

6 (Un-)Familiarity with the Telematics Infrastructure Prior to Its Mandatory Implementation: A Qualitative Study Among Home-Care Nursing Services in Germany

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Background

This article discusses the mandatory introduction of the telematics infrastructure (TI) in the German health system and explores the knowledge and experiences of home-care nursing services with the TI. Collaboration between health professions is necessary to adequately meet the complex health and nursing care needs within an ageing society. However, interprofessional teams need corresponding structures and instruments for promoting (or even enabling) efficient and effective communication as well as collaboration processes (Karam et al. 2018). In this context, the telematics infrastructure (TI) is to be mandatorily introduced as a digital platform to ensure secure and fast communication and data transmission in the German health system. Easy access and interoperability should herein enable organisationally and socially sustainable and cooperative health care (Andelfinger and Hänisch, eds. 2016). The aim of the nationwide implementation of the TI is to enable faster and more accessible exchange of information and health records between healthcare professionals through a standardized system which is compliant with data protection rules and, thereby, to increase patient safety. However, the implementation process has been characterized by numerous challenges and resulting delays – and even though the implementation has recently made progress, the whole process is still slow (Lau 2022; Maybaum 2017). Despite 89% of physicians in outpatient care having been connected to the TI by the end of 2021 and value the digitalisation's potential, only few use it (Stachwitz and Debatin 2023; Albrecht et al. 2023). Evaluation results of the equipment phase show low acceptance and practical suitability among medical facilities – with the exception of the Communication in Medicine (Kommunikation im Medizinwesen [KIM]) service, which makes it possible to transmit all kinds of secure and encrypted messages via the TI. In addition to (perceived) technical difficulties, significant information and training deficit became obvious (der Heiden et al. 2021). In particular, the lack of connection of non-medical communication partners, such as nursing services, pose challenges towards the widespread usage of the TI (Stachwitz and Debatin 2023; Albrecht et al. 2023).

Since 2021, home-care nursing services were able to introduce the TI on a voluntary basis. Originally, it was supposed to be mandatory from January 2024 onwards. However, at the end of May 2023, this mandatory implementation was postponed to July 2025 due to the regulations in the Care Support and Relief Act (Pflegeunterstützungs- und Entlastungsgesetz [PUEG]), for services according to the German Social Code Book XI (Sozialgesetzbuch [SGB] XI), which contains the regulations for social long-term care insurance in Germany.

Until now, studies in the context of TI implementation in Germany have mainly focussed on medical care providers. Therefore, this contribution aims to describe home-care nursing services' knowledge of and connection to the TI, their experiences and expectations with it.

Methods

As part of a research project at the Bavarian Research Center for Digital Health and Social Care, expert interviews on digital inter-professional communication and cooperation were conducted with employees of home-care nursing services in a city and its surrounding area in southern Germany from April to July 2023. The interviews took place either at the participants' workplace, in the interviewers' office or online via a video conference tool, according to the participants' choice. The semi-structured interviews were based on an interview guide and included questions about participants' knowledge of the TI as well as their experiences and expectations. After the interviews, the participants answered a short socio-demographic questionnaire. Ten professionals (six female and four male) from different home-care nursing services were interviewed (mean age 44 ± 11 years). Of the interviewees, nine were care service managers or deputy care service managers, and one person was acting as a nursing professional. One person was self-employed, while all the other interviewees were either employed by relatively small home-care nursing care services or larger companies with branches all over Germany.

The interviews were analysed using thematic analysis according to Braun and Clarke in MAXQDA version 22 (Braun and Clarke 2006). For the purpose of this extended abstract, only a subset from the larger study assessing interprofessional communication between home-care nursing services and general practitioners is presented, focusing on the current knowledge and connection status among home-care nursing services.

Results

The results presented reflect the current knowledge of the telematics infrastructure as well as the connection status. Quotes from the interviews were pseudonymized (P01 – P10) and translated from German into English for the purpose of this contribution.

Knowledge of telematics infrastructure

The knowledge of people employed at home-care nursing services – and mostly even responsible for the management of these facilities – about the TI is heterogeneous. Apart from one person who works in a small home-care nursing service, the respondents have little to no knowledge about the mandatory introduction of the TI in the near future and its potential benefits for home-care nursing services.

“Telematics infrastructure? Doesn’t tell me anything. What does this mean?” (P08)

“[The telematics infrastructure is] probably already an advancement in communication, by telephone or whatever, that something is being developed. But otherwise, I have no idea.” (P03)

Telematics infrastructure connection status

All home-care nursing services use, or are currently in the process of introducing, digital software for internal purposes such as planning tours for care staff, communication between team members and care documentation.

“We do everything with it [the software]. Our entire planning, our entire client data is stored there. [...] And we have a message portal where I can write a message to the caregiver.” (P03)

However, none of the home-care nursing services are connected to the TI yet, and most of them are unaware about funding opportunities which may support the implementation within their facility.

“I haven’t really got to grips with that yet. This is a current topic for us, this telematics infrastructure. [...] But at the moment, it’s more an area that IT is taking over for us. And we are not quite involved at the moment.” (P06)

“From time to time, initial information came in, but it is never concrete that one has said: ‘We’ll connect here’ or ‘We’ll change over’. No. No.” (P08)

One person is fully aware of the funding options for TI and is already in the process of implementing it in their home-care nursing service.

“Yes, I have now purchased seven new smartphones and also this hardware for the telematics infrastructure, which I also had to buy. Everything has already been bought [...] in the end, if you search for five minutes, you will find the funding and it is really easy. You submit it and it’s really: You submit the invoice; you submit the application and it’s in your account three weeks later. So, it wasn’t this act now, this effort that I was afraid of.” (P01)

Yet, home-care nursing services would like to receive more information and training regarding the introduction of the TI and the trainings should be straight forward and practice orientated.

