EMPOWER

salzburgresearch

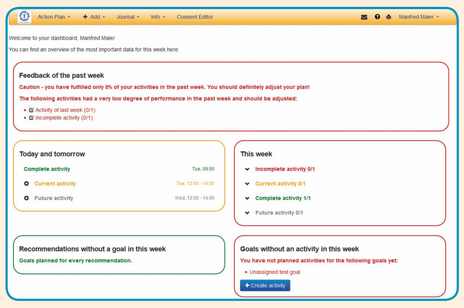
Patient-Empowerment Services for Diabetes Self-Management

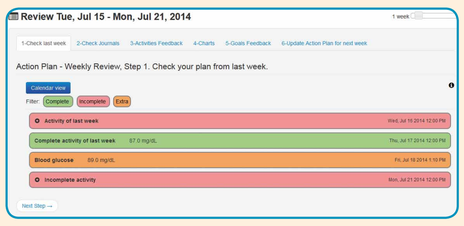
EMPOWER is a modular and standard-based Patient Empowerment Framework which facilitates the self-management of diabetes patients and provides services for:

- the specification and execution of actions to change behaviour according to diabetes-specific health care needs
- monitoring of Observations of Daily Living (ODLs) such as vital, physical, mental parameters, physical and lifestyle activities based on health standards
- the specification and communication of recommendations from medical professionals to patients based on standardised guidelines

EMPOWER Components:

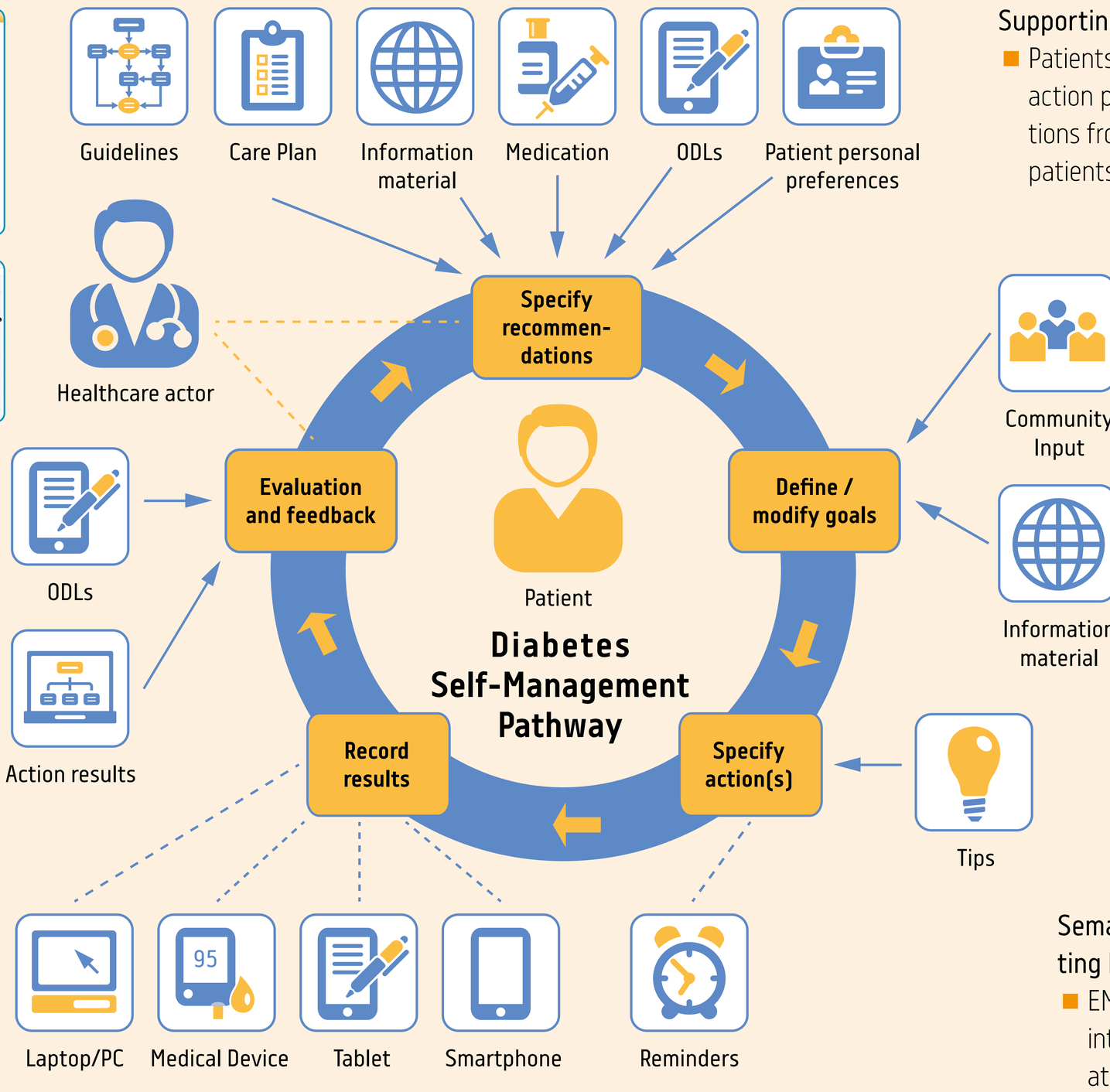
- Decision Support Component for Medical Professionals
- Self-Management Patient Pathway for planning and feedback
- Personal Health Applications for collecting ODLs
- Consent Management to ensure Secure Communication and Access
- Reporting and Visualisation for Patients and Medical Professionals





