsibilities of diagnostics and treatment in the units where they worked, others took care of patients' coordination needs in a broader perspective and included an extended period after discharge. One working with substance abuse treatment expressed the need of providing a "security net" if the patient decided to leave the hospital before follow-up was organized.

> Key to the course of treatment is to set up a collaborative meeting or to start something [in primary care] to be on the case and to achieve continuity. You just need to stay in front of things – all the time. (Nurse, detox. ward)

A large part of the coordination activities related to keeping ahead concerned safe transitions and facilitating collaboration between providers across units and sectors. They described establishing contact, securing information transfer, sharing competence, monitoring planned events, and establishing arenas for mutual multidisciplinary planning to create good solutions for the patients. Nevertheless, several interviewees reported reduced opportunities for coordination between the hospital and primary health care. They described how collaborating meetings were replaced by electronic messages. The electronic messages were said to be of great help, but had reduced the personal contact, which was a cornerstone for some interviewees in getting future measures in place. Collaborative meetings, where also the patient and family participated, were found to give more creative solutions and better tailoring of the services around the patients. Some also mentioned these meetings as an opportunity to supervise or educate primary health-care personnel when patients had special needs or advanced equipment, or to support them in roles that could be lonely and demanding.

> It is usually very fruitful to gather around the same table, as we often find alternative and better solutions. (Psychiatric nurse, rehabilitation department)

The interviewees also focused on planning, organizing, and monitoring of the multidisciplinary work to secure transitions between units and providers within the hospital. They told of coordinating the teamwork around the patient in a psychiatric ward, conveying information and following up when the patient needed assessment or treatment from different departments, monitoring and adjusting patients' processes through a planned pathway, and educating and orchestrating personnel prior to admission of severely disabled patients needing advanced equipment.

Identifying and activating resources for coordination

Most of the interviewees told of constraints in available resources, especially in capacity, competence, and work organization needed to perform coordination activities. However, they exploited available resources to make coordination activities possible when considered necessary. There was broad variation in what the interviewees talked of as resources. These included organizational structures on different levels, access to relevant follow-up services, the availability of personnel with desired competence, and the freedom to work in a way they considered appropriate to ensure continuity for their patients.

The availability of resources for coordination work varied relative to the interviewees' role and work context. Those coordinating the standardized clinical pathways for cancer told of how they primarily coordinated the planned stream of events in the defined process for their patients. Moreover, how they extended their responsibility and made room for exceptions from the standards when they considered that individualized coordination was required to meet individual patients' needs. They presented how they, by virtue of their role, had a voice in the multidisciplinary meetings where the

decisions were made regarding the course of treatment for the patients. Additionally, they held a position where they knew the routines and the stakeholders both in their own and in collaborating departments, being able to activate additional resources when needed. This was contrasted by one interviewee with the responsibility of coordinating early stage rehabilitation according to an ideal pathway, but where there was no pre-booked access to rehabilitation services after the initial phase. These services had to be negotiated and were source of considerable frustration for the coordinator, as there had been a gradual downscaling of the needed rehabilitation services both in the hospitals and in the municipalities.

> The reduced length of stay at many hospitals increase the pressure on the specialized rehabilitation services. A coordinator responsible for securing access to rehabilitation in such a situation will not be able to succeed. (Specialized physician, coordinator early phase of rehabilitation after brain injury)

Some of the interviewees were working in units with established routines for multidisciplinary teamwork, where a designated team of providers is created for each patient based on the patient's needs. Their way of working included the patients' participation in defining needs, formulating goals, and designing the services, often with the use of different type of individual treatment plans or rehabilitation plans for the hospital stay or for a longer period. The patients get a contact person in the team during hospital stay with a "secondary contact" to take over if the contact person works in shifts or is absent. Often other team members are also prepared to take on coordination or collaboration tasks. The interviewees spoke of how they utilized or extended their unit's way of working in their collaboration with internal and external colleagues to meet the patients' needs.

