Planning for Post-hospital Care – Local Challenges to General Benefits of E-messages: Hospital Staff's Perspectives

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Abstract. An e-message system is one of the promising communication tools for fostering better collaboration between hospitals and municipal-based homecare services. However, hospital care is often confronted with patients that need a myriad of services after discharge, of which municipal homecare is only one. We conducted a qualitative interview study to examine hospital health professionals' experiences with an e-message system and the role of such a system. While e-messages are a helpful tool for communicating with homecare services, the findings highlight important policy, organizational and patient-related issues that the health professionals felt constrained their ability to fully exploit the benefits of the e-message system.

1   Introduction

Communication and collaboration are important when patients move between providers at different care levels. There is an emphasis in public policy on the use of information technology to support such collaboration. ICT-supported collaboration in particular is seen as a way to deal with weak lines of communication, failures in health information exchange, and delayed hospital discharges [1].

Norwegian health IT policy initiatives have broadened their focus from the use of EPRs (Electronic Patient Records) in hospitals to electronic collaboration across health, social, and welfare sectors [2, 3]. Although EPRs have been proven to facilitate the provision of care and to increase insight into care processes, as well as communication among health professionals, they do little to support communication in collaborative care settings that involve multiple services outside the hospital environment [4]. To overcome this shortcoming, electronic messaging (e-messages) between health providers has been introduced in Norwegian healthcare. While the EPR documents treatment and care that already have been provided [5, 6], the e-message system functions as a supplement to the EPR: oriented towards future actions, extending the providers' communication and planning possibilities [1, 7]. Norwegian policy expects the benefits to include improved quality of collaborative care with more timely communication and more streamlined flow of information [1]. At the turn of 2015, 99% of all Norwegian municipal health and care services utilized e-messages in collaboration with hospitals about patient transfers, and 95% of the

municipalities used e-messages in their collaboration with GPs [8]. The results so far demonstrate that use of e-messages enhances the quality of information exchanged between collaborating providers and leads to faster problem solving [9].

However, recent studies on e-messaging practice among nurses [10-12] have revealed that we know little about how the use of e-messages functions in settings where patients require multiple post-hospital services with involvement of various health, social and welfare units. In this paper we investigate a typical example of such a setting – a psychiatric department in which health professionals have to communicate and collaborate with different types of service providers outside the hospital in order to develop a discharge plan that covers the patient's need for multiple post-hospital services. To the best of our knowledge, no studies have investigated the role of e-messages in such a complex working situation. The aim of this study is to explore the ways in which the use of e-messages may assist collaborative care planning for post-hospital services as perceived by health professionals working in inpatient psychiatric care.

2   Material and method

2.1   Brief description of the e-messaging system

The e-messaging system includes a portfolio of messages, of which some are specifically developed to support information exchange and communication among collaborating health professionals when dealing with patient transfers between hospital and municipal-based homecare services. Table 1 details the content of the various e-message elements and the relationship between them, as well as how each of them connects to different treatment phases of hospitalization during the course of a patient's illness: the admission phase, the treatment phase and the discharge phase. As a communication tool, e-messages intend to replace traditional phone calls, faxes, and papers [13].

2.2   Health care setting

The psychiatric department of a Norwegian university hospital was used as setting for the data collection. The department has 72 beds and holds one emergency unit and several inpatient care units. As for the information infrastructure, the e-message system is integrated with EPRs. The staff started to use the e-message system progressively over the period 2011–2013. The following briefly describes certain features of the patient group: 1) the hospitalized patients covered a broad range of psychiatric diagnoses and represented all ages above 18, 2) the average length of hospital stay was 2–4 days, with stays ranging from less than 24 hours to several days. In the emergency unit, most patients stayed less than 24 hours, and 3) about half of

the patients had municipal home care services at the time of hospital admission and even more patients needed such services after discharge.

