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Survival of the project: A case study of ICT innovation in health care

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ABSTRACT

From twenty years of information and communication technology (ICT) projects in the health sector, we have learned one thing: most projects remain projects. The problem of pilotism in e-health and telemedicine is a growing concern, both in medical literature and among policy makers, who now ask for large-scale implementation of ICT in routine health service delivery. In this article, we turn the question of failing projects upside down. Instead of investigating the obstacles to implementing ICT and realising permanent changes in health care routines, we ask what makes the temporary ICT project survive, despite an apparent lack of success. Our empirical material is based on Norwegian telemedicine. Through a case study, we take an in-depth look into the history of one particular telemedical initiative and highlight how ICT projects matter on a managerial level. Our analysis reveals how management tasks were delegated to the ICT project, which thus contributed to four processes of organisational control: allocating resources, generating and managing enthusiasm, system correction and aligning local practice and national policies. We argue that the innovation project in itself can be considered an innovation that has become normalised in health care, not in clinical, but in management work. In everyday management, the ICT project appears to be a convenient tool suited to ease the tensions between state regulatory practices and claims of professional autonomy that arise in the wake of new public management reforms. Separating project management and funding from routine practice handles the conceptualised heterogeneity between innovation and routine within contemporary health care delivery. Whilst this separation eases the execution of both normal routines and innovative projects, it also delays expected diffusion of technology.

1. Introduction

For about 20 years, we have witnessed steady growth in the number of ICT innovation projects in the health care sector. However, very few of these are brought into continued routine service. In fact, it has been suggested that the application is characterised by a "plague of pilots" where projects are established to be run as non-permanent test-projects, rather than developed into normal practice (Wyatt and Sullivan, 2005). This critique echoes through later policies, as well as the telemedicine and e-health research literature (Broens et al., 2007; Helse og omsorgsdepartementet, 2013; Sosial-og Helsedepartementet, 2001; Zanaboni and Wootton, 2012). The problem formulation puts emphasis on the large number of local small-scale pilots and projects in health ICT, each of which seems to meet the criteria for technological success, "yet fail [s] to become part of every-day clinical routines" (De Bont and Bal, 2008).

Our empirical case is from Norwegian telemedicine. In Norway, as elsewhere, many of the promises of increased quality and efficiency of telemedicine and e-health have yet to be realised. As early as 1999, a Norwegian government report on telemedicine stated:

> *"Through the financing of equipment and regional cooperation initiatives the Ministry [of Health] has granted funds for telemedicine activity in all health regions [of Norway]. It is now time to take a step forward, from single projects to the systematic use of telemedicine in routine [services] in areas where telemedicine does have a documented positive effect" (Sosial-og Helsedepartementet, 1999: 9, authors translation).*

This report established an important background for the innovation project that we studied: The Display Window (later referred

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to as TDW). The quote above suggests that the implementation of health ICT innovations in the public sector is to be understood as a stepwise process. It is argued that we are ready to move from step one, single pilot projects, to step two, systematic application of telemedicine in selected routine clinical practices. The report thus states, from the ministry's point of view, that the "plague of pilots" problem (Sosial-og Helsedepartementet, 1999) has been identified and will actively be dealt with at a national policy level, as of the late 1990s.

We observe that the ICT innovation project still survives in health care. In this article, we ask why this is so, when official health policy has long been to implement large-scale ICT applications in routine services.

The official aims of implementing ICT in health care, such as increased efficiency and accessibility to health care, financial gain and patient empowerment, are clearly formulated and advocated in policies on all levels, from those of single institutions to overall national policies. Success criteria, as well as barriers to success and problems facing ICT implementation in health care, have already been thoroughly dealt with in the literature (May, 2013; Murray et al., 2011; Obstfelder et al., 2007). Overall, sociology dealing with telemedicine and e-health has been dominated by micro-level studies exploring the detailed relations between technologies and humans in practical health care work (Halford et al., 2010; Halford and Obstfelder, 2010; Langstrup Nielsen, 2003; Mort et al., 2009; Oudshoorn, 2008). Exceptions of note are some reviews looking for systematic patterns (Ekeland et al., 2010; Obstfelder et al., 2007), and requests for a stronger awareness of structure, as well as for policy and professional levels (Greenhalgh and Stones, 2010; Tjora and Scambler, 2009). Nevertheless, there is a lack of critical sociological studies investigating how ICT reforms are met and dealt with in everyday *management work* in public health care institutions. Indeed, a systematic review of the literature on the implementation of e-health found that methodological quality in this area was poor, and that very little information was provided on the ways in which managers and other users make sense of e-health systems and appraise whether an e-health intervention is worthwhile or not (Mair et al., 2012).

