2018-2019 Mid-Term Credibility Plan Review

PI: Gary An

#	Ten Simple Rules	REVIEWER #1		REVIEWER #2	
		Considered in the Credibility Plan?	Comments	Considered in the Credibility Plan?	Comments
1	Define context clearly	insufficient	As provided in the Model Credibility Plan, the context of the project and related M&S activities seem broad, e.g. using and evaluating agent-based models. It is not clear if the platform's audience will be all users of agent-based modeling irrespective of pursuits, or solely focusing on a context relevant to precision medicine.	insufficient	Not described
2	Use appropriate data	insufficient	It is not clear if the models will be grounded on existing or to be collected data/rules.	insufficient	Not described
3	Evaluate within context	sufficient	Verification, reproducibility, and validation through an independent third-party is a strength and will identify the requirements of the extent of each of these activities.It will be helpful to outline different stages of ABM use (in relevance to different context) that may change such requirements.	insufficient	This is a core focus of the credibility plan and it is commendable that the awardees are involving a third party for the evaluation. It would be helpful to have more details about what data is being used for the validation and whether uncertainty quantification and sensitivity analysis will be done.
4	List limitations explicitly	insufficient	Proposed transparency implies that limitations will be noted. Yet, it will be helpful to describe the mechanisms to ensure explicit listing of known limitations.	insufficient	Not described
5	Use version control	sufficient	GitHub repository will be used for source code management and version control	sufficient	GitHub used for sharing code for model, analysis, and optimization
6	Document adequately	sufficient	Inclusion of independent reviewer, not only to evaluate the models, but also to understand requirements of documentation and dissemination is strong. It will be helpful how such documentation will be transferred to end-users. It will be useful to describe what "detailed descriptions" mean to support publications and reporting.	sufficient	Third party will help define documentation process. Additional details about what documentation will be created (e.g., methods development, user guide, etc.) would be helpful.
7	Disseminate broadly	sufficient	Free and open source dissemination of source code is a major strength. Dissemination of other M&S products may need attention, e.g. documentation other than publications, simulation results, etc.	sufficient	Shared via GitHub under GPL license
8	Get independent reviews	sufficient	An independent third-party reviewer will be actively involved.	sufficient	An independent third party will evaluate the model, and it sounds like this has been budgeted as consulting costs, which will help ensure the independent evaluation is carried out. How will the third party be identified?
9	Test competing implementations	insufficient	Not sure if there will be any attempts in regard to different implementations of agent-based modeling strategies or models themselves.	insufficient	Not described

10	Conform to standards	insufficient	Not sure if there is any guidance on agent-based modeling. It will be useful to refer any such attempts and their limitations, particularly when the focus of the project is considered.	insufficient	Not described

General Comments

Reviewer 1:

The topic of the project is at the heart of credibility of M&S workflows and generated models and their use. It will be interesting to have a few cases of agent-based modeling use with different levels of anticipated scrutiny, e.g. ranging from hypothesis generation to clinical decision making.

Reviewer 2:

It is excellent to see the involvement of an independent third party in the model development, documentation, and dissemination efforts. Additional details of the actual implementation of the rules would be helpful, as noted in the comments above. Several of the Ten Simple Rules do not appear to be part of the awardee's credibility plan, and it could be beneficial to include these in the future.