Individualized drug therapy in vulnerable patients

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Project description: We explore the mechanisms defining the dose response in vulnerable patient populations, e.g. pediatric and intensive care patients using pharmacometric methods. Medicinal products studied during this project are among the ones with the highest needs for research in the pediatric intensive care. The results obtained with our project will help to find safer drug dosing regimens in these delicate patient populations. This research project consists of four work packages exploring the development and maturation of pharmacokinetics and –dynamics in neonates and young children. Clinical records and drug concentration data are used to build up PK-PD models for drugs used in pediatric intensive care to describe the development and maturation of pharmacokinetics and –dynamics in neonates and young children. Population models are further refined using previously published information, genomic profiling and simulations. Finally, clinically relevant subgroups are recognized to predict adequate dosing regimens for neonatal populations using clinical trial simulations.

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