> Somepatients have recurrent hospital stays. If they have a coordinator in primary care, and the stay is not too long, we try to act as one team together with the primary care team as long as they are in the ward. (Nurse, psychiatric ward for young patients with psychosis)

Those without established pathway structures or organized multidisciplinary working routines to lean on had to negotiate solutions per individual cases. For them, it was particularly important that they had the autonomy to manage some of their working time, as well as having access to a relevant collaborating network and authority to activate this. One had a designated position in a somatic department with responsibility for severely disabled patients. For this group, the need for individual coordination was solidly anchored with the management.

> When you have a designated coordinator role like me, you are more free and flexible to make appointments. You are allowed to visit patients at home and you can admit them to hospitals outside of the planned admissions. (Coordinating nurse for severely disabled patients)

In contrast to this, the majority experienced the need to create the opportunities for taking on coordination activities in addition to their other duties. Several interviewees described how they performed resourceconsuming coordination work without resources set aside for this type of work. Some told of being flexible and creative in establishing acceptable individual solutions when coordination resources were scarce. For example, by ensuring transfer of responsibility to a colleague or a team in another unit or sector or by orchestrating collaboration between providers from different departments or sectors in a team around the patient.

> There is no possibility in the system to register the telephone consultations or organizing work [so that this activity could generate income for the hospital]. You should be able to allocate time for coordination work. This means a lot, if you are to take on a medical coordination role. (Specialized physician, children with complex conditions)

Another example was given of a situation where the hospital did not let go of the coordination role for a patient with complex needs at discharge because no one in primary health care would take over the overall responsibility. In this case, coordination of the follow-up across sectors, services, and professions over time was made possible by using the department's psychiatric nurse as a coordinator because of her freestanding position in relation to the daily tasks in the ward. Situations where the interviewees were able to extend their responsibility so far without designated coordination resources, however, were few and concerned special cases.

Coordination activities may challenge the established division of tasks and responsibilities, especially when some providers extend their responsibility. This can imply transcending the boundaries of other providers. The interviewees told about being sensitive and responsive in the interplay with other providers in these processes. Some also emphasized the need of having autonomy and flexibility anchored in the leadership when extending their role across boundaries.

> The most important is that it is accepted that others can come in and make decisions [about what needs to be done in a patient's trajectory]. It feels strange to step over the other providers' border. (Coordinator, nurse, cancer pathway)

Justifying the priority and quality standards of coordination work

Both the interviewees working in designated coordinator positions and those in clinical positions without designated coordination resources or mandates told of how they often expanded their role to take care of what they understood as the patients' needs for continuity support. They used various arguments to justify the scope and extent of their coordination activities and the quality standards they set for this work.

The interviewees in formal coordinator positions primarily referred to guidelines, quality, and patient safety to justify why they went further than their coordination mandate.

> In the national guidelines for patients with long-term mechanical ventilation, specialized health care is given an extended responsibility for following up the patients also between hospital admissions. (Nurse coordinator, severely disabled patients)

The physician, who organized joint specialist consultations without having dedicated resources, justified how and why he was doing this with adherence to international guidelines for the present condition. He also told that he aimed to ensure the quality of treatment and enhance the efficiency and use of time for the patient and his family. Moreover, he added the importance of developing and keeping competence on this particular condition for himself and his colleagues.

Some justified their extended coordination responsibility with arguments about the complexity in the patients' situation: the severity or expected progression of the illness, disability, or dependency of technical equipment, demanding life situations, or needs of health care from many sectors or units. Furthermore, the interviewees justified their own involvement arguing that they possessed valuable competence of need for the patient, that they had known the individual patient over time or that they had a special knowledge of the condition, treatment, and health service organization from which the patient needed services.

> I am chief physician here, and in charge of the treatment. I know the patients. I know what has happened and which complications to look for. I am in a "flow zone" in a way. Moreover, when you know the others well, you know how they think, and you don't have to say so much. (Specialized physician, coordinator early phase of rehabilitation after brain injury)

Several pointed at the importance of contributing to patient trust when arguing for their priority of coordination activities. They argued that predictability, in terms of knowing who is in charge, what will happen next, and who to contact, enables the patients to handle more challenges at home. They referred to experiences of reduced anxiety for the patients, reduced frequency and length of hospitalizations, and enhanced quality of treatment.

