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Special Issue Editorial

Information Infrastructures in Healthcare. Action Research, Interventions, and Participatory Design

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1 Information Infrastructures in Healthcare

Over the last decade information infrastructures in healthcare has become an established research field with a dedicated community sharing an interest in unpacking and exploring the complexities involved in creating, maintaining, designing, and continuously reconfiguring information infrastructures for healthcare. The core of this research comprises the fundamental perspective that we cannot divide our research inquiries into focusing on either information technology nor focusing only on healthcare practices; instead this research insists that when we explore information technologies in healthcare, we must attend to the socio-technical heterogeneous installed based, which constitute the information infrastructures in healthcare. Research on information infrastructure can broadly be identified in four main categories. Research directed at (1) unpacking the *fundamental complexities* of information infrastructures in healthcare practices (Berg 2001; Bjørn and Markussen 2013); (2) unpacking the *organizational complexities* of information infrastructures in healthcare (Ellingsen and Monteiro 2003; Aanestad and Jensen 2011); (3) unpacking the work practices complexities of information infrastructures (Boulus and Bjørn 2007; Ellingsen, Monteriro et al. 2013), and 4) unpacking the *design challenges* of information infrastructures in healthcare (Andersen et al. 2010; Ellingsen and Røed 2010). While the topic of research is interdisciplinary by nature, it means that research within the area

of information infrastructures in healthcare are published across research venues such as computer supported cooperative work (Balca et al. 2008), science and technologies studies (Bal and Mastboom 2007), and information systems (Ellingsen et al. 2007; Hanseth and Lyytinen 2010).

The strength of the information infrastructure community is the interdisciplinary and the shared interests in meeting across diverse domains and share ideas for how to think about healthcare and information technology. Not having dedicated conferences and journals for these matters means that researchers participate across venues and thus continuously become exposed to new ways of thinking driving the research forward.

Nevertheless, it is still important to have a home. Thus the research community of information infrastructures in healthcare are gathering around the bi-annual international workshops, which were first initiated in 2007 by Jørgen Bansler and Brit Winthereik at the Danish Technical University. Since then the workshop have been repeated at Copenhagen University in 2009 organized by Finn Kensing and Jørgen Bansler, and at the IT University of Copenhagen in 2011 organized by Pernille Bjørn and Finn Kensing. In 2013, the workshop was organized by Gunnar Ellingsen and Pernille Bjørn, for the first time outside Denmark at Tromsø University, Norway—and in 2015 the 5th International workshop on Information infrastructures in Healthcare is planned to move to Italy organized by Enrico Maria Piras, Alberto Zanutto, and Gunnar Ellingsen.

The research of each workshop has been an open call for papers to a special issue of a journal with a dedicated sub-theme. In 2007 the sub-theme was integrated care and the special issue was published in the *International Journal of Integrated Care* (Winthereik and Bansler 2007); in 2010 the sub-theme was connecting practices across institutional and professional boundaries and the special issue was published in the *International Journal of Computer Supported Cooperative Work* (Bansler and Kensing 2010); in 2013 the sub-theme was the global and local relations and the special issue was published in the *International Journal of Medical Informatics* (Bjørn and Kensing 2013)—which leads us to this special issue.

2 Special issue: Action research, interventions, and participatory design

Based upon the workshop in Tromsø, we were fortunately able to collaborate with the editorial board of *Scandinavian Journal of Information Systems* (SJIS) to make a special issue on information infrastructures in healthcare. The SJIS is a particular relevant space to bring the discussions, due to the strong roots the domain has in the Nordic countries. Digitalization of healthcare in Scandinavia has been an ongoing dedicated strategy since the early 70-ties. Due to the society structures such as nation-wide personal identification numbers, universal healthcare for all citizens, and well-established societal structures for handling taxation systems, designing large information systems in healthcare is doable and realistic. These conditions mean that exploring and unpacking the information infrastructures for healthcare in these countries provide us with much insight into the core complexities of standardization, flexibility, dynamics, coordination,

and connectivity relevant for this type of research. In this way, bringing the discussions and debates to SJIS is a logical step for the research.

When planning the special issue, we decided that the sub-theme of this special issue should be directly relevant for the SJIS audience and following the Scandinavian traditions of participatory design and engaging with users, we decided to dedicate the special issue to *Action Research, Interventions, and Participatory Design*. Nevertheless, the debates are not only relevant for the Scandinavian countries. As can be seen in this special issue the empirical domains are grounded in the Netherlands, Spain, and Canada.

