

(PubMed Commons) Kavanagh KT, Saman DM. Comment on PMID: 27908437: Response to Letter Regarding Manuscript “Electronic Hand Hygiene Monitoring as a Tool for Reducing Nosocomial Methicillin-resistant Staphylococcus aureus Infection” In: PubMed Commons [Internet]. Bethesda (MD): National Library of Medicine; 2016 Dec. 16.

We have ongoing concerns regarding several of the questions posed in our previous letter(1) along with the authors’ response.(2) The major concern is that we are still not able to reconcile the data presented in the author’s reply letter with those presented in the manuscript. Thus, we feel there may be an overstatement of the efficacy of the intervention. In addition, we have ongoing concerns regarding the reporting of conflicts-of-interests.

#1. The most important stated outcome of this study is the 42% decrease in hospital-onset MRSA infections. This outcome has been widely disseminated in the media and even appeared in the headline of a major infectious disease news outlet, Infection Control Today: “Hospital Reduces MRSA Rates by 42% with electronic hand hygiene measurement.”(3) However, the pre and post-intervention rates (baseline rate of 0.381 infections per 1000 days, reduction of 0.114 infections per 1000 days and post-intervention of rate of 0.267 infections per 1000 days) of MRSA that Kelly, et al. (2) gave in their letter showed only a 30% reduction: $0.114 / 0.381 = 0.299$ or 29.9% In their letter, Kelly, et al.(2) questioned our calculation of the baseline rate. Our calculation was based upon the data given in their manuscript of a 42% reduction which corresponded to a reduction in MRSA infections of 0.114 per 1000 patient days. Using algebra, the baseline and post-intervention rates can then be calculated: If the reduction is 0.114 and corresponds to 42%, then the baseline rate equals: $0.114 / (0.42) = 0.271$ If the baseline rate is 0.271 and the reduction 0.114, then the post-intervention rate equals: $0.271 - 0.114 = 0.157$ We feel the authors should explain or correct this discrepancy in their study’s outcome. As we stated, our calculated post-intervention rate (0.157) appeared to be even better than that reported by Jain, et al.(4) We agree that the authors’ reported post-intervention rate in their letter (0.267) is in accordance with that reported by Jain, et al, but appears to be different from the results reported in their manuscript.

#2. The authors’ explanation of the conflict-of-interest (COI) The authors’ statement regarding the original statement of conflicts-of-interest was given as follows: “The conflict of interest statement was inadvertently left off the prepublication galley proof, but was included in the final publication.” Since the publisher is the one which initially creates the galley proof, we feel this may give the impression it was a publisher’s error. According to PubMed, the original date of online publication (Epub) for Kelly, et al.(5), was June 23, 2016. The Journal has a website designation for articles in this stage as “In Press Corrected Proof”. As of July 25, 2016, the article, which we received from the University of Kentucky Library, had a COI statement of “None to report.” The August 2016 print publication of the article and article’s current PDF both have the same DOI number as the June 23, 2016 e-published “In Press Corrected Proof”. These latter manuscripts have the revised COI statement. In addition, the final publication is often considered the e-publication (Epub.), which is assigned a Digital Optic Identifier (DOI) when the article “is published”(6), and is available to libraries and/or PubMed. Some journals do not even publish a printed version of an article. At this stage author corrections are often time stamped or if major, accomplished by a letter or erratum. Finally, the COI issue is not only with potential industrial funding but also with potential COIs involving the authors. According to Infection Control Today: “Connie Steed, MSN, RN, CIC, director of infection prevention at GHS and a MRSA study co-

author, has been working with DebMed for the past seven years.”(3) The start of this relationship appears to have preceded the study start date by several years and we feel should have been either declared or explained. We also feel a COI statement from all authors should also accompany the publication of this and every article.

Summary It is not the purpose of this communication to establish the efficacy of a device which monitors hand hygiene compliance but to express our concern that the Kelly, et al. study(5) should be viewed with caution when entering it in to a body of evidence to establish standards for patient care.

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- (1) Kavanagh KT, Saman DM. Comment Regarding: Electronic hand hygiene monitoring as a tool for reducing health care–associated methicillin-resistant Staphylococcus aureus infection. American Journal of Infection Control. December 01 2016 <[http://www.ajicjournal.org/article/S0196-6553\(16\)30904-X/fulltext](http://www.ajicjournal.org/article/S0196-6553(16)30904-X/fulltext)> <PMID:27908436>
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- (6) What is a digital object identifier, or DOI? APA Style. American Psychological Association. Last accessed on Dec. 3, 2016 from <<http://www.apastyle.org/learn/faqs/what-is-doi.aspx>> Kevin T. Kavanagh, MD, MSDaniel M. Saman, DrPh, MPH

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We have expressed concerns in a previous letter and PubMed Common’s posting regarding the article by Kelly, et al,(1) where the efficacy of the evaluated product may have been overstated.(2, 3) In the authors reply, data was presented which presents less than a 30% reduction(4) as opposed to a 42% which is stated in the article and advertised by the company.(1,5) To our knowledge the peer-review record has not been corrected. In addition, we have concerns regarding at least the appearance of an undeclared conflict-of-interest between one of the article’s authors, Connie Steed, and the company in question, DebMed.(6) It has come to the authors’ attention that the editor in charge of adjudicating the above concerns may also have a conflict-of-interest with DebMed and with one of the authors of the manuscript in question. Significant concerns regarding the conflicts of interest of the Editor Elaine Larson have arisen because of the following associations:

- Co-Author with Connie Steed (one of the authors in the manuscript in question) and Paul Alpert (Vice President of Patient Safety Strategy for DebMed) in an article published in Feb 2011.(7). Conflicts-of-Interest stated the following “Elaine Larson has received research funding from Deb Worldwide Healthcare, Inc.”
- Co-Author with Paul Alpert (Vice-President of Patient Safety Strategy for DebMed) in an article published in Jan 2013.(8)
- Co-Author with Paul Alpert (Vice-President of Patient Safety Strategy for DebMed) in an article published in Feb 2014.(9)
- Connie Steed, RN is listed as the 2016 Secretary for the Association for Professionals in Infection Control and Epidemiology, Inc., which has as its official publication the American Journal of Infection Control(10) and provides this Journal as a benefit of their membership.(11)

We feel that because of the above, the appearance of a conflict of interest exists which may have clouded the decision making and inhibited the correction of the potential research integrity problems in the article in question.

References

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