

# IT-supported Hospital Discharge Management – Findings of a Multi-Method Research Design

Sarah-Sabrina Kortekamp<sup>1</sup> Maria Carmen Isabel Süßmuth<sup>2</sup> Andrea Hildner<sup>3</sup> Ingmar Ickerott<sup>4</sup> Frank Teuteberg<sup>5</sup>

**Abstract:** A structured hospital discharge management process can lead to a smoother transition to aftercare. In practice, providing continuity of nursing care after a stationary hospital stay is accompanied by numerous challenges. The presented study aims to point out the use cases and requirements for an IT system supporting the diverse tasks of the participating actors. Within the scope of a multi-method research design, the authors conducted and analysed stakeholder interviews, a shadowing, a systematic literature search and statutes in order to gain the presented results. This publication presents 37 requirements, grouped to 14 use cases. A process model in BPMN visualises the discharge management process. Further, the authors derived implications for practice and research. These can be used for the development, classification and assessment of IT systems. Therefore, this publication provides a significant contribution to the development of socio-technical systems within the health care domain.

**Keywords:** Discharge management, use cases, requirements, hospital information system, multi-method research design

## 1 Introduction

The German health care system is confronted with multiple problems. One of the central subjects of social policy is to ensure the sustainable protection of health. Steadily rising costs, the uncertain financing situation, the lack of qualified personnel, the decrease of the nursing care potential within family structures as well as a fluctuating care quality constitute enormous challenges [PG12].

The intersectoral sharing of patient data is particularly complicated regarding the transition between inpatient and outpatient health care facilities and linked to media disruptions. As a consequence, frequent mistakes and information losses originate that can lead to serious health complications for the patients [MS14; WH16]. When applied to the discharge

---

<sup>1</sup> Hochschule Osnabrück, sarah.kortekamp@hs-osnabrueck.de

<sup>2</sup> Hochschule Osnabrück, m.suessmuth@hs-osnabrueck.de

<sup>3</sup> Gesundheitsregion EUREGIO, andrea.hildner@gesundheitsregion-euregio.eu

<sup>4</sup> Hochschule Osnabrück, i.ickerott@hs-osnabrueck.de

<sup>5</sup> Universität Osnabrück, frank.teuteberg@uni-osnabrueck.de

management as the central topic, the following specific problem situations can be derived [Ja17]:

- A lack of capacities in aftercare facilities (e. g. short-term care, rehabilitation, ambulatory care).
- The excessive administrative burdens imposed by health insurances.
- Undefined processes within the existing health care standards, in particular regarding the interfaces to other occupational groups and institutions.
- The missing of standardised IT structures for the intersectoral communication between the health care actors.

The expert standard discharge management in healthcare [Ex09] shines a light on some of these problems and also their solutions. Although it is highly acknowledged, most facilities implement the standard only in part, leaving out important details like the reevaluation of the process after the discharge of a patient.

Accordingly, the legislator has created a reorganisation of the law (GKV-Versorgungsstärkungsgesetz) in §39 Abs.1a SGB V to strengthen the provision in the legal health care binding regulations for discharge management. This led to the framework contract discharge management [Ra16] as an agreement between the German Hospital Association, the German National Association of Statutory Health Insurance Physicians and the “GKV-Spitzenverband”.

From 1st of October 2017, hospitals are obligated to organise the discharge management for patients after a full- or part-stationary stay or who have received similar services. The discharge management is the central component of high-quality treatment and shall guarantee a continuous provision of care for patients after their discharge from the hospital.

Discharge management aims to plan and ensure an unproblematic transfer for patients where post-hospital care can otherwise not be guaranteed. Here, the influencing factors are the patients’ state of health, the social environment as well as the domestic situation and the financial opportunities. The care can be provided in various ways and is oriented towards the individual needs and preferences of the patients. Common follow-up care facilities are rehab hospitals, residential care homes for the elderly and ambulatory care.

