

Implementation of a telemetric smartphone application for improved surveillance of hemophilia home treatment

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Background

Documentation of hemophilia home treatment is usually done by analysis of paper based substitution calendars. Transferring the written entries into a database is time consuming and bears the possibility of errors. Bleeding or treatment problems are often identified months later than they occur following regular patient consultations.

In contrast, telemetric tools allow real-time surveillance of treatment and bleeding episodes as well as automated online analysis of these data.

Method

An electronic handheld, Haemoassist™ was tested within a cohort of approximately 100 patients during the last 5 years. Based on these experiences, a smartphone application was developed based on one of the leading smartphone operating systems (Google's Android). It consists of three components:

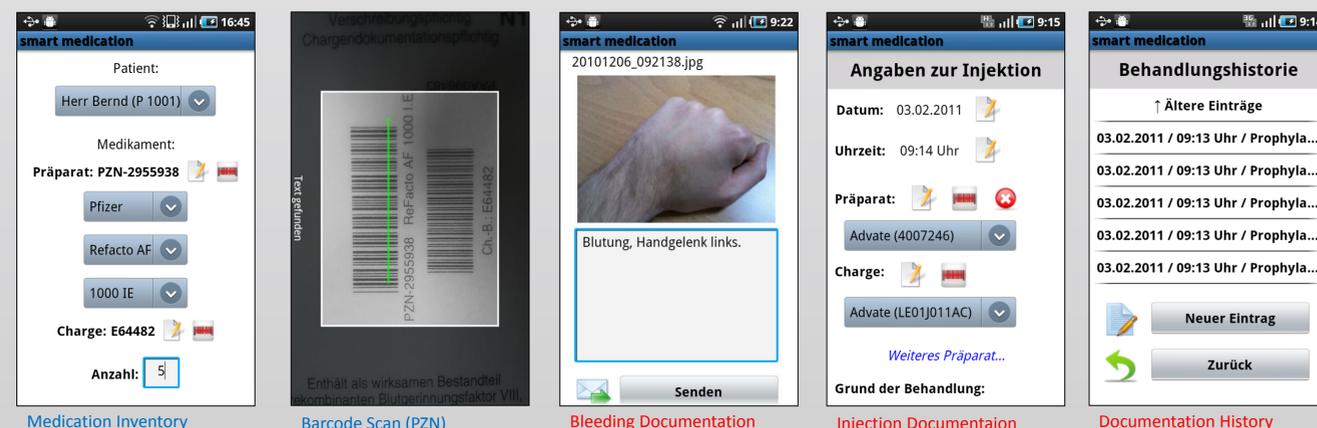
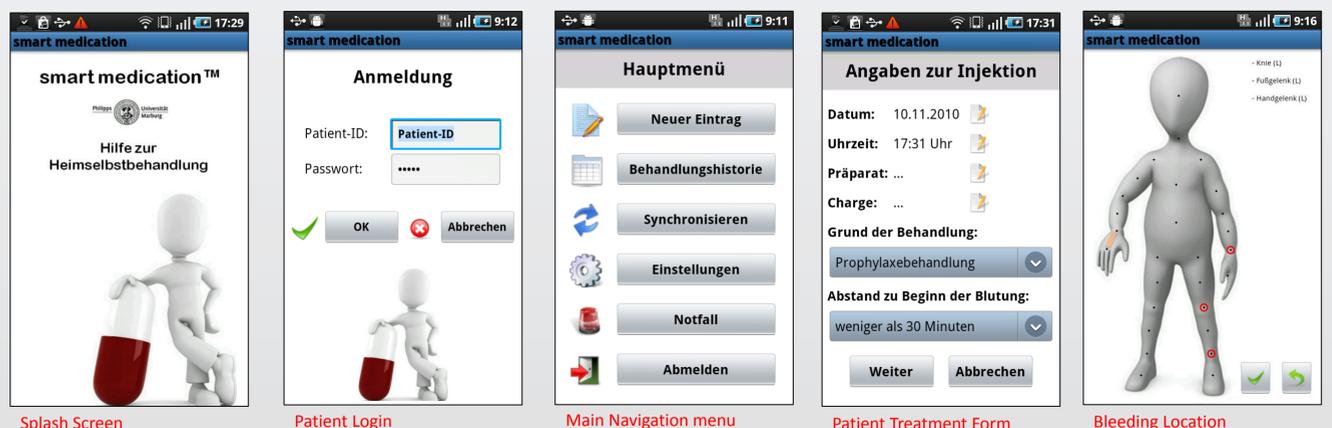
- 1 - Patient's App
- 2 - Medical Centre's App
- 3 - Medical Centre's Website

Summary

We hereby introduce a smartphone application for documentation of treatment and bleeding episodes and easy medication management. Online surveillance in hemophilia home care will allow early identification of current treatment and bleeding problems as well as the development possible target joints.

