SwissPK; cdw; - A clinical data warehouse for the optimization of pediatric dosing regimens.

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

ID 4634827
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Year 2021

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Journal CPT: pharmacometrics & systems pharmacology

Pages / **Article-Number** 1578-1587
Clinical trials have been performed mainly in adults and accordingly the necessary information is lacking for pediatric patients, especially regarding dosage recommendation for approved drugs. This gap in information could be filled with results from pharmacokinetic (PK) modeling, based on data collected in daily clinical routine. In order to make this data accessible and usable for research, the Swiss Pharmacokinetics Clinical Data Warehouse (SwissPK; cdw;) project has been set up, including a clinical data warehouse (CDW) and the regulatory framework for data transfer and use within. Embedded into the secure BioMedIT network, the CDW can connect to various data providers and researchers in order to collaborate on the data securely. Due to its modularity, partially containerized deployment and open-source software, each of the components can be extended, modified, and re-used for similar projects that require integrated data management, data analysis, and web tools in a secure scientific data and information technology (IT) environment. Here, we describe a collaborative and interprofessional effort to implement the aforementioned infrastructure between several partners from medical health care and academia. Furthermore, we describe a real-world use case where blood samples from pediatric patients were analyzed for the presence of genetic polymorphisms and the results were aggregated and further analyzed together with the health-related patient data in the SwissPK; cdw; .

ISSN/ISBN 2163-8306

Full Text on edoc ;

Digital Object Identifier DOI 10.1002/psp4.12723

PubMed ID http://www.ncbi.nlm.nih.gov/pubmed/34729953