Reviewer's report

Title: Pharmacokinetic-pharmacodynamic profiling of four antimicrobials against Gram-negative bacteria collected from Shenyang, China

Version: 1 Date: 9 February 2010

Reviewer: David Andes

Reviewer's report:

I like the idea: re considering pk/pd for local organism MIC distribution. The authors seem to use the correct tools but additional details of methods/results are needed to adequately judge. Need to show MIC data. Need to try to use population PK data.

1. Is the question posed by the authors well defined? Yes
2. Are the methods appropriate and well described? Most are reasonable. It would be useful to include additional method and result data for the Monte Carlo simulation. As presented, it is very difficult to discern if the modeling sufficient.
3. Are the data sound? Main drawback is use of healthy volunteer kinetics. The authors sort of acknowledge this in the discussion but then try to say it ok based on an inaccurate statement in the last paragraph of the discussion. Specifically they state that clearance is reduced in critically ill. Several publications have shown that clearance is often increased in the ICU.

The authors should use population PK data when it is available (it is for most of these compounds).

The authors should show the MIC data, MIC50, MIC90, range

It would be useful to consider extended infusion for the beta-lactams

4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes
5. Are the discussion and conclusions well balanced and adequately supported by the data? Yes other than the statement above.
6. Are limitations of the work clearly stated? Yes other than the healthy volunteer pk issue noted above.
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? Yes
8. Do the title and abstract accurately convey what has been found? Yes
9. Is the writing acceptable? Yes