This special issue was based upon an open call for papers, and we received 12 papers to be considered. 9 papers were sent to review in the first round, and 6 papers were sent for review in the second round, and finally we accepted 3 papers.

The papers we chose to include are diverse and bring new types of insights on information infrastructures in healthcare. Inge Lecluijze, Bart Penders, Frans Feron, and Klasien Horstman: “Infrastructural work in child welfare: incommensurable politics in the Dutch Child Index” is a fascinating exploration of the complexities involved in establishing an monitoring device – an information infrastructure – for interdisciplinary professionals engaged in children’s welfare and responsible for detecting possible risks and taking actions. The paper unpacks the connections between diverse professions and investigate the diverse complexities in creating categories for possible risk factors for specific children without creating suspicious attentions to families unintended.

Joan Rodón and Alexander Chekanov: “Architectural Constraints on the Bootstrapping of a Personal Health Record” explores the difficulties in making personal health records a success. The paper contributes with a twist to the field by bringing the strategies of bootstrapping into the field of information infrastructure. The questions explored concern design constraints for personal health records and interestingly the answer relates to the design of the technical architecture. The authors find that the architectural constraints include issues of control, coordination, and re-configuration.

The final paper Nina Boulus-Rødje: “Managing Normative Criteria in Action Research: A Reflexive Analysis” is a reflexive paper dedicated to explore action research practices within the information infrastructure for healthcare domain. The paper brings reflective accounts for the complexities in engaging with practice as part of the investigation on healthcare, and in particular how the experiences are challenging the current literature on action research. In particular the paper argues for a reflexive approach for action research and interventions in information infrastructure research.

We, the guest-editors, hope that the community will find the selected papers inspiring and that they can serve as a vehicle for extending the information system literature in general and the information infrastructure literature in particular. Enjoy the reading.

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References

- Aanestad, M., and Jensen, T., B., (2011). Building nation-wide information infrastructures in healthcare through modular implementation strategies. *Journal of Strategic Information Systems*, (20): 161-176.
- Andersen, T., Bjørn, P., Kensing, F., and Moll, J., (2010). Designing for collaborative interpretation in telemonitoring: Re-introducing patients as diagnostic agents. *International journal of Medical Informatics*.
- Bal, R., and Mastboom, F., (2007). Engaging with technologies in practice: Travelling the Northwest passage. *Science as culture*, (16:3): 253-266.
- Balka, E., Bjørn, P., and Wagner, I., (2008). Steps towards a typology for health informatics. *Computer Supported Cooperative Work (CSCW)*, San Diego, CA, USA. ACM.
- Bansler, J., and Kensing, F., (2010). Information infrastructure for health care: Connecting practices across institutional and professional boundaries. *Computer Supported Cooperative Work (CSCW): An International Journal*, (19): 519-520.
- Berg, M., (2001). Implementing Information Systems in Healthcare Organizations: Myths and Challenges. *International journal of Medical Informatics*, (64): 143-156.
- Bjørn, P., and Kensing, F., (2013). Special Issue on Information Infrastructures for Healthcare: The Global and Local Relation. *International journal of Medical Informatics*, (82:5):281-282.
- Bjørn, P., and Markussen, R., (2013). Cyborg Heart: The affective apparatus of bodily production of ICD patients. *Science & Technology Studies*, (26:2): 14-28.
- Boulus, N., and Bjørn, P., (2007). Constructing Technology-in-use Practices: EPR-Adaptation in Canada and Norway. *Third International Conference Information Technology in Health Care: Socio-technical Approaches*, Sidney, Australia. IOS Press.
- Ellingsen, G., and Monteiro, E., (2003). A Patchwork Planet Integration and Cooperation in Hospitals. *Computer Supported Cooperative Work (CSCW): An International Journal*, (12:1): 71-95.
- Ellingsen, G., Monteiro, E., and Munkvold, G., (2007). Standardization of work: Co-constructed practice. *The Information Society*, (23): 309-326.
- Ellingsen, G., Monteiro, E., and Røed, K., (2013). Integration as interdependent workaroud. *International Journal of Medical Informatics*, (82): 161-169.
- Ellingsen, G., and Røed, K., (2010). The role of integration in health-based information infrastructures. *Computer Supported Cooperative Work (CSCW): An International Journal*, (19:6): 557-584.
- Hanseth, O., and Lyytinen, K., (2010). Design theory for dynamic complexity in information infrastructures: The case of building internet. *Journal of Information Technology*, 25(1): 1-19.
- Winthereik, B. R., and Bansler, J., (2007). Guest editorial: Special issue: Connecting practices: ICT infrastructures to support integrated case. *International journal of integrated care*, (7:16).