Researchers introduce an electronic patient health monitoring platform

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Credit: DrBox

Health services throughout the world strive to maintain population care often through the prescription of medications. To reduce drug-associated patient morbidity and mortality, there is a need for a therapeutics management programme that monitors drug efficacy and patient compliance.

Medications are often accompanied by undesirable outcomes such as adverse drug reactions and drug-drug interactions. These lead to poor patient experience and quality of life with obvious socioeconomic consequences. Numerous studies also report the failure of prescription drug use and its negative effect on patient health, emphasising the potential to avoid such complications.

An electronic patient health monitoring platform

To prevent medication-related hospital admissions, the EU-funded DrBox initiative developed an integrated eHealth management tool. "Our goal was to integrate a vast array of medical information including medication, symptomatology, and clinical test results on an online platform shared with and accessible by healthcare professionals anywhere in the world," explains project coordinator Flavio Maia.

Working closely with software developers, chemists, medical doctors and patients, Farmacia Saude LDA in Portugal have developed a web platform as well as a mobile application capable of providing real-time data on patient status and their health evolution. The platform can store information from health check-ups, treatments for diseases, blood glucose levels and blood pressure, to name a few. It also provides patients with the opportunity to renew regular drug prescriptions. At present, DrBox is being tested in 3 pharmacies and 1 nursing home, with a total of 70 000 registered users.

Maia reveals that the feedback from patients has been very positive and they are currently working on new DrBox functionalities. The aim is for DrBox to integrate data from existing and future hospital information systems, wearables, and sensors.

The advantages of the DrBox platform

DrBox constitutes a significant step towards personalised medicine as it allows professionals to make evidence-based treatment decisions using efficacy information on existing methodologies. At the same time, the accessibility of individual patient data enables adjustments on treatment protocols, thereby decreasing associated health problems and co-morbidities. "In essence we have achieved an integrated online health

data record, which allows the creation of real-time alerts of a patient's health status, rapid intervention of health professionals and adjustment of medication," continues Maia.

At the same time, the DrBox platform assists the interaction between healthcare professionals in treating a particular patient. Follow up of patients will be made easier allowing for prompt intervention while avoiding the duplication of tests.

There is a market opportunity to improve the capacity of a pharmacist to provide care. The DrBox platform provides for the first time a therapeutics management tool that can be used by pharmacies and nursing homes to obtain in real time the epidemiological information needed to make clinical decisions.

Patient data can also be used for epidemiological purposes to validate the efficacy of specific clinical practices and provide feedback to the pharmaceutical industry on the effectiveness of certain drugs. The long-term plan is to integrate DrBox into national pharmacovigilance networks and generate real-time information on drug safety.

In view of the future, Maia is confident that "with DrBox we will be able to save lives and resources, as well as increase the speed of procedures that involve users' health." Undoubtedly, monitoring patient compliance with treatment and maintaining patient health records will help minimise high healthcare expenses and improve patient care.

Provided by CORDIS

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