1 - Patient's App

A patient based smartphone for patient entry of treatment and bleeding data. It can also be used as emergency phone and for sending written messages or photographs. Unusual bleeding or treatment patterns generate immediate alert messages to the hemophilia center.

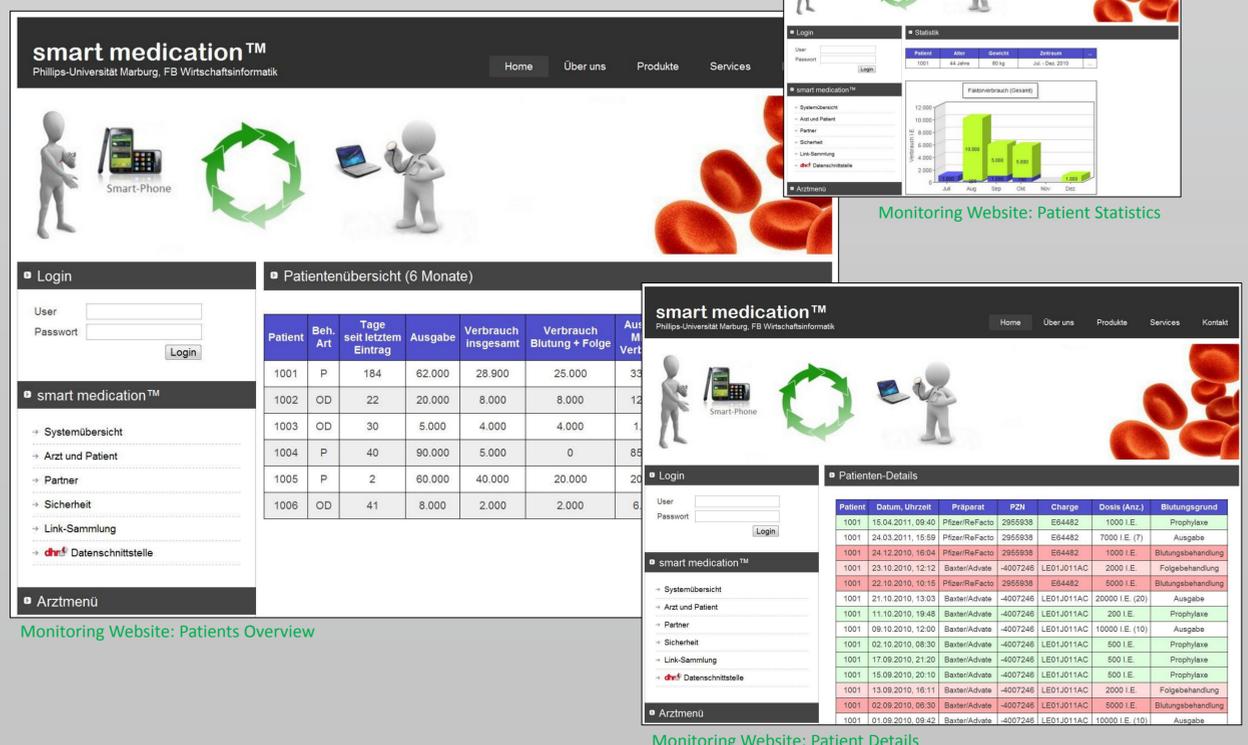


2 - Medical Centre's App

A smartphone at the hemophilia center for easy medication management. Concentrates given to the patient are assigned to the patient's electronic file allowing early identification of out-of-stock or non-documentation problems.

3 - Medical Centre's Website

A website at the hemophilia center for rapid and online surveillance of treatment data, bleeding episodes and medication management. Own data can be compared to pooled data of all other centers for benchmarking purpose. Long term data collections enable identification of possible target joints at an early stage.



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