Supplementary Material: Appendix 3:

Article title:

Uncovering the Complexity of Care Networks – Towards a Taxonomy of Collaboration Complexity in Homecare

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Supplementary Material

Appendix 3:

Document Title: Interview guide

Description: (1) materials for network acquisition, (2) format and procedure of interviews, (3) cover letter to interviewees including guiding interview questions
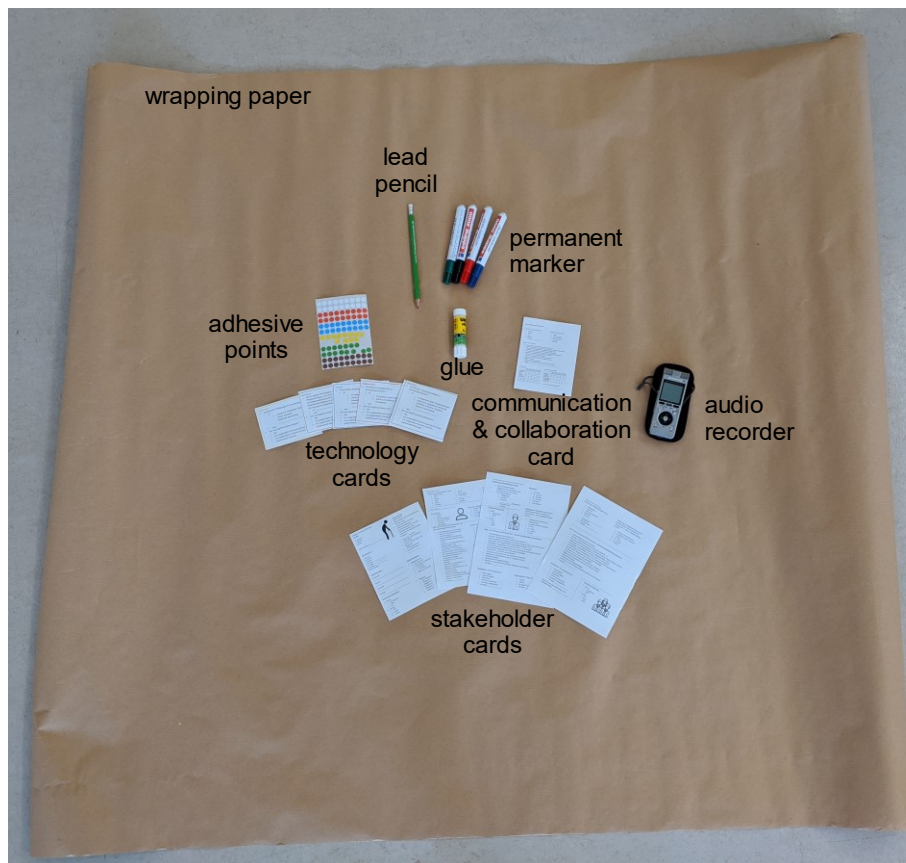
Appendix 3
Interview Guide

1. Materials for network acquisition
Since homecare networks are generally weakly tied, each network actor has a slightly different image of the network. By conducting structured interviews, an attempt can be made to ascertain the core of each network is grasped by default, and any gaps in the network image will be filled by means of interposed questions. For this, the following materials are helpful, when conducting interviews (see Appendix 3-Figure 1):

- **wrapping paper**: A wrapping paper holds enough space for each care network, independently of its size.
- **acquisition cards**: The cards contain questions about the network and its actors, their tasks (stakeholder cards; see Appendix 4), the communication and type of collaboration (communication & collaboration cards; see Appendix 6) and the technologies used for it (technology cards; see Appendix 5).
- **lead pencil**: necessary to fill in the acquisition cards
- **glue**: The acquisition cards are filled out and spread out on the wrapping paper to form a network and glued at the end.
- **permanent marker**: With the help of a permanent marker, connections between the actors can be drawn, or other clues can be recorded directly on the wrapping paper.
- **adhesive points**: An adhesive dot in the corresponding color of the technology acquisition card is stuck onto each stakeholder card of a user to visualize the technology used by the stakeholder.
- **audio recorder**: The audio recording device could also be dispensed with as the network is recorded using such a visual format. However, the audio recording might be helpful in the subsequent reflection of the interview and the digitalization of the results. Illegible text parts can be listened to and possibly forgotten details could be added.

