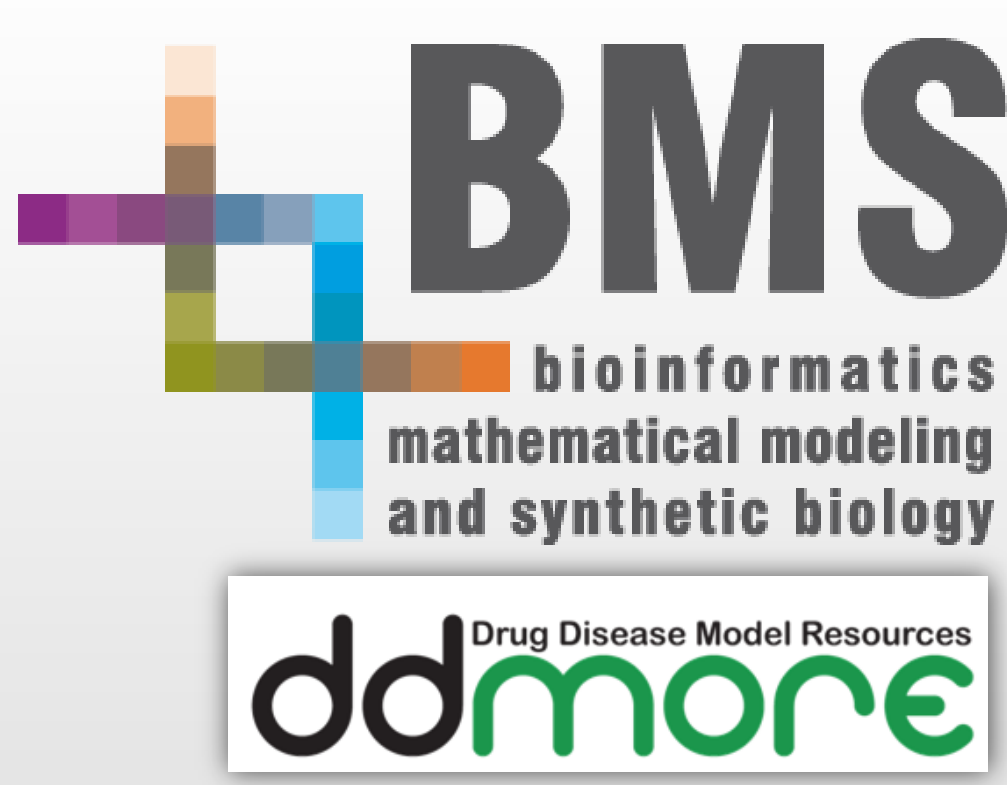


Automatic translation of Bayesian pharmacometric models: the PharmML-to-WinBugs converter

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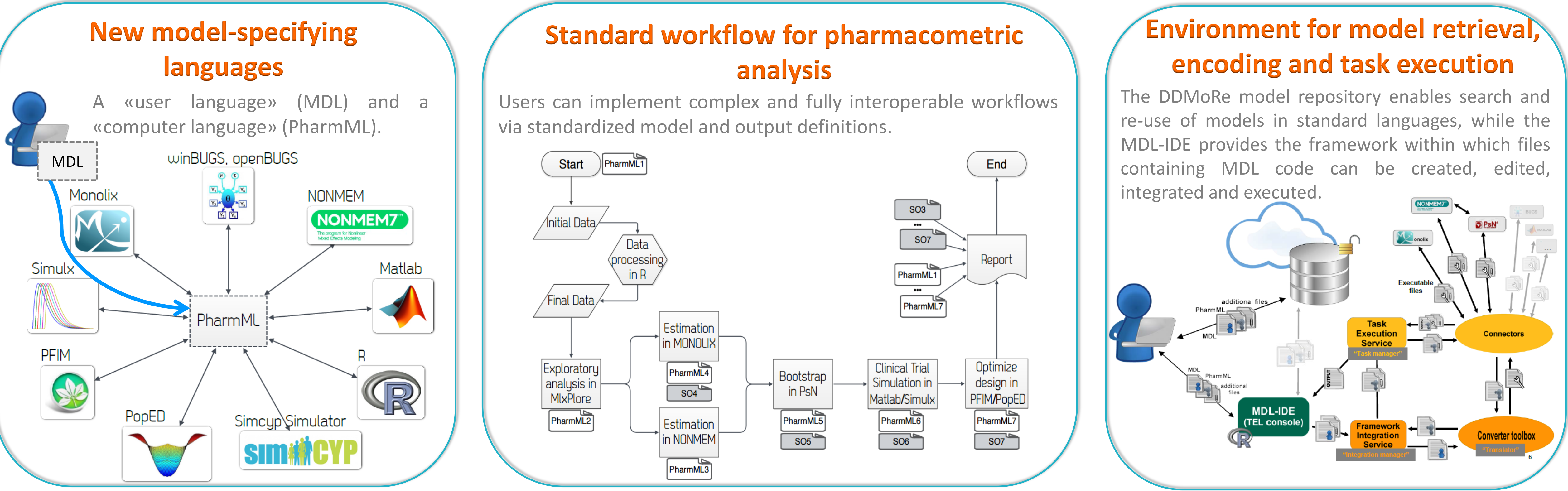


