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# Tracing the Paradigm Shift on Relationships Through eHealth Components in Health Care

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**Abstract.** The use of eHealth components in healthcare is often viewed in the context of disruptive change and ethical pitfalls. We focus on interpersonal relationships between physicians, patients, and care providers and show that positive changes (also) occur within this context.

**Keywords.** paradigm shift, eHealth, health care provider-patient relationship

# 1. Introduction

eHealth technologies are not only a challenge for information sciences but also for the management of health care. eHealth applications are empowering patients — changing the role models of all professions involved in healthcare. eHealth technologies promise to make healthcare more efficient, improved, individualized and personalized. While some people have high hopes the digitization and datafication of medicine, others fear a profound change, which is manifested, inter alia, in shifts within the health care provider-patient relationship [1-3]. The aim of our research is to trace this shift using the example of a newly implemented care model for allogeneic stem cell transplantation (SMILe). This study is implementing and testing a new eHealth application by paying attention to the associated changes in health care management. We analyze the actual impact of datafication on patients, health care providers and their respective relationship structures.

# 2. Methods

The SMILe care model provides additional support by an advanced practice nurse (APN) and an eHealth component. The eHealth component consists of the SMILeApp, allowing patients to transfer health data on a daily basis to the APNs which, in turn, can check the data due to a remote-monitoring system software (SMILeCare).

An ethics vote was obtained prior to the study. To achieve the research objective, semi-structured qualitative interviews (N=12) were conducted with patients from the

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SMILe study (recruitment: Nov. '20-June '21) to determine whether relationships had actually changed as a result of using the eHealth component. The data analysis was done by using an inductive thematic analysis [4]. In addition, a 2-year project monitoring with selective ethics consultations in the multidisciplinary team (computer sciences, nursing science, ethics) was designed and implemented.

#### 3. Results

From the coded data, it can be seen that patients have closer contact, especially with APNs, as a result of using the app. Regular feedback on health data promotes the relationship - patients feel more cared for and looked after. Additionally, some of them gain security and structure by focusing on the data, which can positively influence self-perception. The intensification of the relationship was experienced in the same way by the APNs. In addition, changes in the relationship between attending physicians and APNs and inpatient nurses and APNs can also be observed. While physicians benefited from the increased contact and data by gaining valuable diagnostic information to which access would not otherwise have been possible. On the other hand, inpatient nurses may lose responsibility and accountability as APNs take over decision-making.

# 4. Discussion

Based on the measures carried out, it can be shown that a paradigm shift is indeed taking place. However, not in the expected way: In the recent debate eHealth is often discussed in the context of disruptive changes, ethical pitfalls and negative influences [1-3]. But "datafication" has positive effects as well. We were able to demonstrate an improvement in the visibility of patients through the use of their medical data and a strengthening of the role of nursing stuff.

### 5. Conclusion

For this reason, it can be shown for the SMILe care model, datafication does not necessarily lead to alienation and depersonalization. But the eHealth application requires an adjusted management and communication structure paying attention for the new roles and competences created for patients, nurses and medical staff.

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