Introducing discharge management requires not only a reorganisation of processes but should also encourage a change of roles and tasks and thus lead to a more interdisciplinary workstyle. Only if this preliminary work is completed, an implemented IT system can support the discharge management in a useful manner [DM12]. In this context, the following research question arises:

*What use cases can the IT-system support for a hospital discharge management and what requirements for such a system exist?*

This paper is divided into five sections. Section 2 describes the chosen study design and applied methods. Section 3 contains two subsections. The first subsection presents the identified use cases and corresponding requirements, whereas the second visualises and describes the use case dependencies based on the presented process model. In the ensuing section 4, the authors discuss the presented results. In this context, practical and theoretical implications are given and limitations of the study are pointed out. The last section presents the conclusion.

## 2 Method

### 2.1 Multi-method research design

The study design follows the procedure of requirements engineering described by Sommerville [So05]. He divides the process into the phases Elicitation, Analysis, Validation, Negotiation, Documentation and Management. The requirements often change during the development of a system, so that the collection and consolidation should reflect an iterative process. This change is due to several factors. Among others, initially stated requirements are often rather vague, which might lead to different interpretations from the developers' and users' perspectives. Therefore requirements should be surveyed early on. The developing team should discuss and refine them regularly. Early low-fidelity mockups can help throughout the process. The following shows a short overview of our approach:

*Elicitation:* Data collection including interviews and literature search.

*Analysis:* Analysis of the source material by means of inductive coding [Ma14] and review of the identified use cases and requirements regarding conflicts and overlaps. Discrepancies were discussed and a list of requirements was deducted.

*Validation:* Presentation of the requirements to the stakeholders with ensuing discussion.

*Negotiation:* Discussion of unclarities and conflicts with the stakeholders until consensus was achieved.

*Documentation:* Development of a BPMN process model.

*Management:* The requirements will be updated regularly.

By combining practical experiences of health care professionals with evidence from literature, we formed a holistic view of the requirements. This approach is qualified for understanding the high complexity and multi-dimensionality of real-world problem situations [De73].

### 2.2 Semistructured interviews

During March 2016 and January 2017 we conducted six interviews, three of them in a hospital (discharge-management worker, head of the central-patient admission, head of the gerontology ward), two with the management of follow-up care facilities and one with two workers at the care support point.

The interviews aimed to survey the current healthcare situation and unsystematic processes within a rural region. In order to establish comparability between the interviews, we used an unstructured interview guideline. The topics included (1) the current and future state of the healthcare, (2) processes and problems of the discharge management as well as (3) the intersectoral communication within the healthcare system.

In order to generate unbiased results, the interviewer recorded the interviews with a dictation machine, and professionals conducted a literal transcription. Afterwards, the authors used the transcription to analyse the interview contents using the method of ‘inductive coding’ [Ma14].

### **2.3 Shadowing**

In addition to the interviews, a shadowing of a hospital discharge management worker was carried out by two researchers. The aim was to generate a more thorough understanding of the necessary tasks and processes regarding discharge management. The researchers behaved in such a way as to minimise the disturbance of the shadowed worker. The hospital staff and other participating people were asked to ignore the researchers while fulfilling their everyday tasks. In order to ensure an unbiased analysis, the observing researchers were not involved in the interviews beforehand.

The shadowing was documented through a defined protocol for note taking. Following the shadowing, the observing researchers first compared their notes and discussed deviations. In a second step, they consolidated the protocols. Subsequently, the researchers applied the same method of ‘inductive coding’ [Ma14] to derive the requirements.

### **2.4 Systematic literature search**

The authors conducted a systematic literature search following the instructions by Webster and Watson [WW02]. For this purpose, we searched EBSCOhost and GoogleScholar (title only) for the term “discharge management OR Entlassungsmanagement OR Entlassmanagement”. In order to ensure a high-quality standard, the search was narrowed down to peer-reviewed research papers, published between January 2011 and June 2018.

The search generated 291 possible relevant publications (EBSCOhost: 101 results; GoogleScholar: 190 results). First, two researchers analysed all titles and abstracts for relevance, resulting in 40 relevant publications. Second, the two researchers revised the full texts of the remaining 40 publications which lead to 14 publications that are relevant to the topic in discussion.

The authors then analysed the content of the 14 relevant publications regarding requirements for hospital discharge management. Similar to the analysis of the interviews and shadowing, we used inductive coding [Ma14] to extract the requirements.

In addition to the systematic literature search, statutory requirements regarding the discharge management as well as the expert standard discharge management in healthcare [Ex09] were analysed.