Table 1: E-messages and descriptions (table from [12])

Descriptions
Patient is admitted. A patient who receives community healthcare services is admitted to a hospital. The hospital starts the chain of communication and information exchange by sending a 'patient is admitted' message to inform the community healthcare service of the patient's admittance. According to the guidelines, the admittance messages should be sent within 24 hours of admittance. The admittance message replaces the previously used method of faxing a paper form.
Admission report. Receiving the 'patient is admitted' message from the hospital prompts the community healthcare service to reply with health information about the patient and the type and amount of care provided by the municipality to provide the hospital with a better overview of the patient's resources (e.g. ability to take care of him/herself) and problems, and to enable the hospital to adjust the treatment accordingly.
Patient health information. After the patient has spent some time in the hospital, the hospital sends a more detailed, up-to-date, overview of the patient's status and needs, in addition to an indication of when the patient will be discharged. This message marks the starting point for patients who did not receive community healthcare services prior to entering the hospital, but whom the hospital considers will need such services after their discharge. Community healthcare can also use this message to inform the hospital about the patient's health status. The message is based on a template and contains e.g. the patient's contact information, next of kin, community care needs, allergies, medical diagnoses, and nursing information – including nursing assessment of the patient and diagnoses.
Patient is ready for discharge. This message is sent by the hospital to the community healthcare service to inform them that the patient is ready to be discharged in 24 hours' time. Twenty-four hours after the discharge message has been sent, the community healthcare service becomes financially responsible for the patient and the message thus signifies an important transfer of responsibility.
Withdrawal: patient is *not* ready for discharge. If the patient's condition changes, and s/he needs continued treatment in the hospital, this message must be sent to community healthcare as soon as possible to inform that the patient is no longer ready for discharge.
Patient is discharged. On the day of discharge, the hospital sends this message to inform the community healthcare service that the patient has been discharged. The plan is that a discharge report containing more comprehensive information will accompany this message, but this has not yet been implemented.

2.3 Study design

We performed a qualitative study including semi-structured interviews with six nurses, three social workers and one milieu therapist, for which data were collected

before and after the implementation of the e-messages system: November 2011 and March/April 2014, respectively. The sample was spread among three units/wards and the participants were selected by their managers. Participant *inclusion criteria* were at least *six months'* e-message experience. The interview guide focused on the health professionals' views on communication and the role of e-messages in offering collaborative services and on the challenges and opportunities they faced. Each interview lasted 45–60 minutes and was tape-recorded and later transcribed for analysis. The transcripts were read repeatedly to become familiar with the text and identify emerging themes. Drawing on the initial themes, the interviews were coded and categorized. Once categorized, relevant information was examined more closely and thereafter merged into a few broad, overarching issues that guide the structure of the result section.

Ethical issues: Approval was granted by the Norwegian Social Science Data Services. Additional permissions to conduct interviews with health professionals in selected wards and hospitals were obtained from the hospitals and the departments. Written informed consent was obtained from all the participants.

3   Results

In general health professionals were satisfied with the newly implemented e-messaging system. The interviewees reported that when communicating with collaborating municipal home care staff, they saved time by using e-messages instead of phone and fax. Clearly, the use of e-messages made it easier for them to arrange for collaborative meetings about post-hospital homecare services for in-house patients. Despite the positive attitude towards the e-message system, the interviewees expressed that they experienced tensions between the practical use of e-messages and care and discharge planning for in-patients. Moreover, they highlighted some issues that can be described as *policy, organizational, and patient-related* factors that they felt constrained their ability to fully exploit the benefits of the e-message system.

3.1   Policy-related issues: weak links between hospital and other care services

Specific agreements have been developed to ensure timely flow of information in transitions between different levels of care. For instance, in Norway there is a 24-hour window for the municipal homecare service to respond with the e-message termed ′Admission report′ (see Table 1) after the emergency unit has sent an admission message for a patient with homecare services. However, the emergency unit considered this window to be too long as most of their patients were either directed to other care units or discharged well before the deadline. This was unfortunate as the ′Admission report′ had the potential to assist hospital staff with planning of care and unit assignment for the patient.

