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# ToxCast Workflow: High-throughput screening assay data processing, analysis and management

PG Kothiya<sup>1</sup>, DL Filer<sup>1</sup>, DM Reif<sup>2</sup>, RS Judson<sup>1</sup>, AM Richard<sup>1</sup>, MT Martin<sup>1</sup>

<sup>1</sup> National Center for Computational Toxicology, Office of Research and Development, U.S. EPA, RTP, NC  
<sup>2</sup> Bioinformatics Program, North Carolina State University, Raleigh, NC



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Abstract: 2273aa

Parth G Kothiya kothiya.parth@epa.gov (919) 541-4240

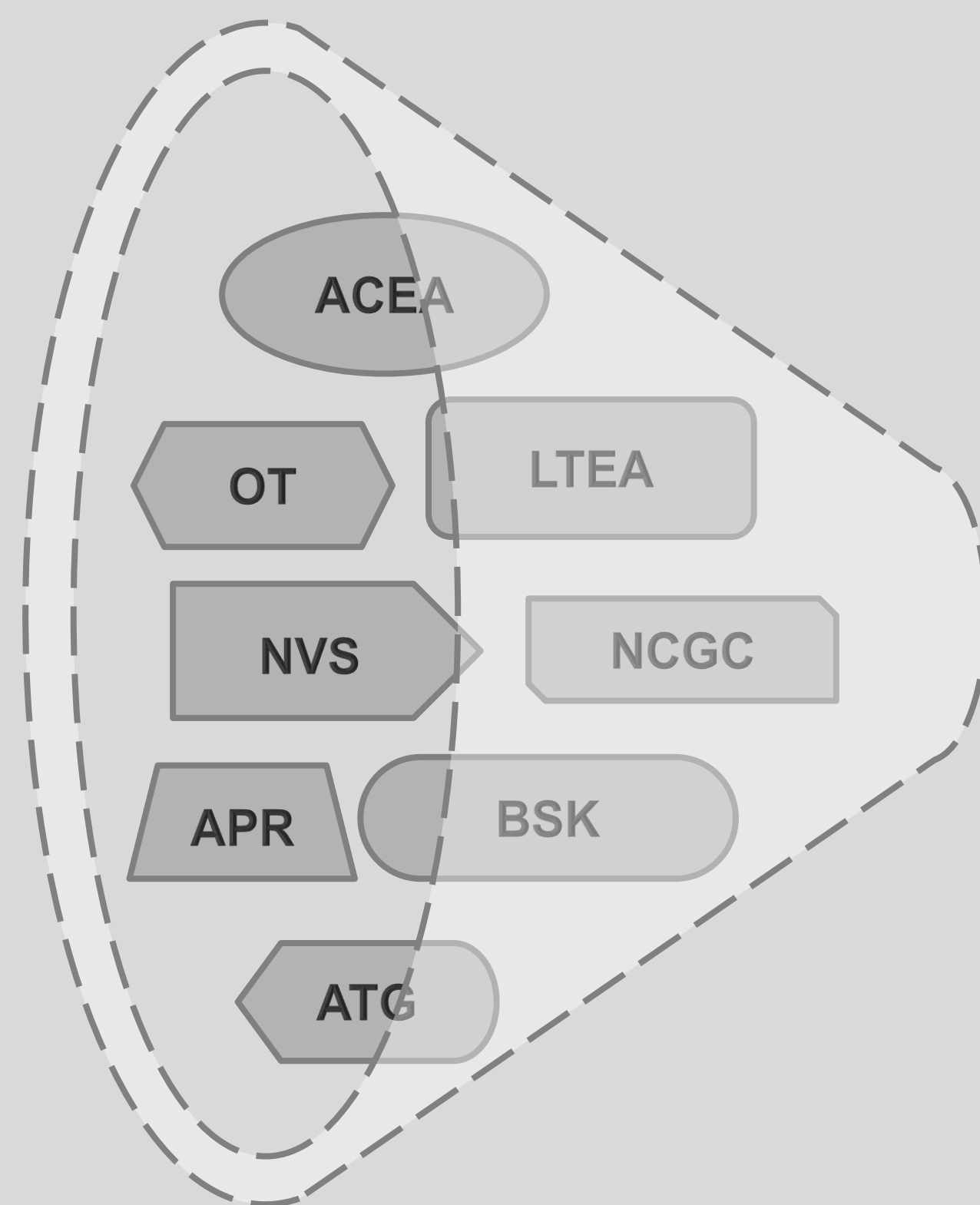
Primary Objective: Provide transparent and efficient analysis of heterogeneous HTS assay data

