Aims

- Merging information systems from health care and research via Data Integration Centers (DIC)
- Demonstrating the effectiveness of Data Integration Centers (DIC) with three practical use cases
- Optimizing clinical studies through expanded research capabilities to generate new medical knowledge
- Further development and creation of education and training programs in the field of medical informatics
- Integrating new research findings into personalized medicine for patients

Consortium

Medical research based on the reuse, consolidation and analysis of medical data is increasingly enabling the development of new, improved treatment methods, pharmaceuticals and technologies. This is the starting point for the consortium Smart Medical Technology for Healthcare, or SMITH for short. SMITH uses innovative IT solutions to create the conditions for research and patient care coming closer together.

For this purpose, seven of the ten university hospitals participating in the SMITH Consortium are establishing Data Integration Centers (DIC). The goal of the generic infrastructure is to make data from routine care usable for medical research. This is done in close cooperation with the Universities of Aachen, Jena, and Leipzig, along with two non-university research institutions and four industrial partners.

The use of the results by further network partners is made possible via the SMITH Service Platform. SMITH is one of four consortia of the Medical Informatics Initiative (MII) funded by the German Federal Ministry of Education and Research (BMBF).

Use Cases

The Methodological Use Case

PhP – Phenotyping Pipeline supporting Clinical Evaluation Projects

In the methodological Use Case PhP, the consortium is developing innovative data analytic methods that automatically extract medical information from electronic patient records. Evaluation projects and calculations on the existing data lead to continually growing patient-related information. Clinical research and patient care can be optimized in the long term, thanks to the rich data stock.

The Clinical Use Cases

ASIC – Algorithmic Surveillance in Intensive Care

With the ASIC Use Case, SMITH promotes the improvement of patient care through the use of available clinical routine data. This is demonstrated by the example of the treatment of patients with Acute Respiratory Distress Syndrome (ARDS), a disease that currently still causes the death of around 40 percent of all affected patients. The ASIC App developed for this purpose serves as an early warning system by alerting healthcare professionals to potential ARDS.

HELP – Guideline-based Use of Antibiotics in Infectious Medicine

The HELP Use Case thematizes the guideline-compliant use of antibiotics for the targeted control of certain bacterial infections. The focus is on supporting infectiology by means of the HELP App. This provides medical staff with rapid information for a responsible antibiotic therapy of staphylococcal bloodstream infections.

SMITH Added Value

For the researcher
Cross-site, secure access to research-relevant data and algorithms via the SMITH Service Platform

For the patient
Improvement and personalization of diagnostics and therapy

For the medical scientist
Decision support for individualized patient care

For the life science industry
Innovation through effective research collaborations

More information: www.smith.care