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Implementation of Pharmacogentics in clinical practice – The U-PGx project

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Today, we are facing a paradigm shift in the way we manage and treat patients with complex diseases. The days of the "blockbuster drug" and treatment selection based on trial-and-error are rapidly coming to an end and pharmacogenetics (PGx) is starting to enter routine clinical practice. Implementing pharmacogenomics in the clinic, however, is not without its challenges. The Ubiquitous Pharmacogenomics consortium (U-PGx) will address major challenges and obstacles for implementation of PGx testing in patient care, taking into account the diversity of healthcare systems and citizens across Europe. Specifically, U-PGx will investigate if the emerging approach of pre-emptive genotyping of an entire panel of important PGx markers is cost-effective and results in a better outcome for patients. With the pre-emptive PGx testing approach data on multiple important pharmacogenes are collected prospectively and embedded into the patients' electronic record. Typically, it alerts prescribers and pharmacists through electronic clinical decision support systems when a drug is ordered or dispensed for a patient with an at-risk genotype. The new model of personalised medicine through pre-emptive PGx-testing is tested at a large scale in seven existing European health care environments (The Netherlands, Spain, UK, Italy, Austria, Greece, Slovenia).