### 3 Analysis and Findings

#### 3.1 Consolidated requirements and use cases

Use cases are qualified for a clear presentation of functional requirements. They provide a tool for describing the tasks and goals of the involved actors as well as the desired system behaviour in different situations. The result can be used in order to debate the level of the system development in a group and to present the planning to an interdisciplinary team of stakeholders [Co08]. We used the principles described in [Co08] to gain short and meaningful use cases.

We identified a total of 37 requirements based on the semistructured interviews, the shadowing and the systematic literature search. In order to provide a clear and more helpful overview, we grouped the requirements with similar traits and used this as a basis for the development of the use cases. Eleven requirements are valid for all interactions with the software. They were assigned to the three inductively formed categories: *documentation and input of patient data*, *interoperability* and *security* (cf. Table 1).

Category	Requirements
Interoperability	Adapts the terminology depending on the user's profession <sup>c</sup> ,[Hü15; MS14] Provides a user and rights management <sup>c</sup> ,[Ra16] Is accessible by different users at the same time <sup>a,b,c</sup> ,[Ra16] Enables all authorised staff to access relevant patient data <sup>a,c</sup> ,[Hä17] Integrates seamlessly in all work processes <sup>b,c</sup> ,[Hü15] Supports standardised processes and responsibilities <sup>c</sup> ,[Hä17; HK13; MS14; PK11]
Documentation and input of patient data	Runs a real-time validity check during data input <sup>b,c</sup> ,[Ra16] Provides help functionality for filling out predefined forms and reports <sup>b,c</sup> ,[Ra16] Is able to detect errors during data input <sup>c</sup> ,[MS14; Ra16; WH16]
Security	Supports the verification of sent and received electronic documents <sup>b,c</sup> ,[Ra16] Supports high data security standards <sup>a,c</sup> ,[Ra16]

<sup>a</sup> Interviews; <sup>b</sup> Shadowing; <sup>c</sup> Literature

Tab. 1: Superordinate requirements

The requirements in the category named *Interoperability* constitute the system's basis. Due to the broad range of different electronic hospital information systems, it is essential that the described system is compatible with the existing one when it comes to terms of data input and retrieval. In this way, all relevant actors can access and edit the patient's data.

Directly linked to the first category, is the category *Documentation and input of patient data*. The system supports the input and modification of data. Portability ensures that data can be input where it is collected. The prompt input of data diminishes the chance of incomplete and outdated information. To further decrease the chance of faulty data, the IT system should be able to check the entered information for validity and inconsistencies. Also, data can be used to fill in, send and export formulas automatically. Manually exchanging data and redundant data sets were a common issue for the interviewees. For example, the process of patient admission to patient discharge at the hospital involved five data transitions from digital to non-digital data and vice versa regarding a patient's medication information.

The last category *Security* holds a particular position in the management of health care data. It is not only necessary to deny unauthorised persons access to the data but also to verify the consignor.

Table 2 shows the remaining 26 requirements on the left and the derived use cases on the right. Each requirement regarding the discharge management of a patient that involves interaction with the software is represented in one of fourteen use cases. They are numbered consecutively for cross-referencing in the text and figure 1.

One critical factor in these use cases is that users can directly enter new or missing patient data in the system (1). Due to low capacities at follow-up care facilities, the discharge management worker has to plan a patient's hospital discharge as soon as possible. Therefore, the identification of vulnerable patients is essential (2). On the one hand, this ensures early detection of patients requiring discharge management and on the other hand, no resources are wasted on patients not requiring discharge management. In doing so, an IT-supported systematic assessment should be implemented, and the reporting of eligible patients must be as easy as one click (3).

In order to not miss important deadlines (e. g. for cost refunds) or guarantee a seamless transition to the new care or rehab facility, it is the time component that matters. In no case should the IT-system hinder the discharge management worker but instead support and automatise tasks. Therefore, the IT system helps by assigning reported patients to the responding worker and providing helpful overviews regarding patients, tasks and deadlines (4). Additionally, it provides an overview of possible follow-up care facilities and medical aids (8, 9). Further support is given, by providing an easy and fast way to document the whole process as well as exporting formulas for applications and accounting (7, 10).

The discharge management worker has direct contact to the patient in order to access the pre-hospital living situation as well as wishes regarding post-hospital health care, e. g. statutory or ambulant care and the favoured care provider (5, 6).