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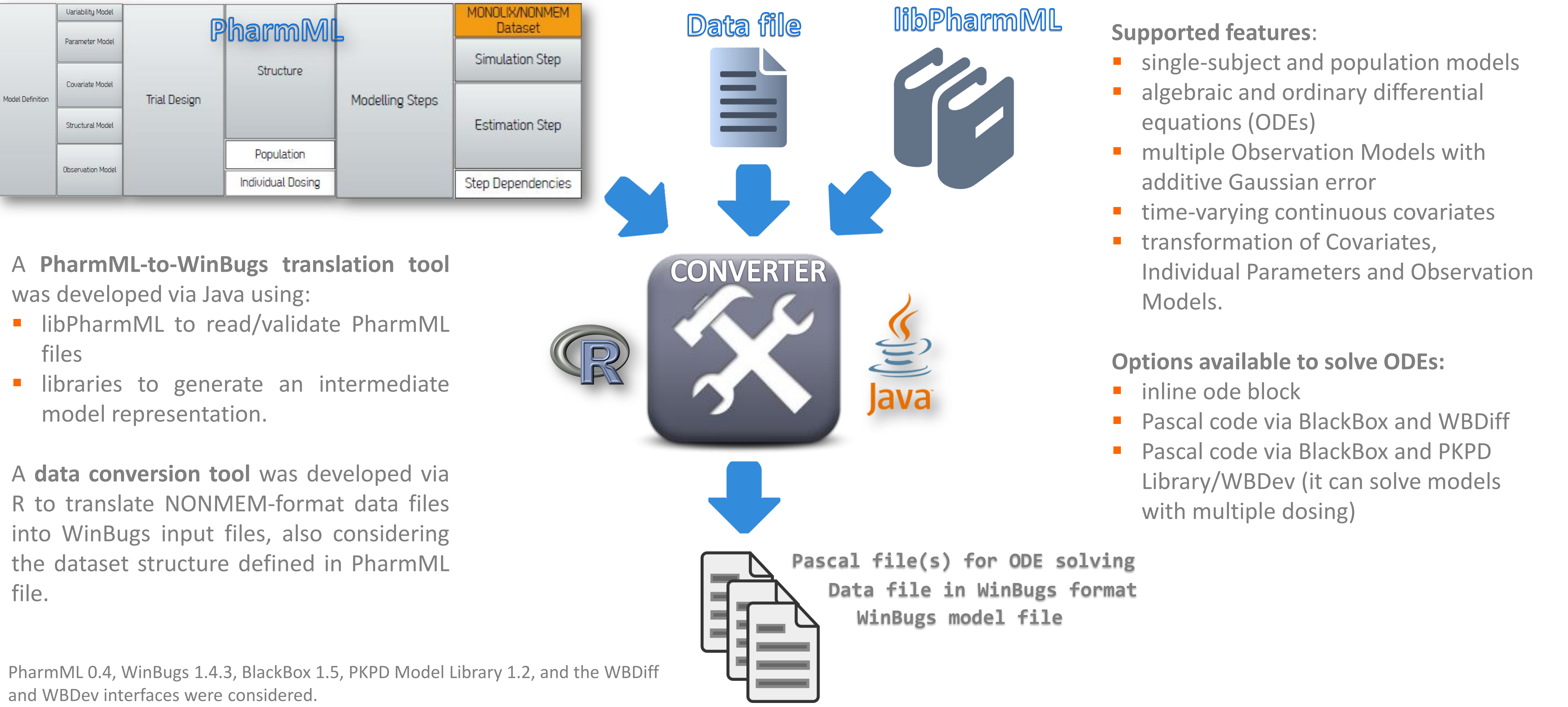
BACKGROUND. PharmML is a markup language for pharmacometric models description, under development by the DDMoRe consortium, that will enable the tool-independent formulation, exchange and integration of models and tasks [1]. The Modelling Description Language (MDL), also under development, is a human-readable standard language aimed to facilitate model writing and enable, via automatic translation, the generation of PharmML-encoded models that can be converted into the desired target language [2]. This work describes the efforts undertaken for the development of a PharmML-to-WinBugs converter, which will support Bayesian model estimation tasks in fully integrated interoperable workflows.