“We simply need more knowledge about telematics. [...] Everyone has half-knowledge, and we first have to put ourselves in a state that enables us to somehow judge this in a competent way to some extent, so that we can then also use it properly.” (P05)

“It is usually the case, I made the experience that all the training courses I have done so far have never been very practice-oriented.” (P01)

Expectations and concerns

After explanation of the TI to the participants, the home-care nursing services have largely positive attitudes towards its nationwide implementation. Many are in favour of the mandatory usage and hope for an improvement in communication with other health care professionals, while some are sceptical about the introduction due to the associated costs and the lack of visible benefits for them. Many home-care nursing services hope that the TI will give them a better insight into the patients’ conditions and improve their care. For example, some would like the TI to automatically inform them of changes in the patient’s medical plan and provide a secure channel for information exchange. Above all, improved communication played a major role for all respondents. They hope that the nationwide utilization of the TI will lead to a communication among diverse actors in the health care system which is more structured, uniform, faster and less prone to errors.

“It could all be simplified. Maybe fewer conversations, fewer pieces of paper, less transfer of information from employee to employee or from shift to shift. [...] And the

sources of error would be significantly reduced, I would say. So not only within the service, but of course also in the communication GP/outpatient service.” (P08)

However, many of the home-care nursing services fear additional work due to the mandatory implementation of the TI. They expect an easy-to-use, functional TI. Since all home-care nursing services already have individual digitally supported solutions, it would be desirable if the TI could be integrated into these existing systems and processes.

“That it [the telematics infrastructure] is easy to use, that it is not too complicated, that you can quickly familiarise yourself with it and that it is easy to integrate into the system.” (P06)

“It’s not like I can train to be an IT person. And yes, the system should just be simplified and more direct, the communication.” (P02)

Some respondents fear complications in the introduction and use of the TI, as was the case in the implementation of earlier projects. They experienced that many mandatory introductions were not adapted to the necessities of home-care nursing services and are unnecessarily complicated.

“I’ve been applying for an electronic health profession card since last week. I applied for it and did the Post ID yesterday, you must have studied almost twice to be able to do it all at once. It’s phenomenal how difficult something like that can be.” (P07)

Discussion

The results indicate that home-care nursing services are insufficiently informed about the TI, albeit some being more informed than others depending, amongst other factors, on their willingness to inform themselves and the organisational structures of the home-care nursing service. Some participants are employed at larger nursing services with a specialized IT department and thus are not required to conduct acquisition and preparations for the introduction of the TI. The only person that was well informed about the TI and already started imple-

menting it in her home-care nursing service, was a professional from a smaller service. This person was also self-employed and running her own home-care service, and as such might have been more on top of current changes and funding opportunities than employees of larger home-care services who are not involved in such processes.

After the explanation of the TI and its various components by the interviewer, there was a notable openness towards the implementation of the TI among the representatives of the home-care nursing services. Above all, they hope for improved interprofessional communication through the TI connection, since communication via fax and telephone is perceived as laborious and time-consuming. A study conducted in Austria assessing the implementation of the Austrian electronic health record (ELGA) in nursing homes reported that nursing care managers anticipated an electronic health record would improve information flow and exchange of patient related information and also assure completeness and actuality of patient data (Schaller et al. 2020). This is in line with our findings, indicating that home-care nursing services hope that the TI will provide better insights into the patients' conditions, assure the actuality of medication plans and thus improve the processes and quality of care.

Ease of use and facilitation of work processes, as well as a clear understanding of the benefits of the innovation by its users are some of the most important factors for the implementation of health information and communication technologies (ICT), such as the TI (Gagnon et al. 2012). The results of this study point towards a greater need for improvement in education and training related to the implementation of the TI. Interviewees of home-care nursing services have very high hopes in the TI. However, most home-care nursing services are at their capacity limits and are afraid that they have to cope with complex applications and IT problems when putting the TI into operation. This is also reflected in a review of factors influencing the adoption of ICTs by healthcare professionals (Gagnon et al. 2012). Here, technical concerns were one of the most frequently mentioned barriers for a successful implementation of ICTs. Furthermore, the interoperability with existing systems and processes was an important factor for the adoption of new systems (Gagnon et al. 2012). This is also reflected in our study. As all of the interviewed home-care nursing services already use their own software, the care managers were afraid that the TI will not be compatible with their existing systems and cause them more work than actual benefits. To ensure a successful implementation and long-term utilization of the TI, it is necessary on the one hand to involve the home-care nursing services in the process of further development and on the other hand to limit unnecessary

extra work which might be associated with the conversion to a new digital system. Therefore, the postponement of the mandatory implementation of the TI at home-care nursing services to mid-2025 needs to be used optimally: Particularly actors from the nursing practice and management of these facilities need to be involved and prepared to ensure a smooth implementation phase and enable that the full potential of the TI is unfolded.

It has to be mentioned that the presented results are a subset from a larger study, assessing interprofessional communication between home-care nursing services and general practitioners. However, in light of the upcoming mandatory use of the TI also among home-care nursing services, the presented results purposefully focused on the current knowledge and connection status among this subgroup. One might consider that only people with a general interest in the topic (either related to digitalisation and/or interprofessional collaboration) participated in the interviews. As such the results presented might not allow generalizability. Further we are well aware that there are other health care professionals involved in the successful implementation of the TI such as pharmacists and further therapy professions. Therefore, future studies might include other health care professionals in further regions in Germany.

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