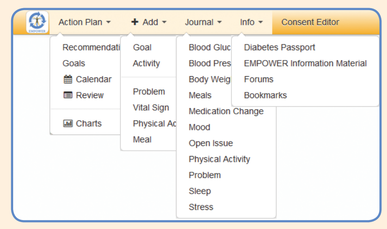
ODLs

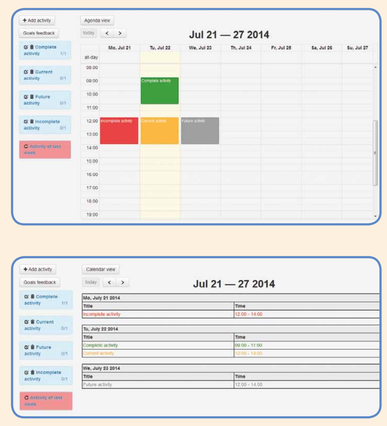
- Blood Glucose
- Blood Pressure
- Body Weight
- Meals
- Physical Activities
- Medication Compliance
- Medication Changes
- Mood
- Problems
- Sleep
- Stress
- Open Issues

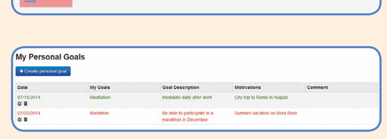


Supporting behaviour changes

- Patients can develop personalised action plans that include recommendations from the treating physicians and patients' preferences.

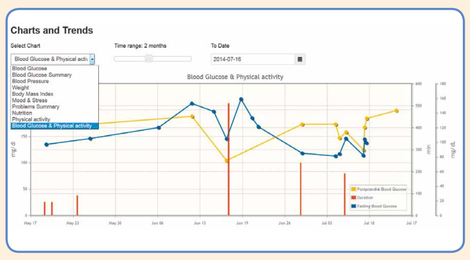




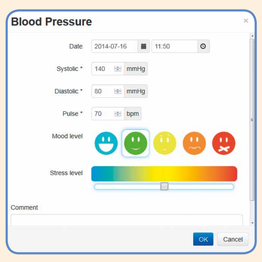


Semantic interoperability with existing Personal Health Applications

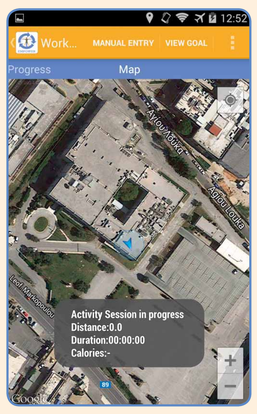
- EMPOWER is based on established interoperability standards aiming at integration with existing Personal Health solutions.

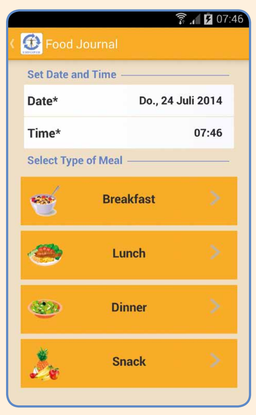


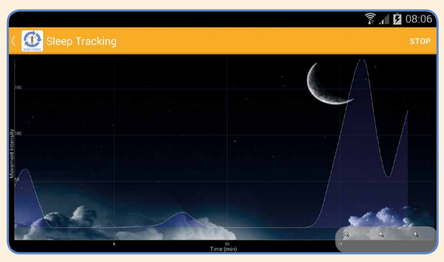
Visualisation of ODL Data



Webforms for editing ODLs







Mobile App for collecting ODLs

EMPOWER semantically integrates heterogeneous information sources (patient records, diabetes guidelines, patterns of daily living) for a shared knowledge model. The Self-Management Pathways facilitate the specification of recommendations that allow creation of individual goals for the patient. Derived from these goals and other personal preferences patients can plan their individual diabetes-specific actions. Recommendations, goals and actions can be further adapted situation-based.

EMPOWER was evaluated in two pilot applications, in Germany and in Turkey from August 2014 – January 2015. 21 persons participated in Germany and 39 in Turkey. The validation framework was built on the methodology of the "Model for Assessment of Telemedicine" (MAST). The evaluation was performed quantitatively by means of standardized online questionnaires, which were based on validated instruments, e.g. the System Usability Scale (SUS), the Technology Acceptance Model (TAM) and the Spreitzer's Empowerment Scale.

Contact: Manuela Plößnig | Salzburg Research Forschungsgesellschaft mbH
E-mail: manuela.ploessnig@salzburgresearch.at | Website: www.empower-fp7.eu
Authors: Manuela Plößnig, Yildiray Kabak, Ilias Lamprinos, Alexander Pabst, Claudia Hildebrand and Sarah Mantwill

Partners: Salzburg Research Forschungsgesellschaft m.b.H. (coordinator, Austria), Helmholtz Zentrum München (Germany), GO IN Integrationsmanagement- und Beteiligungs-GmbH (Germany), Università della Svizzera italiana (Switzerland), Software Research and Development and Consultancy Ltd. (Turkey), Intracom Telecom (Greece), Ministry of Health (Turkey)

The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement No 288209, EMPOWER Project