In this article, we aim to address this gap in knowledge: we investigate whether there are benefits of ICT innovation seen from a managerial point of view, and, if so; whether these can explain the persistence of ICT innovation projects in the sector. Thus, instead of looking into the technical outcomes of a health ICT project, i.e., whether it led to changes in clinical practice or to the adoption of new technologies, we explore the detailed contribution that a Norwegian telemedicine project "in the making" made to everyday health care management.

The case illuminates how management responsibilities could be delegated to the innovation project, and emphasises that the project contributed to shape the processes of control in the organisations of which it was a part. Through the empirical analysis we develop the argument that innovation projects have been normalised in health care. Further, we draw on these findings to discuss how the growing number of ICT innovation projects relates to other contemporary reforms in public sector health care, and thus intervene in processes of governance.

2. Empirical case: The Display Window (TDW)

The Norwegian Centre for Telemedicine (NST) initiated TDW in 1999 as a direct response to the previously mentioned ministry report where it was stated that:

> *"The […] region should have the potential to appear as a display window for telemedicine solutions … A large-scale buildout of telemedicine services [in this region] will show to other actors how the method can be applied, and provide a laboratory for testing new solutions" (Sosial-og Helsedepartementet, 1999: 39, author's translation).*

The Norwegian Directorate for Health and Social Affairs funded the project, which lasted through 2002. Through this project, ICT-labelled as telemedicine-was introduced to ease the communication and collaboration between general practitioners (GPs) on the one hand and specialist hospitals on the other. Two forms of technologically mediated interaction were enabled: video conferencing and electronic messaging. The project funded four full-time telemedicine advisors, who systematically contacted all general practices in the selected region (about 180 at the time). The practices were offered the necessary technological equipment, as well as support in installing and running the services. At the hospital side the project was directed toward three medical specialities: dermatology, otolaryngology (ear, nose and throat) and cardiology. In total, 90 local GPs installed the technical systems necessary for telemedical specialist support within dermatology; seven of these GPs also had the equipment to offer tele-otolaryngology, and 41 offered tele-cardiology. In 2003, three spin-off projects continuing the work from TDW were conducted. For simplicity, we use "TDW" for both the original project and the spin-offs.

At the time of our study in 2012, the previously involved actors at the Norwegian Centre for Integrated Care and Telemedicine (NST) explicitly deemed the project a failure. No routine telecommunication was active between the institutions that were once involved in the project. In fact, there had been no activity at all for a long time. The equipment had not been maintained or updated, and our informants had trouble remembering when they last had been using it and whether it was still working.

3. Theory

In this study, we look at how innovation projects get involved in management work and can be a form of delegated organisational control. Organisational control is an important part of management work. Stiles and Taylor (2001) conceptualise organisational control as a combination of financial and strategic control: the broad mechanisms that shape mission and vision, regulate the capacity for innovation and entrepreneurship, and facilitate necessary change. In the day-to-day routine of a regular health care organisation, achieving organisational control requires hard work and major effort. Latour's (1992) concept of *delegation* aptly illustrates how the innovation project TDW could be a response to this challenge. Latour argues that major efforts are transformed into minor ones through delegation of work to humans and nonhumans, and claims that "every time you want to know what a nonhuman does, simply imagine what other humans or nonhumans would have to do were this character not present" (Latour, 1992: 155). This perspective proved relevant for our study. The TDW case illuminates how parts of the managerial work to perform organisational control can be delegated to a heterogeneous network of human and nonhuman actors: the innovation project. Through delegating certain tasks to the project, health care management and administration transform some of their major efforts into minor ones.

In social science studies of technical innovations in health care, it has been stressed that research needs to look beyond "the thing-in-itself" when studying the phenomenon: In *Normalisation Process Theory* (NPT), Carl May underlines that it is crucial to understand the processes of normalising an innovation in daily routine (May, 2013). Findings from our study are consistent with NPT's emphasis of "the dynamic collective work" and the "relationships