

EPTRI Belgian Joint Research Unit: harmonisation and concertation of paediatric research in Belgium to ensure better and safer healthcare for children

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INTRODUCTION

- Minors represent **20% of the population** of Europe
- Their **care** should be one of the most important **priorities**
- Paediatricians often give drugs designed for adults to children in an **'off-label' prescription** in 50% up to 90% of cases depending on disease and age
- Children often do not respond to medications in the same way as adults and can have different and more serious **drug adverse reactions**
- To address this societal need, we need to develop **medications specifically designed and approved for children**
- The European Paediatric Translational Research Infrastructure (EPTRI) Belgian Joint Research Unit (JRU) (Figure 1) will create a new research infrastructure entirely dedicated to **translational paediatric research** and aims to stimulate and accelerate **innovative drug development processes** for children

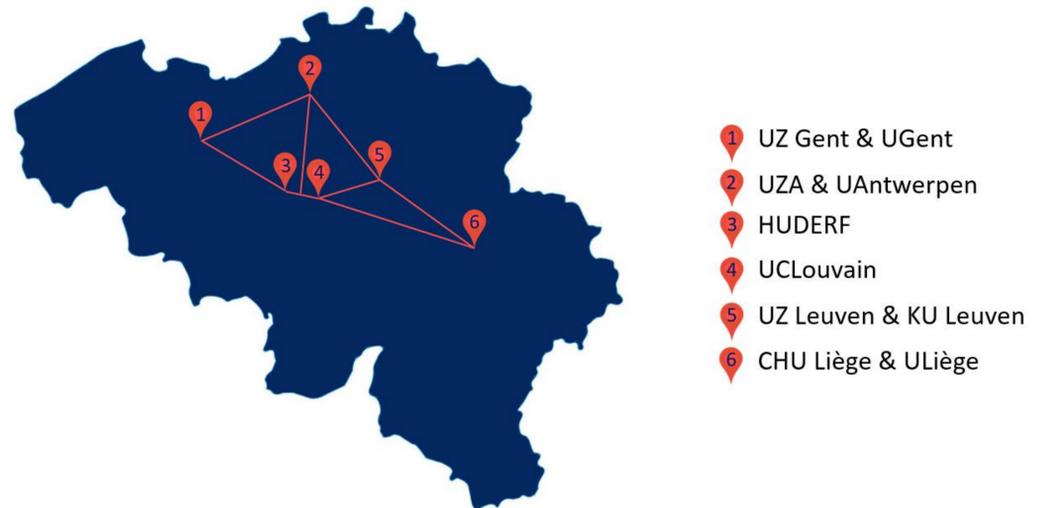
METHODS

The Belgian JRU partners will gather complementary scientific and technological competencies in the different EPTRI **thematic research platforms**:

- **Paediatric medicines discovery**: several preclinical models have been developed within this consortium: placental and umbilical cord and 3D organoid cell cultures from paediatric samples; juvenile animal models such as the rabbit BPD model, juvenile Göttingen minipig, juvenile conventional pig model and developmental zebrafish model
- **Paediatric biomarkers and biosamples**: identification, characterisation and validation of biomarkers used as prognostic tools, safety markers and diagnostic tools in paediatric diseases
- **Developmental pharmacology**: including PK bioavailability/bioequivalence studies, population PK/PD analysis and PK/PD modelling
- **Paediatric medicines formulations and medical devices**: including regulatory knowledge

The partners will ensure a strong liaison with other RIs and networks such as the **BBMRI-ERIC** for paediatric biobanking, the IMI **conect4children** network for paediatric clinical trials and the Belgian Paediatric Clinical Research Network (**BPCRn**)

FIGURE 1



The **Belgian national EPTRI Joint Research Unit (JRU)** involves academic research organisations and hospitals from Flanders, Brussels and Wallonia

GOALS

- We propose an **integrated paediatric research system** that links together EPTRI Belgium with landmark RIs, conect4children, the BPCRn and institutions that provide services to paediatric research
- This integrated system can provide: **expertise, experienced facilities and practical support** for pre-clinical and clinical paediatric research in Belgium and Europe. To share the understanding of patients' needs and concerted efforts in paediatric research will further enhance the health of children
- The overarching goal of EPTRI Belgian JRU is to create a **framework** for basic and **translational paediatric research** to **facilitate the development of new innovative medicines for children**
- EPTRI Belgian JRU has the goal to move to a new approach characterized by medicines **specifically designed to address the needs of children** and to reduce the existing gap on **medicines availability** for babies, children and adolescents