Also, the actors are subject to considerable constraints regarding their time management. Receiving and sending messages without the need to wait for their counterpart saves valuable time. Time is also a factor when it comes to the electronic exchange of patient information and data (11-14). Being able to send data right from the IT system to follow-up care facilities

Use Cases	Requirements
1 Input patient data into IT system	Supports input and storage of all necessary patient data <sup>a,b,c,[Ra16]</sup>
2 Assess critical patients	Supports a systematic vulnerability assessment of new patients <sup>a</sup>
3 Report critical patients	Supports a one-click report of critical patients <sup>a</sup> Inhibits redundant reports of critical patients <sup>a,b</sup>
4 Plan tasks	Assigns reported patients automatically to the specified responsible worker, e. g. based on the patient's ward <sup>a</sup> Gives an overview of reported critical patients incl. sorting functions <sup>a,b,c,[Br13; Ra16]</sup> Supports full calendar functionality <sup>a</sup> Shows tasks in a calendar view <sup>a</sup> Shows an overview of all due tasks <sup>b,c,[Ex09; Ra16]</sup> Supports reminders and priority settings for scheduled events <sup>a,b,c,[Br13; Hä15; HK13; Ra16]</sup> Shows the responsible discharge management worker <sup>b,c,[Ra16]</sup>
5 Obtain informed consent from patient	Allows the documentation of the informed consent <sup>c,[Hä15; Hä17; KS16; MS14]</sup>
6 Assess patients needs and wishes	Allows simple input of data acquired during patient interviews on-the-go <sup>a,c,[Ex09; Ra16]</sup> Must be portable <sup>b</sup> Allows to search and access structured data and application required for the cost unit <sup>a,b,c,[Ra16]</sup>
7 Request refund at cost unit	Supports the documentation, accounting data and application required for the cost unit <sup>a,b,c,[Ra16]</sup>
8 Request medical aids	Shows information regarding further treatment possibilities <sup>a</sup>
9 Look for free capacities of follow-up care facilities	Provides an interactive overview of possible follow-up care facilities and home care <sup>a,b,c,[MS14; Ra16]</sup> Provides an overview function showing free capacities from follow-up care providers <sup>a,b</sup>
10 Draw up and send statement of account to cost unit	Generates documents such as transfer sheets from saved patient data <sup>a,b</sup>
11-14 Communication with follow-up care provider/facility	Is linked to all necessary stakeholders such as transportation <sup>a</sup> Enables the exchange of data and information with all relevant follow-up care givers <sup>a,b,c,[Br15; Ex09; Hä12; HK13; Me17; MS14; Os15; Ro13]</sup> Is able to exchange electronic documents with all relevant follow-up care givers <sup>a</sup> Enables internal and external synchronous communication <sup>b</sup> Enables asynchronous communication with stationary and ambulant stakeholders <sup>b,c,[Ra16]</sup> Provides feedback function for all relevant stakeholders <sup>a,c,[Ex09]</sup>

<sup>a</sup> Interviews; <sup>b</sup> Shadowing; <sup>c</sup> Literature

Tab. 2: Identified use cases and responding requirements

leads to higher availability of patient data without the potential of losing data and time which may result from a manual transmission. The emphasis lies here on data security standards including the verification of sent and received documents. Patient data is highly sensitive, and in Germany, informed consent of the patient is necessary for the actors in order to be able to send those data.

### 3.2 Visualisation of the use cases through a process model

The “Business Process Modeling Notation” (BPMN) is suited to document existing processes, introduce new processes and to visualise changes made by digitising existing processes [FR14]. The notation is rather simple with strictly defined elements and rules that can be combined to picture complex processes. In this case, the aim is to support an existing process by implementing an IT system. Figure 1 shows the use cases stated above in BPMN.

The process shows four lanes, one for each primary actor. The lanes are clustered depending on the superordinated institution. Here, these are the hospital on the one hand and the follow-up care facility on the other. Each lane accommodates the tasks (rectangles) and events (circles) that refer to the responding primary actor. Three different lines link the separate elements. A solid line with a filled arrow defines the sequence of tasks and events, a dashed line with an empty arrow indicates the flow of messages, and a dotted line with a curved arrow links artefacts. The artefacts used in this BPMN-process are the data storage and the data object. The first exists independently from the process. For example, stored data is still available after the process of discharging a patient has ended. The latter represents information that only exists during the runtime of the process “discharge management” [FR14], i. e. data is no longer available afterwards.

