

## Instructions for Evaluating Resource Credibility

[the conformance level for the varying models. These reflect the Ten Simple Rules as outlined by the Interagency Modeling and Analysis Group \(IMAG\):](#)  
<https://www.imagwiki.nibib.nih.gov/content/10-simple-rules->

Rule	Description
Define context clearly	Develop and document the subject, purpose and intended use(s) of the model or simulation
Use appropriate data	Employ relevant and traceable information in the development or operation of a model or simulation
Evaluate within context	Verification, validation, uncertainty quantification and sensitivity analysis of the model or simulation are accomplished with respect to the reality of interest and intended use(s) of the model or simulation.
List limitations explicitly	of the model or simulation are available for consideration by the users or customers of a model or
Use version control	Implement a system to trace the time history of modeling and simulation activities, including delineation of contributors' efforts.
Document adequately	activities, including simulation code, model markup, scope and intended use of M&S activities, as well as users' and developers' guides.
Disseminate broadly	Publish all components of M&S activities, including simulation software, models, simulation scenarios and results
Get independent reviews	Have the M&S activity reviewed by nonpartisan third-party
Test competing implementations	Test contrasting M&S execution strategies to check the conclusions of the different execution strategies against each other.
Conform to standards	Adopt and promote generally applicable and discipline specific operating procedures, guidelines and regulations accepted as best practices

## Conformance level rubric

Conformance level	Description	Weight
Comprehensive	Can be understood by non-M&S practitioners familiar with the application domain and the intended context of use.	4
Extensive	Can be understood by M&S practitioners not familiar with the application domain and the intended context of use.	3
Adequate	Can be understood by M&S practitioners familiar with the application domain and the intended context of use.	2
Partial	Unclear to the M&S practitioners familiar with the application domain and the intended context of use	1
Insufficient	Missing or grossly incomplete information to properly evaluate the conformance with the rule.	0

Problems faced evaluating these models: Weighing the conformance level for the cases of "Evaluate within context" and "Test competing implementations" posed the greatest uncertainty as both these evaluations require an in depth knowledge of the model structure and development. These rules were therefore not examined in this report.

Disclaimer: It should be noted that no attempts were made to reproduce any of the results reported by these models. Neither did we attempt to assess the scientific validity of the models, assumptions or limitations. Instead we were interested in their distribution, representation and dissemination.