Reviewer's report

Title: Evaluation of an automated ultraviolet radiation device for decontamination of Clostridium difficile and other healthcare-associated pathogens in hospital rooms

Version: 1 Date: 27 April 2010

Reviewer: Philip Carling

Reviewer's report:

This study represents the first clinical evaluation of the potential usefulness of UV-C to decrease healthcare associated pathogens on environmental surfaces. The authors are to be congratulated for a very thoughtfully designed laboratory and clinical based study. The results are presented in a clear and logical fashion. While it would be expected that the potential advantages of the UV - C system would be articulated, it is of particular note that the actual and potential limitations of the system were carefully and thoughtfully presented by the authors. The METHODS were appropriate and well described. The data was presented with clear and appropriate use of graphic illustrations of the saline findings. The DISCUSSION conclusions were well balanced and adequately supported by the data. Both the title and the abstract accurately convey the author's findings. The writing is clear, concise and carefully edited.

Major Compulsory Revision:

Given the nature of the study it would appear likely that it was supported by the commercial manufacturers of the UV system. Funding source disclosure should be noted.

Other Recommendations:

1. Consideration should be given to eliminating Figure 2. The figure photographically illustrates the effectiveness of the UV-C system in reducing the tested pathogens seeded onto a clean non-porous surface in the laboratory setting. Although substantial reduction in environmental contaminations was realized in the clinical setting, the impact was not to the level found in the laboratory setting. For this reason, this reviewer would suggest that Figure 2 is both not clinically relevant and has the potential for suggesting similar efficacy in the clinical setting.

2. While the references cited are completely appropriate to the introductory statement being made, the most recent reference noted by the authors was published in 2008. This portion of the Introduction would be enhanced by including the additional relevant references published since 2008.