Establishing multi-lingual, multi-modal pharmacogenomic decision support across seven European countries

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Clinical pharmacogenomics (PGx) has the potential to make pharmacotherapy safer and more effective by utilizing genetic patient data for drug dosing and selection. However, widespread adoption of PGx depends on its successful integration into routine clinical care through clinical decision support (CDS) tools, which is often hampered by insufficient or fragmented infrastructures. We present the setup and implementation of a unique multimodal, multilingual CDS intervention consisting of digital, paper- and mobile-based tools that are deployed across implementation sites in seven European countries participating in the Ubiquitous Pharmacogenomics (U-PGx) project.

UPGx project outline

Project start: January 2016 ▪ **Total duration:** 5 years ▪ **Budget:** 15 million Euros from the Horizon 2020 EU research programme

Clinical study

7 European countries ▪ More than 15 clinical sites ▪ 8,100 patients will be pre-emptively tested for more than **48 clinically relevant PGx markers** across **13 important pharmacogenes.**

Challenge

To establish a **consistent PGx decision support intervention** across all participating sites despite **immense differences** in existing health IT infrastructures, ranging from the availability of sophisticated and well-integrated electronic health record (EHR) systems to complete absence of any such infrastructure.

We developed a set of complementary PGx decision support tools that can be deployed in the presence or absence of an electronic health record infrastructure, allowing each clinical site to chose the delivery mode that best fits their infrastructure, workflow and requirements.

PGx decision support tools in U-PGx

Inside the EHR

Automatic alerts

Digital reports

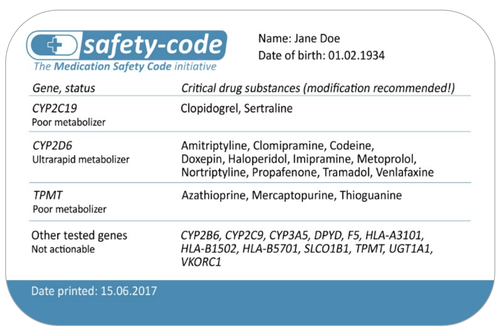
Outside the EHR

Paper-based reports

‚Safety-code' card

Safety-code card and PGx report

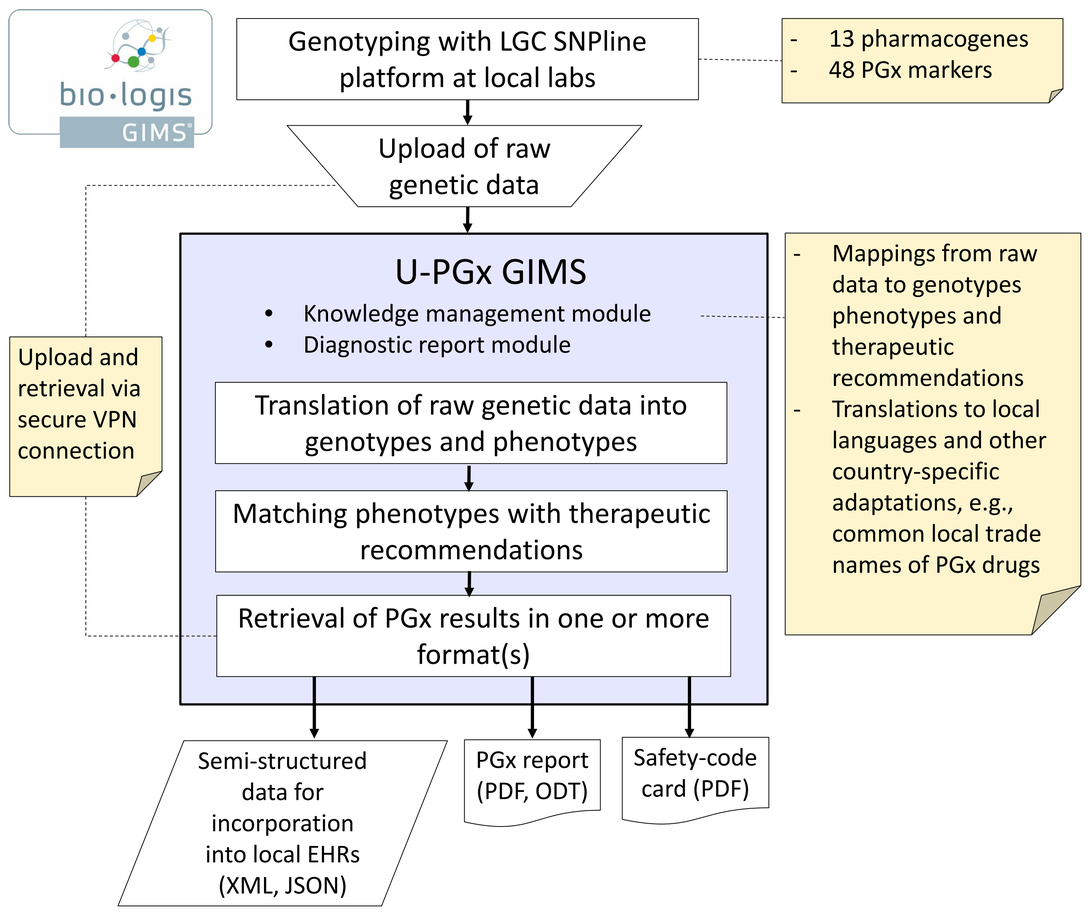
The 'safety-code' card allows for the retrieval of patient-specific PGx dosing recommendations via a smartphone or tablet.



Try it for yourself: Scan the QR code to view an exemplary PGx report for the fictional patient Jane Doe.

U-PGx knowledgebase and data flow

The U-PGx Genetic Information Management System (GIMS) encompasses a centralized knowledge base and provides a secure pipeline for uploading genetic samples and retrieving PGx test results and individualized recommendations.



Interested in deploying our PGx decision support tools at your institution?

If you are interested in deploying our decision support tools to advance the implementation of pharmacogenomics at your institution, please do not hesitate to contact us:

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Fore more information, please also visit:

U-PGx project: http://www.upgx.eu
Safety-code system: http://www.safety-code.org

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