> The fear is what leads to many admissions I believe. Feeling insecure and not taken care of – one will be admitted to hospital more easily than if one feels safe at home. (Nurse, outpatient clinic, patients with lung cancer)

Discussion

The common feature of the studied coordination work was to "keep one step ahead". The scope of the interviewees' coordination activities varied from transferring follow-up responsibility to another provider, via implementing a planned pathway, to organizing longterm multidisciplinary teamwork adjusted to complex and shifting needs across care contexts. All interviewees presented practices where they strived to balance the perceived coordination needs of the patients and the opportunities in their contexts. The interviewees told of how they employed their experience, knowledge, and sensitivity both when defining their patients' needs and when searching for resources that could be allocated to orchestrate care coordination. While some justified the coordination activities by referring to mandated roles, planned pathways or guidelines, others focused on complex patient needs, multidisciplinary working routines, care quality, or on their own knowledge and network.

This study comes with a few limitations as well as strengths. We aimed at investigating a variety of coordination work, through the experiences of health-care providers, in contexts relevant for implementing the new statutory care coordinator role. The recruitment strategy enabled identifying a diversity of experiences with care coordination directed at ensuring continuity for patients with complex needs. All participants had extensive experience with coordination work, thus representing high specificity of experiences. Our approach permitted identifying both commonalities and variation of coordination work across settings in hospitals. However, the recruitment process might have favored interviewees standing out as especially active and engaged in care coordination, thus biasing our sample toward those with greater autonomy than most. Eleven out of sixteen interviewees were nurses. This may reflect that coordination responsibility is more closely

aligned with nursing than other professional roles. With a broader professional diversity, we might have captured a wider variation of coordination activities in hospitals.

While the individual interviews allowed detailed descriptions of one coordinator's role and context, the group interviews provided reflections around coordination activities between health-care providers in different roles and contexts. This combination of interview types contributed to rich data, as well as increasing the diversity of coordination activities presented. There is, however, a trade-off between width and depth in qualitative cross-case studies. By applying the concept of information power,[39] we argue that the design and size of our sample meet the requirements considering our explorative study aim. A limitation is that the analysis is based exclusively on interview data. Field observations could have enriched our data and strengthened our findings. However, coordination activities cannot be easily observed since they take place intermittently, in various places, and include merely a selection of the patients in the wards or units. It would also have strengthened the quality of the study if the interviewees were given the possibility to review and to give feedback on the interviews transcripts and findings.

Keeping one step ahead, by taking a future perspective on the patients' needs, was the central approach in the coordination activities conducted by the interviewees in our study. Both those in designated coordination positions and clinicians taking on coordination responsibility told of how they extended their regular roles and responsibility to ensure continuity for their patients. Previous research has highlighted the extended role as a characteristic of being a care coordinator.[15,16,40] Bradway et al.[15] describe nurses going "above and beyond" their role and responsibility and doing whatever was necessary to provide continuity for the individual patient in a study of implementing a new care coordinator role. However, the clinicians taking on informal coordination roles did not tell much about discussions with leaders and colleagues to make care coordination possible. The way they described their role in this type of work is similar to how hospital nurses conceptualized clinical autonomy in a Canadian study:[41] Namely, as the ability to accomplish patient care goals through interdependent work as part of the health-care team where their knowledge and skills were recognized, valued, and acknowledged by the collaborators.[41]

Further, the interviewees in our study also described several constraints related to "staying in front of things." Other studies have found that providers in hospitals experience challenges in negotiating a coordinator role and in applying a comprehensive patientcentered perspective when coordinating what they consider being of importance for their patients.[21,27,28] In a Danish study, the nursing staff in an acute medical department felt that their professional values of providing continuity of care were overpowered by the medical and episodic focus.[28] Our interviewees expressed, on the other hand, that they managed to create opportunities for patients they considered being particularly in need of continuity support. Furthermore, we found that our interviewees adjusted the continuity ambitions on behalf of their patients to what they considered doable regarding which types of continuity[42] and which degree of integration[43] they aimed at.