      The e-message system was designed for messaging between hospitals and homecare service. In most cases, however, the interviewees regarded this to be insufficient as the homecare workers were only one out of several service providers

that hospital staff had to arrange meetings with in order to make in-house care and discharge planning work (see Figure 1). For example, the hospital staff had to reach and make contact with providers from psychiatric outpatient and municipal-based services such as psychiatric nurses, physiotherapists/occupational therapists and others from the social and welfare services (NAV[1]). The lack of communication support from information systems highlighted other challenges: using the phone to get hold of the various providers proved to be ineffective, sometimes impossible, and time-consuming. For example, one professional reported she often had to be on the phone for 3–4 hours to reach the right person at NAV.
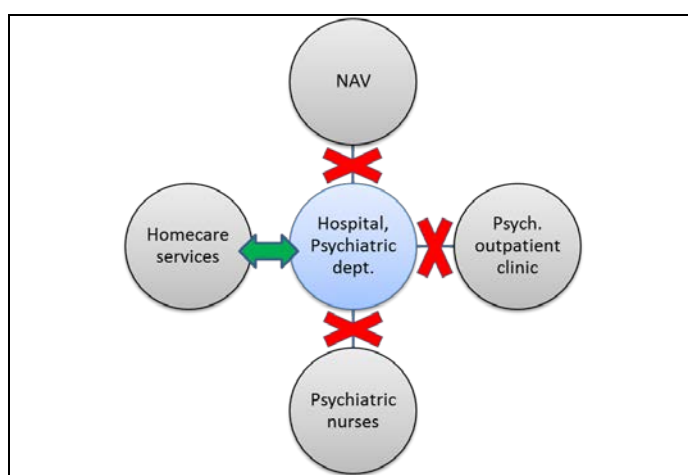

Fig. 1: The e-message system only supports communication between the hospital and homecare services

3.2 Organizational issues: hospital's internal routines

While the hospital staff was well aware of the e-message type 'Patient health information' and used this message on a regular basis, the admission report message was not often used. Nurses in inpatient wards therefore did not utilize the information provided by homecare services (if the patient had any homecare services before being admitted to hospital). Instead, the professionals stuck to a practice of oral handovers for patient transfers from the emergency unit to the ward units. These patient handovers included oral information with assessment of the patient's situation and

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[1] A short name for Norwegian Labour and Welfare Administration, ref https://www.nav.no/en/Home/About+NAV/What+is+NAV

health condition without directly using the ′Admission report′. Interestingly, during the interviews a few participants began to talk about how they could use the ′Admission report′ message from homecare as an approach to earlier and more streamlined planning of care:

[Concerning patient transfers from emergency unit to bed units:]
Well, this [patient] handover includes oral communication in which we describe what has been done [to the patient i.e. treatment]. Possibly, the routines could have been better with respect to... as this could involve us getting more information about the fact that e-messages have been sent [the admission note and report] and their content. Yeah, you know – during this interview I have been putting a lot of thought into it... our focus on [the e-messages] does not integrate naturally into our daily routines. They [the e-messages] must be implemented [in the daily routines] from the beginning and throughout the whole trajectory (Professional-06).

Also, the hospital staff described the practical patient shift to homecare as challenging and indicated that these patient transfers did not always take place in a timely manner. Even if the hospital routinely notified the homecare service by sending the e-message 'Patient NN is ready for discharge', the homecare staff did not always prepare for their admission within the same day. Presumably, a major reason was that the home care services did not have to pay for the extended stay, as is the case for extended *somatic* patients. Another possible explanation may be that these two organizations differ in terms of resources, resource allocation and time.

The municipal [homecare service] thinks we deliver the discharge note [the – e-message 'Patient is ready for discharge'] too late [after 3 pm], and at that time, they [the homecare staff] have gone home and we cannot discharge the patient... but it does not work like this here: we do not stop providing care at 3 pm. This is a 24/7 unit and things happen all the time [...]. Our conditions [routines] do not match those of the municipality (Professional-07).

3.3 Patient-related issues: the patient's role as a co-decider

Furthermore, another challenging situation was associated with the balance between patient's rights and the e-message practice, namely that the e-messages should not be initiated automatically without explicit permission from the patient. Interview accounts revealed details that made it quite clear that some patients opposed the use of e-messages between the hospital and municipal-based homecare services. A presumed reason was that the patients felt ashamed about their mental illness and did not want to tell anyone outside hospitals about their hospitalization.