The process of a patients’ discharge starts with the admission of the patient to the hospital. When entering the central patient admission, the soon-to-be patient makes contact first with the nurses. They collect the patient’s personal information and enter the data into the IT system. Next, they conduct a standardised assessment of the patients’ need for discharge management. The result is entered into the IT system. If the patient requires discharge management, the discharge management worker is informed. If not, the process related to discharge management ends.

When a patient requires discharge management, the IT system notifies the discharge management worker. The next step is the analysis of the required proceedings and tasks. The IT system supports the discharge management worker with an overview of reported patients. It also helps with sorting out daily tasks. The discharge management worker then visits the patient in order to give information about the upcoming procedure and ask for informed consent. An assessment regarding the patient’s needs and wishes is carried out. The worker directly enters all the acquired information in the IT system, and thus makes it available for following tasks and authorised staff. Especially when regarding patients in



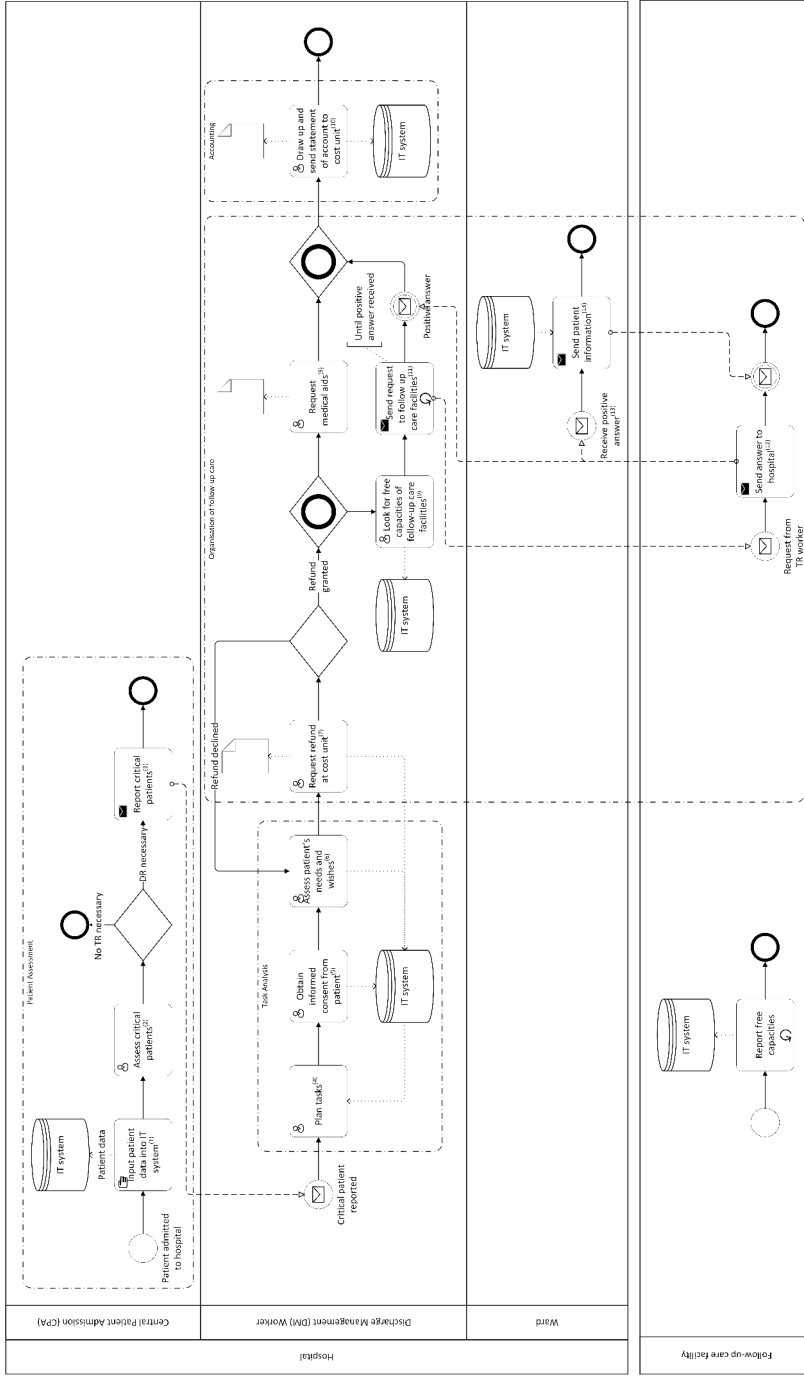


Fig. 1: Use case dependencies (BPMN Process)