The Norwegian legal requirement for hospitals to appoint personal coordinators to secure continuity in the care trajectories for patients with complex longterm needs[33] has not led to the anticipated results.[44] Other studies from Norway report that providers have been reluctant to adopt the personal responsibility for individual care plans and ensuring continuity for patients according to laws and regulations.[17,32] We found that there were providers who did take on personal responsibility for coordination aiming at continuity of care for selected patients, which in many ways were similar to the new statutory role. However, none of the interviewees in our study described their coordination activities as carrying out the statutory care coordinator role.[45] Our interpretation is that the coordination responsibility that the interviewees in our study took on was defined and delimited by the providers themselves within the opportunities and constraints in their working context. Thus, the scope and extent of the coordination activities was developed through a bottom-up process, resulting in personal and context-sensitive coordinator roles.

The expectations toward the statutory patient coordinator role, as it is described in Norwegian policy documents, are extensive but vague when it comes to aim, scope, target group, and responsibility.[45] Miller et al. has studied the implementation of an ambiguous care coordinator role from the perspective of nurse role holders.[21] They concluded that when there is role ambiguity, those having the role need information, rules, or prototypes to fall back on to make sense and get guidance. Doessing and Burau point out that support of coordination initiatives must be on both organizational, professional, and managerial level.[29] Furthermore, as referenced in the introduction, there are several approaches to improve continuity for hospital patients.[11–14] While some coordination measures are visible and established in organizational structures, procedures, or formalized roles like case managers[14] or care coordinators,[30] much of the coordination activities identified in our study is either performed outside such structures or goes beyond them. The

interviewees described how they continuously orchestrated individualized solutions within the frames and opportunities of current practice.

They were negotiating continuity for selected patients by knowing "the name of the game." This is in line with how Allen in a study of hospital nurses' organizing work[19] found that the nurses had a "trajectory awareness" that they applied in their management of care. Moreover, this was often invisible work dependent on skills that were built over time and in the current context. Based on our study of health-care providers' coordination experiences from various hospital settings, we suggest that there is a need of flexible support and available infrastructural resources adapted to the providers' needs and to the current hospital contexts to enhance coordination activities in order to secure continuity of care for patients with complex needs.[33]

A common feature of coordination work in hospitals across patient groups and settings was found to be that health-care providers involved "keep one step ahead" to create continuity of care for patients with complex long-term needs. In doing so, they maneuver in the systems by utilizing structural resources such as work routines, team organization, or planned pathways as well as exercising clinical autonomy to extend their role, allocate time, and employ appropriate ways of working.

To succeed with efforts to reduce fragmentation of services for patients with complex needs, there is need for improving visibility and acknowledgement of ongoing coordination work that goes beyond established workflow routines and clinical pathways.

Author contributions
AH conducted all the interviews individually, except from one group interview that was conducted together with DG. AH did the coding. The analysis was a joint process between all authors. AH drafted the manuscript. All authors contributed to the subsequent manuscript drafts and approved the final manuscript.

Availability of data and materials
The datasets generated during and/or analyzed during the current study are not publicly available due to restrictions in consent from interviewees.

Ethics
The study was approved by the Data Protection Official for Research at the University Hospital where the project is organized.

Research team—reflexivity
The first author (AH) is a PhD student, educated as an occupational therapist. Prior to the study, she worked in an advisory position supporting Coordination Units in the hospitals within one health region in planning and implementing the new statutory care coordinators for patients with complex or long-term needs of care. Hence, she had access to a network of Coordination Units in Norwegian hospitals. These units were approached with a question of contacting clinics in their hospitals to recruit candidate interviewees for the study. AH did not know the interviewees, and had no working relation to any of them. The coauthors are experienced researchers in the field of health service research with professional background as psychologist (DG), physician (GB), and sociology (AS).

References

1. World Health Organization, Health Services DeliveryProgramme, Division of Health Systems and Public Health. Roadmap. Strengthening people-centred health systems in the WHO European Region. A framework for Action towards Coordinated/Integrated Health Services Delivery. Copenhagen, Denmark: WHO Regional Office for Europe, 2013.

