news

The Digital Hub CAEHR

Optimal & personalized treatment decisions for cardiovascular patients

by Dagmar Krefting

A lack of communication at the interfaces of the healthcare system often leads to suboptimal treatment due to a loss of information and time. With the Digital Hub CAEHR – coordinated by the University Medical Center Göttingen – a research-compatible electronic patient record (ePA) will be developed and implemented to enable the collection of structured patient data at all points of the care system according to uniform standards and used throughout the entire care chain. This will enable more precise prognoses regarding the course of diseases, which in turn can lead to optimized therapies and newly developed care models.

Whether stroke, heart failure, or coronary heart disease – cardiovascular diseases are still the most common cause of death in Germany despite important advances in treatment. Moreover, these diseases often take a chronic course. Both the patients affected and the doctors treating them must be prepared for long-term, individualized and personalized treatment.

What are the goals of CAEHR?

And this is precisely where the Digital Hub **CAEHR** (**CA**rdiovascular diseases - **E**nhancing **H**ealthcare through cross-sectoral **R**outine data integration), funded by the Federal Ministry of Education and Research (BMBF), comes into play. If cardiovascular diseases are diagnosed at an early stage, they can be treated well in many cases.

For precisely this patient-centered treatment, CAEHR standardizes and structures the health data from outpatient and inpatient care and makes it accessible in a research-compatible ePA to all actors along the entire treatment pathway (paramedics, nurses, doctors, and patients) for individual patient care. CAEHR is thus concerned with improved care for patients through the optimized and timely provision of relevant, standardized and structured health information and the establishment of intelligent data-driven services. In three regions of Germany – Hanover/Göttingen, Berlin, and Würzburg/Mainfranken – CAEHR will test digital solutions for better care of people with cardiovascular diseases over the next four years and further develop them for a nationwide use in the future.

The lack of communication at the interfaces of the treatment pathway leads to a loss of information and time. Standardization and digitalization of data enable the intersectoral provision of relevant information at the right place at the right time - and the use of this data for the development of clinical decision support systems, which should lead to a measurable improvement in health care.
(Source: © CAEHR-Consortium)

Prof. Dr. Udo Bavendiek, Clinical Leadership of CAEHR, Hannover Medical School (Source: © HiGHmed)

What are Digital Hubs?

The Digital Hubs, funded by the Federal Ministry of Education and Research (BMBF), aim to incorporate the pioneering work of the Medical Informatics Initiative (MII) on digitalization in medicine from university hospitals – initially in pilot projects – into all areas of the health care system: from outpatient care in the general practitioner's office to inpatient stays at local hospitals and care in rehabilitation and nursing facilities.

Use Cases

At the various points along the treatment pathway, healthcare providers often have incomplete access to patient data. CAEHR therefore, focuses on the flow of information between the different sectors of the health system by means of three use cases: The **use case "Emergency Stroke Care"** is dedicated to stroke patients and the interface between acute inpatient and emergency care. The **use case "Rehabilitation"** focuses on the interface between inpatient care and rehabilitation for patients after aortic valve replacement using catheter technology, and the **use case "Outpatient care"** focuses on the interface between inpatient and outpatient care for patients with chronic heart failure and coronary heart disease.

The resulting added value for the patients, the specialist staff involved, the scientists involved and the healthcare system as a whole is to be demonstrated in the three mentioned use cases.

Use Case 1: Emergency Stroke Care

This use case deals with optimized resource allocation. The relevant patient data already generated in the ambulance is to be transferred directly to the target hospital and the emergency physicians are to be supported by AI-supported systems in making time-critical therapy decisions.

Use Case 2: Rehabilitation after heart surgery

In this use case, individual rehabilitation services are developed. The documentation should be digital and no longer paper-based. In addition, the interprofessional planning of individual therapies is to be strengthened.

Use Case 3: Outpatient care for coronary heart disease

This use case aims to improve data interfaces through IT solutions. Wearable sensor technology should increasingly be used in the home environment. In addition, seamless documentation in diagnostics and therapy should contribute to strengthening prevention.

Project partners

The CAEHR project comprises of a total of 28 collaborative partners and consists of the following nine direct grant partners:

↗ University Medical Center Göttingen and Georg-August University Göttingen
↗ Hannover Medical School
↗ Charité – Universitätsmedizin Berlin
↗ University Hospital Würzburg
↗ Osnabrück University of Applied Sciences
↗ HiGHmed Association
↗ Vitasystems GmbH
↗ AOK Lower Saxony
↗ System Vertrieb Alexander GmbH

In addition, numerous other institutions from science and industry, as well as patient representatives are active partners in the CAEHR project. An overview can be found here: www.gesundheitsforschung-bmbf.de

Contact:
Prof. Dr. Dagmar Krefting
Head of the Digital Hub CAEHR
University Medical Center Göttingen
dagmar.krefting@med.uni-goettingen.de

Eva König
Press and Public Relations HiGHmed
communications@highmed.org