need of discharge management, it is possible that they are not able to make decisions on their own. In this case, the discharge management worker consults the patient's custodian.

After the necessary steps for a gapless discharge are sorted out, the discharge management worker starts organising the follow-up care. The first step is to file applications to the responding cost units for the discussed items, such as financing nursing care or medical aids. If a refund is declined, the worker will discuss other possibilities for adequate follow-up care with the patient or custodian.

Two main tasks when organising the follow-up care are ordering needed medical aids and finding a facility that provides stationary or ambulatory care. It depends on the needs and wishes of the patient, what measurements are taken. If the patient needs medical aids, the respective form can be filled out automatically with the available patient information from the IT system. The form can also be adjusted manually and then exported or directly sent to the provider.

Since communication with follow-up care providers is necessary, the second task is more difficult. In order to circumvent manually calling a list of care facilities, the IT system shows a list with free capacities to the discharge management worker. The care facilities provide their status information at regular time intervals. The results shown can be sorted or limited to match the needs of the current patient. If a care facility is suitable, the IT system sends a request to the chosen facility. It includes essential patient information such as age, sex and necessary care. The care facility can then evaluate whether they can provide the needed care to the patient. They answer back to the discharge management worker via email. In case of a negative answer, the IT system sends a new request to another suitable care facility, in the answer positive, the ward of the patient is also notified.

The nurses at the ward maintain contact with the follow-up care facility and provide more detailed information that helps the care facility to plan for the patient's arrival — thus ensuring gapless care after discharge. The nurses are also responsible for communicating the time and date of the planned discharge as well as changes to the plan.

After the successful transition, the discharge management worker is responsible for drawing up the statement of account and sending it to the cost unit. Since all executed steps are documented in the IT system, the information can be used to fill out the predefined forms automatically. The finished forms can be exported or sent directly to the cost unit.

## **4 Discussion and Conclusion**

In this paper the research question “What use cases can the IT-system support for a hospital discharge management and what requirements for such a system exist?” was examined.

The hospital discharge management is an interdisciplinary multi-user process. The implementation of an IT system can enhance the efficiency and effectivity of the accomplished tasks

and goals. The authors conducted multi-method research in order to analyse requirements for an IT system and derive relevant use cases. Most requirements could be identified solely by analysing the interviews and the shadowing protocol (32 of 37 requirements; 86.5%). Only eleven of the requirements resulted from both methods. The literature analysis, in combination with the analysis of the statute and the expert standard 'discharge management in healthcare', resulted in 24 out of 37 requirements (64,9%). Thus, by combining the different methods, a more holistic view of the topic could be formed.

Especially the 'expert standard discharge management' in healthcare yielded only a few requirements. The reason might become evident when regarding its aim. The expert standard provides an instrument for securing and developing quality in health care, with a focus on the improvement of the cooperation between inpatient and outpatient care. It does not constitute a set of rules for organisational processes.

The study identified mainly functional requirements. Non-functional requirements were neither named during the interviews nor found when analysing the literature. The only exception is the requirement 'portability' which originates from the shadowing. Regarding the outcome of the literature search, the lack of non-functional requirements might be due to the nature of the found literature. The publications focus mainly on the influence of new statutes regarding discharge management or on enhancing the processes from the patients' point of view. However, the development or implementation of IT systems is missing.

Nevertheless, non-functional requirements such as usability, an intuitive interface, reliability and support of learning must be taken into account, when developing IT systems. Fortunately, most of these requirements are universal and therefore already described in the scientific literature (cf. [Ba11]) as well as in DIN standards (cf. [Er06]).