Then we do not send any [e-messages]. One challenge is, however, that they [the homecare staff] know that this patient is here [at the hospital], but they do not receive any e-messages related to this patient. We haven't got the permission from the patient

to do so… It might be that the homecare staff often expects that e-messages should be sent automatically [routinely] without thinking about the fact that many of our patients do not allow us to send [e-messages]. Some patients are designated by the term 'red writing'- as we call it, meaning that confidentiality prohibits [sic], because they do not want anyone to know about their acute psychiatric boarding (Professional-07).

4   Discussion

This study presents the experiences and perceptions of ten hospital health professionals from a mix of units within a psychiatric department related to a newly implemented e-message system.

There was a clear recognition amongst the interviewees that the e-message system filled a gap in the collaboration on post-hospital care for in-house patients. Despite their general satisfaction and a positive attitude towards the e-message system, the hospital staff also highlighted some constraints and difficulties, including that the homecare services' 24-hour response time was too long to assist care planning for admitted patients at the emergency unit; the need for expanding the system to ease collaboration between the hospital and outside-hospital services (i.e. social/welfare services); and the difficulty of managing lack of patient consent to use the system.

Our findings indicate that the policy context in which the e-message system functions has to be considered because it provides the basis for how health professionals react in terms of their ability to fully exploit the benefits of this system. The findings further illustrate that some constraints related to the structure and organization of the health system, such as lack of formal links between the hospital and multiple providers outside the hospital; such links could assist hospital staff's communication work when planning for post-hospital services. More specifically, the e-message system's design limits its use to electronic communication between the hospital and municipal homecare services. However, for our group of psychiatric patients, the staff oriented care planning towards a continuum of services outside the hospital that went beyond the homecare setting. They had to have knowledge of, and be familiar with, a broad range of municipal-based facilities, services, and resources to be able to assist in arranging post-hospital care and services for their in-house patients. Examples from existing literature confirm that this is also the case for many other patient groups, such as cancer patients and heart patients [14–16]. It was suggested that the e-message system's major value for the future could be its connection to a broader range of municipal-based services.

While helpful, the use of e-messages without changes to internal routines fails to realize complete communication support. Our impression is that the traditional oral handover carried out between professionals, with face-to-face communication when patients moved from emergency to wards, had the potential to be complemented by information from e-messages: in this case the 'Admission report' made by the municipal homecare staff. By adapting technology that improve the links between the e-message system at hand and the manual handover routine, the 'Admission report' could assist the staff with the discharge planning work so as to better facilitate the

continuity of care. However, one should be aware that such a change in routine might pose unintended complications for professionals. For example, a recent study has shown that some care providers do not fully trust information mediated by electronic tools in a clinical handover situation [17].

There was a concern that some patients were unwilling to consent to the use of e-messages. This is interesting since the lack of consent threatens the care providers' communication across organizations and their ability to provide comprehensive care. However, patients have a basic right to consent to treatment and to choose whether or not to disclose information to other health care providers who will be involved in their care [18]. This is a typical dilemma that many health professionals face from time to time, with or without technology – but the technology makes it more visible. From an information technology perspective, it is therefore important to see both the patient's role as an important co-decider and the care providers' need for patient information. This raises the question of how patients, in general, learn about the e-message system – its content, use, and purpose – as well as how they comprehend the information given to them.

4.1 Limitations of the study

This study has some limitations. First, the applied research method gives only self-reported data on views and reflections of hospital health professionals and does not present a complete picture of the nature of the actual communication and collaboration practice. It is, however, a valuable method to further insight into and understanding of the hospital staff's early experiences with the e-message system, including which factors are likely to influence – as well as how they influence – communication in collaborative care that includes a myriad of providers and disciplines. Next, we caution against generalization of the findings because of the small sample size, specifically the small number of interviewees and departments, and the single-hospital design. The complex collaboration patterns that we observe among health professionals in the planning of post-hospital care for psychiatric patients can also be observed in the coordination of care for other patient groups i.e cancer patients.

5   Conclusion

The e-message system has proven to be useful for communication between hospital and municipal-based homecare services when patients transfer/move between the two sectors: E-messaging clearly supports planning and collaboration between providers. However, in work situations that require collaboration on post-hospital care with multiple providers across organizations and care levels, our findings point to organizational, policy- and patient-related challenges to better support from the e-message system. Taking these challenges into account may be informative and helpful

for policy makers and managers in the process of further improving and implementing e-messages.

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