MATERIALS AND METHODS.

DDMoRe platform overview

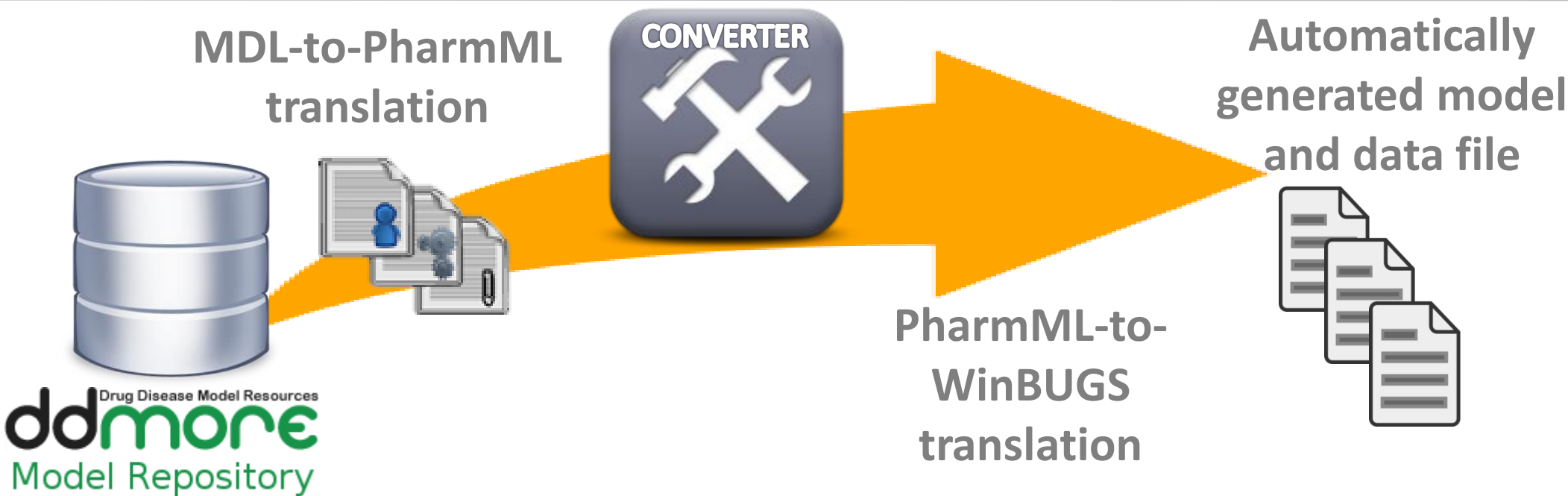


Development of a PharmML-to-WinBugs converter



RESULTS.

- The converter was tested on about 100 ad-hoc encoded PharmML models of increasing complexity which span a wide range of PharmML language features.
- It was also tested on some PharmML files, obtained after automatic translation of MDL files available on the DDMoRe model repository.



REFERENCES.

[1] Swat MJ, Wimalaratne S, Kristensen NR. PharmML 1.0 - An exchange standard for models in Pharmacometrics. Proceedings of the PAGE meeting (2014) June 10-13, Alicante, Spain.
[2] Harnisch L, Matthews I, Chard J, Karlsson MO. Drug and Disease Mode Resources: a consortium to create standards and tools to enhance model-based drug development, CPT Pharmacometrics Syst Pharmacol (2013) 2(3): e34.

FUTURE WORK.

- Connector
- Standard Output
- Prior distribution representation
- Support for the remaining PharmML features (piecewise constructs, categorical covariates)