Toward Open Science: Translating literature-reported quantitative pharmacology models for simulation and interactive visual exploration

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METRUM
RESEARCH GROUP | SYSTEMS PHARMACOLOGY

TOWARD OPEN SCIENCE

Translating literature-reported quantitative pharmacology
models for simulation and interactive visual exploration

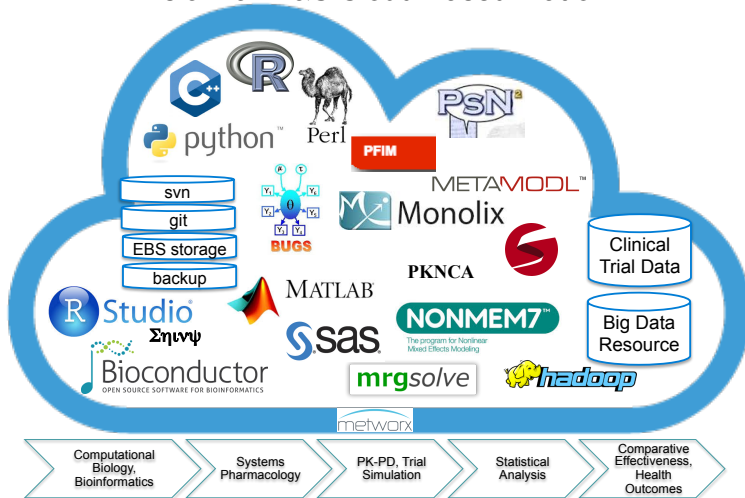Cambridge Innovation Center
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Why "Open Science"?

- What is this concept of "open" ?
- How & why is it beneficial to the growth of our community
- Examples:
  - open-source software: SBML, mrgsolve, Shiny etc., STAN/Torsten(?)
  - open model repositories: Biomodels, github, DDmore. . .
  - Publications, presentations, regulatory docs:
    - ★ good (model is described with parameter estimates),
    - ★ better (model mathematics provided with parameter estimates),
    - ★ best (executable code)
  - PKsim / MOBI
  - Osmosis Foundation

How we implement our science

- Overview of Metworx system:
  - ▸ why share when you don't have to (Performance),
  - ▸ how to easily share when you want to (Envision)

Vision for M&S Cloud-Based Platform

What we might want

Useful Tools

Modern M&S Deliverables for Decision-Making