The discharge of a hospital patient is a highly interdisciplinary process. For success, communication and teamwork are key aspects. The process involves not only several wards within one institution but can also require several independent ambulatory health care professionals. Being able to share the data rather than having to (re)collect, (re)input and (re)print them anew in every institution or ward, would have two main advantages. First, it would free more time resources that are very hard in need at the moment (also regarding the ongoing lack of skilled workers). Second, it would assure that up-to-date patient data is available where it is needed and when it is needed. Errors that may happen by manual transition can be diminished.

In addition to the practical benefits listed above, the development of such IT structures requires interdisciplinary research in order to understand the full range of problems and their solutions. Also, research regarding factors that ensure the participation of health care institutions on the one hand and software development enterprises on the other could be helpful. The lack of software interfaces and the associated interoperability of the systems might be one limiter regarding intersectoral communication. Therefore, we deduced the following implications for future development and research:

1. The IT-systems should support intersectoral cooperation and motivate the reduction of hierarchical structures.
2. The sharing of necessary patient data with health care professionals taking part in the patient's care should be simplified.
3. Further research should be conducted with an interdisciplinary team. The same refers to the development of software systems.

The presented research is subject to some limitations. On the one hand, the interviews and shadowing rely on one hospital with adjoining care support point in a rural area. On the other hand, although the authors interviewed various professionals in the hospital, only one discharge management worker was observed in the course of the shadowing. Even though the discharge management worker occupies the central position regarding the analysed processes, the other actors should be taken into account as well.

In future research, additional stakeholders such as physicians and pharmacists should be included. Table 3 provides an overview of the current research agenda. Each step includes a reevaluation of the previous findings. The aim is to provide a holistic approach for IT-supported discharge management, comprised of an intuitive IT system that supports the interdisciplinary processes of the discharge management and guidelines for the transfer to the IT systems of follow up healthcare institutions.

		Aim	Methods	Findings
1	Prototyping	Development of a prototype based on the requirements	Storyboards Click-Prototypes Formative Analysis	IT system in prototypic stage that can be used for real world test
2	Implementation and Validation	Evaluation of the prototype	Cognitive Walk-through Usability Study Summative Analysis	Summative evaluation of the developed prototype
3	Transfer	Concept for transfer to other healthcare institutions	Cost-benefit analysis Quantitative study	Guideline for generalisation of IT system to other institutions

Tab. 3: Research agenda

The implications for practice and research highlight the importance of IT-systems that can support and motivate skilled workers towards a more interdisciplinary and intersectoral approach. The use cases and requirements presented in this paper shall constitute a basis and guidance when developing or improving IT-systems for discharge management but might also provide useful insights regarding software development for interdisciplinary teams in general.

## References

- [Ba11] Balzert, H.: Lehrbuch der Softwaretechnik: Entwurf, Implementierung, Installation und Betrieb. Spektrum Akademischer Verlag, 2011.
- [Br13] Braun, J.: Entlassmanagement im Krankenhaus durch externe Leistungserbringer – (Un-)Vereinbarkeiten mit der Wahlfreiheit des Patienten. *Medizinrecht* 31/6, pp. 350–353, 2013.
- [Br15] Braun, J.: Neue Kooperationsmöglichkeiten für Apotheken beim Entlassmanagement – zugleich eine Anmerkung zu BGH, Urteil vom 13.3.2014 – I ZR 120/13 –, *MedR* 2015, 36 (in diesem Heft). *Medizinrecht* 33/1, pp. 22–25, 2015.
- [Co08] Cockburn, Alistair: Writing effective use cases. Pearson Education, Inc., 2008.
- [De73] Denzin, N. K.: The Research Act: A Theoretical Introduction to Sociological Methods. Transaction Publishers, 1973.
- [DM12] Deimel, D.; Müller, M.-L.: Entlassmanagement: Vernetztes Handeln durch Patientenkoordination. Georg Thieme Verlag, 2012.
- [Er06] Ergonomie der Mensch-System-Interaktion - Teil 110: Grundsätze der Dialoggestaltung (ISO 9241-110:2006-08); Deutsches Institut für Normung, 2006.
- [Ex09] Expertenstandard Entlassungsmanagement in der Pflege. Deutsches Netzwerk für Qualitätsentwicklung in der Pflege, 2009.
- [FR14] Freund, J.; Rücker, B.: Praxishandbuch BPMN 2.0. Carl Hanser Verlag GmbH Co. KG, 2014.
- [Hä12] Häser, I.: Beachtung von Apothekenrecht bei Entlassmanagement-Konzepten – Vorgaben durch das GKV-Versorgungsstrukturgesetz. *Klinikarzt* 41/06/07, pp. 270–272, 2012.
- [Hä15] Häser, I.: Neuregelungen zum Entlassmanagement der Krankenhäuser – Ausweitung der Regelungen durch das Versorgungsstärkungsgesetz. *Klinikarzt* 44/12, pp. 584–585, 2015.
- [Hä17] Häser, I.: Entlassmanagement – DKG klagt gegen Schiedsspruch. *Klinikarzt* 46/01/02, pp. 10–12, 2017.
- [HK13] Hesse, S.; Klewer, J.: Anforderungen an das pflegerische Entlassungsmanagement eines Krankenhauses der Regelversorgung aus der Sicht nachsorgender Einrichtungen. *HeilberufeScience* 4/4, pp. 153–156, 2013.
- [Hü15] Hübner, U.; Schulte, G.; Sellemann, B.; Quade, M.; Rottmann, T.; Fenske, M.; Egbert, N.; Kuhlisch, R.; Rienhoff, O.: Evaluating a Proof-of-Concept Approach of the German Health Telematics Infrastructure in the Context of Discharge Management. *MedInfo* 216/-, pp. 492–496, 2015.
- [Ja17] Jacobs, K.; Kuhlmeier, A.; Greß, S.; Klauber, J.: Pflege-Report 2017: Schwerpunkt: Die Versorgung der Pflegebedürftigen. Schattauer Verlag, 2017.

