THE STUDY

The U-PGx consortium 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.

Objective:
To investigate a pre-emptive genotyping approach of a panel of PGx variants covering 13 important pharmacogenes as a new model of personalized medicine.

Design:
Open randomized cross-over trial will be conducted in 7 European countries including 8,100 patients.

Outcomes:

Primary	Clinical outcome
Secondary	Cost effectiveness analysis Patient-reported outcomes

COUNTRIES PARTICIPATING IN THE STUDY

The Netherlands
Spain, Austria
Greece, Slovenia
UK, Italy

THE U-PGx CONSORTIUM

University of Liverpool · KNMP · Karolinska Institutet · The GoldenHelix Foundation
bio-logis genetic information management · Medical University of Vienna · Univerza v Ljubljani · Uppsala Universitet
Servicio Andaluz de Salud Consejería de Salud · CRO Aviano · IKP Stuttgart · University of Patras
LUMC Leiden University Medical Center · BfArM Federal Institute for Drugs and Medical Devices · Université Toulouse III Paul Sabatier · Ziekenhuis St Antonius

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HORIZON 2020
THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

WE WANT TO MAKE EFFECTIVE TREATMENT OPTIMIZATION ACCESSIBLE TO EVERY EUROPEAN CITIZEN

U-PGx | Ubiquitous Pharmacogenomics

ACCESSIBILITY TO EFFECTIVE PERSONALIZED DRUG TREATMENT BY EVERYONE

Every patient is different, and so is their response to certain drugs. While a certain medication might show good efficacy in one person without causing any adverse drug events, another patient might experience insufficient efficacy or adverse reactions when taking the same drug. These differences in drug response are partly attributable to individual genetic differences, **so-called 'pharmacogenomic (PGx) variants'**. Testing patients for these PGx variants allows healthcare providers to provide their patients with a more **personalized** drug therapy, ultimately helping to increase the efficacy and safety of medical treatments.

OUR GOAL

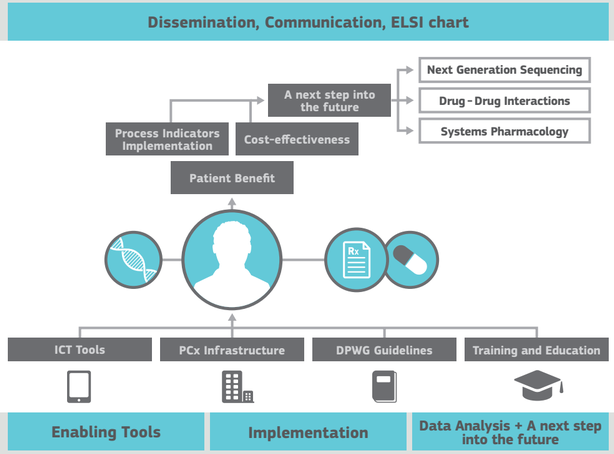
The goal of the U-PGx Consortium is to show that testing patients pre-emptively for an entire panel of clinically relevant PGx markers will result in an overall reduction in the number of clinically relevant drug-genotype associated adverse drug reactions. **Pre-emptive testing** means that the testing is performed before a certain drug is prescribed. This means that the results can be used by your physician or pharmacist to select the correct drug or dose for you. Furthermore, the cost-effectiveness of testing patients for an entire panel of relevant markers will be evaluated.

OUR METHODOLOGY

Within 3 years, starting from January 1st, 2017, 8,100 patients will be pre-emptively tested for more than 40 clinically relevant PGx markers across 13 important pharmacogenes. For 4,050 patients assigned to the study group, their test results will be used by their healthcare providers to guide the dose and drug selection for over 40 commonly prescribed drugs. The other half of patients assigned to the control group will receive standard of care during the study period but will be provided with their test results after the study ends. Data on therapy outcome and other parameters collected during the study period will be analyzed by the end of the project in 2020.

UNIQUENESS OF THE U-PGx PROJECT

Apart from being the first European study focusing on **pre-emptive PGx testing** to gain immediate knowledge of relevant PGx variation with interpretation and recommendations, **without any disruption of routine clinical care**, U-PGx is the only project worldwide that measures **cost-effectiveness as a secondary outcome**, providing essential insights for guiding different healthcare systems, policy makers and national stakeholders in strategies for **implementation and reimbursement of PGx testing.**



OUR FOCUS

- Sharing European Pharmacogenomics guidelines
- Implementing pre-emptive pharmacogenomics
- Developing a clinical decision support system and novel pharmacogenomics methodologies
- Providing training and education to involved healthcare providers
- Outreaching to patients and the general public