

Table S1. Feature importance in QSP modeling software platform

Feature	Rank			Mean			pval
	All	Low/Med	High	All	Low/Med	High	
3.1 Ease of large model development (>20 state variable)	1	2	1	2.77	2.63	2.82	0.0843
3.6 Support for scripting tasks that extend the tool’s capabilities	2	2	2	2.62	2.63	2.62	1
3.7 Support for multiple parameter estimation algorithms	3	1	3	2.59	2.68	2.56	0.8852
3.12 Built-in support for flexible visualization of simulation results	4	4	3	2.57	2.58	2.56	0.1895
3.8 Handling a large number of parameters incl. export/import	5	6	3	2.55	2.53	2.56	0.5774
3.4 Support for flexible hardware/software architecture (cluster, cloud, different OS)	6	6	6	2.36	2.53	2.30	0.2649
3.3 High-performance parallel computing enabled	7	4	8	2.35	2.58	2.26	0.3337
3.5 Availability of multiple numerical solvers	8	8	6	2.33	2.42	2.30	0.8377
3.2 Support for export to SBML or other language	9	8	11	2.26	2.42	2.20	0.4347
3.14 Support for VPop manipulation, sampling, and clinical trial simulation	9	11	9	2.26	2.37	2.22	0.6377
3.13 Tools for Virtual Patients (VP) and Virtual Populations (VPops) creation	11	11	11	2.25	2.37	2.20	0.7226
3.11 Ease of creation of replicated features (e.g., array of cells, similar compounds, etc.)	12	13	10	2.24	2.32	2.20	0.7702
3.15 Low cost of ownership and maintenance	13	10	14	2.18	2.39	2.10	0.2553
3.16 Customer support	14	16	13	2.12	1.95	2.18	0.466
3.9 Visual diagrammatic model development capability (in contrast to purely textbased)	15	14	16	2.06	2.21	2.00	0.0191
3.10 Modular (plug-and-play) model architecture	16	15	15	2.01	2.00	2.02	0.7875
3.18 Integration with additional external tools, e.g., bioinformatics	17	18	17	1.81	1.79	1.82	0.6744
3.17 Selection of available disease models/platforms for this particular software	18	16	18	1.67	1.95	1.56	0.0572

Table S1. Categorical breakdown of feature importance in a hypothetical QSP modeling software platform. The respondents were asked to place features into one of three categories by the order of importance and to assign a score as follows: 3 - Most important; 2 - Somewhat important; and 1 - Least important. The far right (“Mean”) section of the table presents combined average scores given by the respondents (All) as well as between groups of respondents based on their QSP experience: Low/Med 0-3 years of experience; High – more than 3 of experience. Based on the scores given by all respondents and each group separately, features are ranked as shown in the middle (“Rank”) section of the table. See text for additional information.