- [KS16] Kuball, L.; Sailer, R.: Mehr Kompetenzen für Krankenhausärzte – Neuerungen im Entlassmanagement für flexible Anschlussversorgung. *Laryngo-Rhino-Otologie* 95/10, pp. 707–708, 2016.
- [Ma14] Mayring, P.: *Qualitative content analysis: theoretical foundation, basic procedures and software solution*. Klagenfurt, 2014.
- [Me17] Meinhard-Schiebel, B.: Es braucht modernes Entlassungsmanagement zur umfassenden Betreuung und Begleitung der Menschen im häuslichen Bereich. *Pflege* 30/4, pp. 245–246, 2017.
- [MS14] Mille, M.; Stier, A.: Entlassungs- und Überleitungsmanagement. *Aktuelle Urologie* 45/05, pp. 381–397, 2014.
- [Os15] Ossege, M.: Zum Verhältnis zwischen dem Abspracheverbot nach §11 Abs. 1 S. 1 ApoG und dem Entlassmanagement nach §39 Abs. 1 S. 4 bis 6 SGB V. *Medizinrecht* 33/1, pp. 36–38, 2015.
- [PG12] Porter, M. E.; Guth, C.: *Chancen für das deutsche Gesundheitssystem*. Springer Verlag, 2012.
- [PK11] Pieper, C.; Kolankowska, I.: Health care transition in Germany – Standardization of procedures and improvement actions. *Journal of Multidisciplinary Healthcare* 4/-, pp. 215–221, 2011.
- [Ra16] *Rahmenvertrag über ein Entlassmanagement beim Übergang in die Versorgung nach Krankenhausbehandlung nach § 39 Abs. 1a S. 9 SGB V*. GKV Spitzenverband, 2016.
- [Ro13] Romagnoli, K. M.; Handler, S. M.; Ligons, F. M.; Hochheiser, H.: Home-care nurses' perceptions of unmet information needs and communication difficulties of older patients in the immediate post-hospital discharge period. *BMJ Quality & Safety* 22/4, pp. 324–332, 2013.
- [So05] Sommerville, I.: Integrated requirements engineering: A tutorial. *IEEE Software* 22/1, pp. 16–23, 2005.
- [WH16] Wong, C.; Hogan, D. B.: Care Transitions: Using Narratives to Assess Continuity of Care Provided to Older Patients after Hospital Discharge. *Canadian Geriatrics Journal* 19/3, pp. 97–102, 2016.
- [WW02] Webster, J.; Watson, R. T.: Analyzing the past to prepare for the future: Writing a Literature Review. *MIS quarterly* 26/2, pp. 13–23, 2002.