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Digitalizing Nursing in the Bavarian Swabia Region of Germany – Presentation of the Joint Project CARE REGIO

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Abstract. The joint research project CARE REGIO aims to modernize the care system with digital solutions. We focus on the development of a uniform electronic care record, uniform data exchange between care facilities, and technical assistive systems, which shall all be unified in a standardized care-based storage solution.

Keywords. Care 4.0, Digital Care, Transfer Management, AAL, Digitalization

1. Introduction

The necessity for digitalization in medicine and healthcare has already been investigated (1, 2). There are several digital projects to assist the nursing sector (3). For all digital projects aiming to help and develop the nursing sector, it is crucial to provide usable data about the patient and the environment. For this purpose, the data must be stored in a uniform and facility-based electronic care record (ECR). The development and definition of such an ECR are essential for all further applications. At a facility level, many hospitals have implemented electronic health record (EHR) systems, but the interoperability to the care sector lacks behind (4).

2. Methods

CARE REGIO (CR) is a research project funded by the Bavarian State Ministry of Health and Care. The interdisciplinary project team consists of Neu-Ulm, Kempten and Augsburg Universities of Applied Sciences, the University of Augsburg, and the University Hospital Augsburg. The project aims to support care delivery through

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digitalization and to develop sustainable and practical solutions. A literature analysis, expert surveys, and focus groups with various stakeholders have been carried out.

3. Results

From the literature review and expert interviews, CR has identified the following areas of digitalization as particularly suitable: 1) a uniform ECR, 2) a uniform and electronic data exchange for patient interfacility transfer, 3) technical and digital assistive systems for telemedical based diagnoses and therapies, and 4) a care-based data storage.

Using the example of patient transfer management at the University Hospital Augsburg and its partner institutions, a pilot system will be developed to make the transfer management more transparent, efficient, and easier for caregivers and patients. CR found that while existing hospital-EHRs contain a lot of patient data, specific and crucial data for care is often missing. The issue becomes particularly problematic when the ECR is used in hospitals, in inpatient and outpatient care facilities, as well as in rehabilitation facilities. Furthermore, there must be a uniform possibility to exchange the care data within the institution, but also to share the data with other institutions.

Admission and discharge from or to other facilities can be facilitated with electronic transmission of care data. This process includes static data such as name and birth date, but also dynamic data like the overall condition of a person. A uniform ECR ensures that relevant information is available in all facilities and that the time required for multiple recordings is significantly reduced. In this setting, digitalization serves as a tool to automate processes and, for example, to individualize and optimize processes with the use of technical assistive systems that rely on available patient and environment data. The necessary data will be generated by various instruments. To incorporate this, the use of technical-digital systems in the field of fall prevention is helpful. Falls are one of the most common causes of care dependency of the elderly. Technological progress opens up a wide range of possibilities to support evidence-based diagnosis and therapy.

4. Conclusions

CARE REGIO aims to support healthcare with the help of digitalization and thereby give the specialists more time for the patients. The focus is on the patient transfer management, the use of care data, assistive systems, as well as ethical, scientific, safety, and socio-economic aspects across the project.

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