EURICE
EUROPEAN RESEARCH AND PROJECT OFFICE GMBH

# Factsheet

SAFEPOLYMED

**ACRONYM** SafePolyMed

**FULL TITLE** Improve Safety in Polymedication by Managing Drug-Drug-Gene Interactions

**PROGRAMME** Horizon Europe RIA / HORIZON-HLTH-2021-CARE-05-01 - Enhancing quality of care and patient safety

**CONTRACT NUMBER** 101057639

**ABSTRACT** Polypharmacy, multimorbidity and genetic heterogeneity can affect drug efficacy, raise the risk for adverse drug reactions (ADRs) and increase healthcare costs. ADRs are among the leading causes of death in developed countries and a major cause of hospitalization. Drug-drug interactions (DDIs) and drug-gene interactions (DGIs) are highly interconnected and require a holistic approach to improve safety of our citizens. However, investigations on real-life drug-drug-gene interactions (DDGIs) in clinical trials are unfeasible due to combinatorial explosion, high costs and ethical concerns. Hence, significant knowledge gaps exist. Furthermore, the lack of participation in managing their conditions might be excessively demanding for polymedicated and multimorbid citizens. SafePolyMed will develop a novel and innovative framework to define, assess and manage DDGIs for physicians and individual patients resulting in education and empowerment of citizens as well as in reduced healthcare costs by improving patient safety. The main objectives of SafePolyMed are (1) development of a novel, evidence-based risk scoring system using machine learning on large real-world datasets to identify patients at risk; (2) identification and validation of patient reported outcome measures for multifactorial patient safety in collaboration with European patient organizations; (3) development of an electronic tool to empower patients by allowing them to properly manage their therapies, check for and educate about DD(G)Is and collect their patient reported outcomes; (4) mathematical modelling of clinically relevant compounds to derive individualized dose adaptations for safe and effective dose regimens in case of DDGIs, accessible via a web-based decision support system with tailored information for either citizens or physicians and (5) validation of

the developed safety tools in a proof-of-principle study including representative patient cohorts from different European clinical sites.

**DURATION** 42 months (01/06/2022 - 30/11/2025)

**PROJECT FUNDING** 5,650,442.81 €

**COORDINATOR**

Prof. Dr. Thorsten Lehr
Klinische Pharmazie
Universität des Saarlandes
Campus C5 3, Zimmer 307
66123 Saarbrücken
T: +49/681/302-70255
F: +49/681/302-70258

**PARTNERS**

- UNIVERSITAT DES SAARLANDES, Germany
- FRAUNHOFER GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG EV, Germany
- UNIVERSITAETSKLINIKUM AACHEN, Germany
- IDRYMA TECHNOLOGIAS KAI EREVNAS, Greece
- TARTU ULIKOOL, Estonia
- ACADEMISCH ZIEKENHUIS LEIDEN, The Netherlands
- EURICE – EUROPEAN RESEARCH AND PROJECT OFFICE GMBH, Germany
- LEUKANET EV, Germany
- UNIVERZA V LJUBLJANI, Slovenia
- PANEPISTIMIO PATRON, Greece
- HELSINGIN YLIOPISTO, Finland
- GOSPODAR ZDRAVJA, Slovenia

**CONTACT AT EURICE**

Klara Schneider
Project Manager
Heinrich-Hertz-Allee 1
66386 St. Ingbert
Germany
Phone: +49 6894 3881313

**WEBSITE** www.safepolymed.eu

EURICE
EUROPEAN RESEARCH AND PROJECT OFFICE GMBH