

Smartphone app helps mentally ill persons

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"On top of the world, or in the depths of despair" describes what doctors denote as Bipolar Disorder. Patients' moods change between episodes of depression and mania. The Cluster of Excellence "Cognitive Interaction Technology" (CITEC) at Bielefeld University presents an application at the world's largest medical fair "Medica" in Düsseldorf, Germany, from 14 to 17 November: Smartphone-embedded sensors monitor mood changes in Bipolar Disorder patients and send data to the consulting doctors.

The presentation is part of the common booth of the State Government of North-Rhine Westphalia, Germany (Hall 3, booth D81).

The number of smartphone users is rapidly increasing – and most users constantly carry their phones along. Scientists at the EU-funded project "Monarca" exploit this recent development. Monarca stands for "Monitoring, treatment and prediction of Bipolar Disorder episodes". A smartphone is at the core of the Monarca system. Its sensors monitor objective [behavioral measures](#), for example, excessive movements or telephone calls indicating a manic episode. In addition, the device continuously records physiological measures. A web-based interface merges and visualizes this data. The consulting doctors can access it at any time and take action when the patient's condition deteriorates.

Furthermore, smartphone-based monitoring provides significantly more data for individual therapy than [conventional treatments](#). Thus, medication can better be adjusted resulting in reduced medication levels for patients. This also reduces [health care costs](#). Monarca is compatible

with standard Hospital Information Systems (HIS) and thus integrates with existing medical workflows. The Monarca system aims at improving the diagnosis and therapy of Bipolar Disorder and related [mental disorders](#). Long-term clinical trials for system evaluation are currently being conducted at the sites of the clinical project partners, Tiroler Landeskrankenanstalten in Innsbruck and Rigshospitalet in Copenhagen.

Provided by University of Bielefeld

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