2. Stange KC. The problem of fragmentation and the needfor integrative solutions. Ann Fam Med 2009; 7: 100–103.

3. Nolte E, McKee M, et al. Caring for people with chronicconditions. A health system perspective. In: J Figueras,

   M McKee, E Mossialos (eds) European observatory on health systems and policies series. Berkshire, England: World Health Organization on behalf of the European Observatory on Health Systems and Policies, 2008.

4. World Health Organization Regional office of Europe. Modern health care delivery systems, care coordination and the role of hospitals. Copenhagen, Denmark: World Health Organization, 2012.

5. Waibel S, Henao D, Aller M-B, et al. What do we knowabout patients' perceptions of continuity of care? A metasynthesis of qualitative studies. Int J Qual Health Care 2012; 24: 39–48.

6. Bayliss EA, Edwards AE, Steiner JF, et al. Processes ofcare desired by elderly patients with multimorbidities. Fam Pract 2008; 25: 287–293.

7. Haggerty JL. Ordering the chaos for patients with multimorbidity. Br Med J 2012; 345: 2

8. Haggerty JL,,Roberge D, Freeman GK,et al. Experienced continuity of care when patients see multiple clinicians: a qualitative metasummary. Ann Fam Med 2013; 11: 262–271.

9. Krogstad U, Hofoss D and Hjortdahl P. Continuity ofhospital care: beyond the question of personal contact. BMJ 2002; 324: 36–38.

10. Axelsson R, Axelsson SB, Gustafsson J, et al. Organizing integrated care in a university hospital: application of a conceptual framework. Int J Integr Care 2014; 14: 9.

11. Kinsman L, Rotter T, James E, et al. What is a clinicalpathway? Development of a definition to inform the debate. BMC Med 2010; 8: 3.

12. Rosstad T, Garasen H, Steinsbekk A, et al. Developmentof a patient-centred care pathway across healthcare providers: a qualitative study. BMC Health Serv Res 2013; 13: 9.

13. Vos L, Chalmers SE, Duckers MLA, et al. Towards anorganisation-wide process-oriented organisation of care: a literature review. Implement Sci 2011; 6: 6

14. Carr DD. Case managers optimize patient safety by facilitating effective care transitions. Prof Case Manag 2007; 12: 70–80.

15. Bradway C, Trotta R, Bixby MB, et al. A qualitativeanalysis of an advanced practice nurse-directed transitional care model intervention. Gerontologist 2012; 52: 394–407.

16. Vuorinen R, Heino E and Meretoja R. Endoscopy nurseas a patient care coordinator. the expanded role of the competent nurse in the gastroenterology setting. Gastroenterol Nurs 2009; 32: 410–413.

17. Romøren TI, Torjesen DO and Landmark B. Promotingcoordination in Norwegian health care. Int J Integr Care 2011; 11: 8.

18. Ahgren B. The path to integrated healthcare: VariousScandinavian strategies. Int J Care Coord 2014; 17: 52–58.

19. Allen D. Re-conceptualising holism in the contemporarynursing mandate: From individual to organisational relationships. Soc Sci Med 2014; 119: 131–138.

20. Olsvold N. Ansvar og yrkesrolle. Om den sosiale organiseringen av ansvar i sykehus [Responsibility and professional role. About the social organization of responsibility in hospitals]. PhD Thesis, Universitetet i Oslo, Oslo, 2010.

21. Miller K, Joseph L and Apker J. Strategic ambiguity inthe role development process. J Appl Comm Res 2000; 28: 193–214.

22. McDonald J, Jayasuriya R and Harris MF. The influenceof power dynamics and trust on multidisciplinary collaboration: a qualitative case study of type 2 diabetes mellitus. BMC Health Serv Res 2012; 12: 10.

23. de Stampa M, Vedel I, Bergman H, et al. Opening theblack box of clinical collaboration in integrated care models for frail, elderly patients. Gerontologist 2013; 53: 313–325.

