
Deutsches Institut für Telemedizin und Gesundheitsförderung (DITG) develops and implements health management programs for health insurance companies, pharmaceutical companies and organizations with an internal health management system. These programs typically aim to improve the participants’ quality of life while at the same time reducing health care spending.

On behalf of DITG, SYMILA, the Fraunhofer Application Center powered by Fraunhofer FIT developed and implemented a teleremote portal for monitoring type 2 diabetes patients and for advising them on health-related problems. The participants in the program are given a set of teleremote devices like blood glucose meter, electronic balance and pedometer, whose data are collected in the portal in real time. Here they are converted to easy-to-understand charts that are available to the participants and to the coaches from DITG. When a critical parameter exceeds a pre-defined threshold, the portal sends an automatic warning. It allows the coach to intervene as appropriate and avoid situations that might pose a risk to the patient. Thus the patient learns how to deal with her specific condition with a minimum loss of quality of life.

The portal is based on a modular, open systems architecture with flexible interfaces. Thus it can easily be extended to cater for other medical conditions, e.g. cardiac insufficiency or COPD.

This portal was developed by Fraunhofer FIT and is now operated in a computer center of its own, in order to satisfy the requirements for data availability and data security.
“Keeping patients in control of their own data is a very important aim for us. The DITG system demonstrates convincingly how medical data can be shared securely and efficiently between patient, physician, clinic and other stakeholders”, explains Prof. Harald Mathis, head of both the Biomolecular Optical Systems group (BioMOS) of the Fraunhofer Institute for Applied Information Technology FIT and SYMILA, the Fraunhofer Application Center at Hamm-Lippstadt.

The DITG system is based on the concept of “Medical Data Space (MedDS)” put forward by the Fraunhofer initiative “Industrial Data Space (IDS)” and it already satisfies a large number of the MedDS requirements. The Medical Data Space is a virtual data space that supports sharing and aggregating medical and health-related data from different sources, based on standards and shared models of governance. The MedDS concept aims to improve the quality of diagnostics, prevention and therapy as well as therapy monitoring.

The DITG system demoed by Fraunhofer FIT at MEDICA 2016 meets the important challenge of protecting the patients’ rights concerning their data. In line with the ideal of preventive, personalized, precise and participatory health care (4p medicine), data is accessed using appropriate security mechanisms. Access rights of the different users – patient, next of kin, DITG coaches, physicians involved etc. – are defined by a mapping of users and roles implemented in the system. All the data collected are stored and deleted as required by the compulsory periods of record-keeping.

Meet the experts from Fraunhofer FIT at MEDICA in Düsseldorf, November 14 – 17, 2016, booth 10 / G05.

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