Appendix 3-Figure 1: Utensils for mapping a care network

2 Format and procedure of interviews

Face-to-face interviews are best for mapping care networks. With face-to-face interviews, a network can be visualized directly onsite together with the interviewee. When an in-person interview is not possible, other formats such as telephone or video conferencing are conceivable. The network will then be visualized by the interviewer on their own premises. During the interviews, the interviewer can ask questions and supplement the network map. To give the interviewee the chance to reflect on the mapped network, the digitalized map must be sent to the interviewee after the interview. Thus, in these long-distance cases, it is still possible for the interviewee to complete the network visualization.

The structuring of the interviews ensured the collection of the following information for each network:

1. *Acquisition of the network stakeholders[1] and their circumstances (see Appendix 4)*

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[1] Human and non-human stakeholders: In several networks, animals were itemized as important stakeholders for care recipients.

    a. Details of the person in need of care (e.g., demographics, health and care status, and technology literacy)

    b. Details of the person interviewed (e.g., demographics, roles, tasks, and technology literacy)

    c. Details of the other stakeholders who comprise the care network (e.g., demographics, roles, tasks, and technology literacy)

The initial interview questions regard the person in need of support. The second step is to determine the role of the person interviewed. Finally, all other network actors are identified with the help of the appropriate stakeholder card. Great importance needs to be attached to covering all actors. These also include actors who are not involved in daily care. Non-participation cannot always be attributed to an actor's distance from the person in need of care. Rather, Franke et al. (2019) showed that in 10%–23% of care cases, remote caregiving relatives act as the main organizer of care and provide care activities of several hours per week. Furthermore, the way in which actors work together in the network should be considered in order to gain insight into possible tensions.

2. *Acquisition of details about the technologies used to organize care (see Appendix 5)*
   In the next step, all technologies that were or are used to support the care network are mapped. A distinction is made between calendars (including reminder systems), monitoring systems, task lists, document management systems, and messengers. Each technology card is in different color. This makes it possible to mark all users of the systems with adhesive dots.

3. *Spreading the network and capturing the communication and collaboration particularities (see Appendix 6)*
   All previously recorded stakeholder cards are spread out on the wrapping paper, and the care network is arranged and glued in place. A permanent marker is used to draw connections between the actors and to mark any special features of the network. The use of different colors is very helpful here (e.g., red for problems – problems and tensions can be reasons for non-participation). The acquisition card "Communication & Collaboration" is completed for each pair of actors and also glued directly to the connection lines on the wrapping paper.

3 Cover letter to interviewees including the guiding interview questions

Dear Sir or Madam,

For the research project SONIAnetz/EIKI, we are looking for support in the form of interview partners. The research project investigates how collaboration in homecare can be supported electronically. For this purpose, so-called collaboration technology is to be used. Collaboration technology is software for networking groups.

We know that the care of a person in need of care is very complex. If you think about it in detail, you will see that a large number of players are involved in successfully organizing the daily life of the person in need of care. Grandchildren take over driving services, neighbors provide support within the home, ...
Professionals (doctors, pharmacists, therapists, nursing services, ...) semi-professionals (neighborhood helpers) and informals (relatives, friends, neighbors) often unconsciously work hand in hand.

Electronic networking of the various parties involved could facilitate better care organization. Although technologies have already been developed for this, these support possibilities are not well known.

This research project therefore investigates which new technologies are best suited for different types of care networks. Are the technical developments equally applicable in different regions? Can technical developments strengthen local structures to support collaboration in care? And what are the issues when new technologies are used?

With this letter, we would like to encourage you to participate in an interview. With the help of this interview, we would like to record and analyze the individual care network around a person in need of care that you care for. The scientific goal is to create a taxonomy of care networks.

In case of further interest on your part, we will suggest possible improvements of your care arrangement after the analysis. If you decide to implement one of the suggestions for improvement, we will support and accompany you in trying out new technology to make providing care easier and more efficient.

The recording of the individual care situation varies depending on the size of the network.

The interview will therefore take between 30 and 60 min. The interview guideline questions are attached to this letter.

Data protection:

The information you provide will be used exclusively in anonymized form and will be treated securely and in accordance with German law. This means that your data will be treated confidentially and will not be passed on to third parties. It is not possible to determine your identity.

Thank you in advance for your participation!

With kind regards,

The project team

Interview guide questions

1. welcome and short introduction

2. Who do you care for?

3. What technologies do you use?

4. What is your role?

5. Who else is involved and with what tasks?

6. How does collaboration work in your network?

7. thanks and farewell