24. Quigley L, Lacombe-Duncan A, Adams S, et al. A qualitative analysis of information sharing for children with medical complexity within and across health care organizations. BMC Health Serv Res 2014; 14: 11

25. Melby L, Brattheim BJ and Hellesø R. Patients in transition – improving hospital-home care collaboration through electronic messaging: providers' perspectives. J Clin Nurs 2015; 24: 3389–3399.

26. Koenig CJ, Maguen S, Daley A, et al. Passing the baton: a grounded practical theory of handoff communication between multidisciplinary providers in two Department of Veterans Affairs outpatient settings. J Gen Intern Med 2013; 28: 41–50.

27. Walsh J, Harrison JD, Young JM, et al. What are thecurrent barriers to effective cancer care coordination? A qualitative study. BMC Health Serv Res 2010; 10: 9.

28. Kjerholt M, Wagner L, Delmar C, et al. Continuity incare trajectories of older chronically ill patients in a battlefield of competing rationales. Int J Older People Nurs 2013; 9: 277–288.

29. Doessing A and Burau V. Care coordination of multimorbidity: a scoping study. J Comorb 2015; 5: 15–28.

30. Tearl DK, Cox TJ and Hertzog JH. Hospital discharge ofrespiratory-technology-dependent children: role of a dedicated respiratory care discharge coordinator. Respir Care 2006; 51: 744–749.

31. Norwegian Ministry of Health and Care Services. The coordination reform. Proper treatment – at the right place and right time. Summary in English: Report No. 47 (2008–2009) to the Storting, Norwegian Ministry of Health and Care Services, Oslo, 2008–2009.

32. Bjerkan J, Richter M, Grimsmo A, et al. Integrated carein Norway: the state of affairs years after regulation by law. Int J Integr Care 2011; 11: 8

33. Spesialisthelsetjenesteloven [Specialized Health Services Act] LOV-2016-06-17-48. Oslo, Norway: Ministry of health and care services, 1999.

34. Spesialisthelsetjenesteloven med kommentarer [Specialized Health Care Act. Circular]. Report no. IS-5/2013. Oslo, Norway: Helsedirektoratet, 2013.

35. Halkier B. Fokusgrupper [Focus groups]. Oslo: Gyldendal Norsk Forlag AS, 2010.

36. Malterud K. Kvalitative metoder i medisinsk forskning. En innfring. [Qualitative methods in medical research. An introduction]. 3rd ed. Oslo, Norway: Universitetsforlaget, 2013.

37. Malterud K. Systematic text condensation: a strategy forqualitative analysis. Scand J Public Health 2012; 40: 795–805.

38. NVivo Pro 11. NVivo qualitative data analysis software. 11th ed. Melbourne, Australia: QSR International Pty Ltd, 2016.

39. Malterud K, Siersma VD, Guassora AD. Sample size inqualitative interview studies: guided by information power. Qual Health Res 2015; 26: 1753–1760.

40. Walsh J, Young JM, Harrison JD, et al. What is important in cancer care coordination? A qualitative investigation. Eur J Cancer Care (Engl) 2011; 20: 220–227.

41. Stewart J, Stansfield K, Tapp D. Clinical Nurses'Understanding of Autonomy. Accomplishing Patient Goals Through Interdependent Practice. J Nurs Adm 2004; 34: 443–450.

42. Haggerty JL, Reid RJ, Freeman GK, et al. Continuity ofcare: a multidisciplinary review. BMJ 2003; 327: 1219–1221.

43. Leutz WN. Five laws for integrating medical and socialservices: lessons from the United States and the United Kingdom. Milbank Q 1999; 77: 77–110.

44. Office of the Auditor General of Norway. Riksrevisjonens underskelse av ressursutnyttelse og kvalitet i helsetjenesten etter innfringen av samhandlingsreformen. [The Office of the Auditor General's audit of resource utilization and quality in health care services after implementation of the Coordination Reform]. Bergen, Norway: Office of the Auditor General of Norway, 2016.

45. Forskrift om habilitering og rehabilitering, individuell plan og koordinator [Regulations concerning habilation, rehabilitation, individual plan and coordinator]. FOR2011-12-16-1256. Oslo, Norway: Ministry of health and care services, 2011.