Conclusions

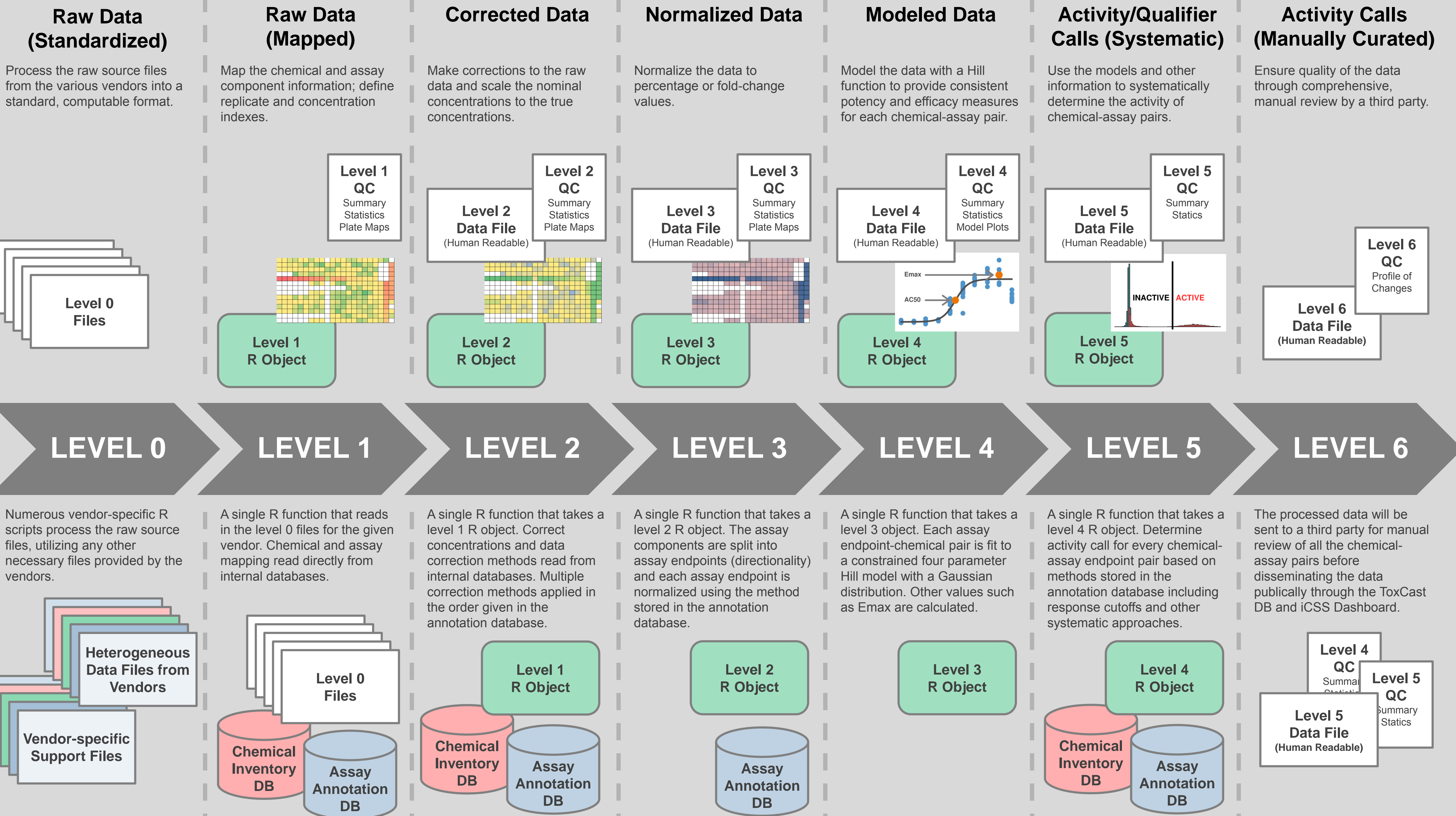
Description

Objective

Outputs



Inputs



- The ToxCast workflow, from level 0 to level 5, has been generalized with standardized algorithms and analysis procedures to accept heterogeneous assay read outs.
- The analysis process is systematic, consistent, and repeatable.
- Throughout level 0 to level 6, no changes involve data removal, unless invalid data points were identified by vendor's QA-QC.
- QC-check and data correction make data more accurate and trust worthy.
- Documentation of analysis procedure and results provides increased transparency.
- ToxCast data Analysis Pipeline handles highly heterogeneous chemical-assay datasets.

Future Directions

- Further QC analysis by plate level pattern recognition and batch-effect recognition
- Publicly available R-package for systematic and transparent level 0 to level 5 analyses
- Web-based integration for easy access workflow