Author's response to reviews

Title: Assessing the role of undetected colonization and isolation precautions in reducing Methicillin-Resistant Staphylococcus aureus transmission in intensive care units.

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Dr Melissa Norton
Editor-in-Chief

*BMC Infectious Diseases*
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London WC1X 8HL

Dear Dr Norton,

Enclosed please find a research article submission to *BMC Infectious Diseases* entitled “Assessing the role of undetected colonization and isolation precautions in reducing Methicillin-Resistant Staphylococcus aureus transmission in intensive care units.” This paper analyses MRSA surveillance data collected from eight ICUs over a period of 17 months. It makes use of recently developed statistical methodology to provide the first estimates of the proportion of total MRSA carriage detected by patient screening and the effectiveness of isolation precautions in reducing transmission obtained using routinely collected surveillance data. The topic is timely and of wide interest because MRSA prevalence continues to rise in many countries, and because such precautions are the foundation of infection control guidelines on MRSA control. Nevertheless, there are concerns that isolation techniques may reduce the quality of patient care and incur risks related to inattention. Thus, quantifying the beneficial effects and understanding the types of hospital wards in which such measures are likely to be insufficient is a critical part of weighing the need for additional or alternative measures. Our work shows that even with conventional MRSA detection technology and weekly screening, a very large proportion of the total patient MRSA reservoir can be detected. It also suggests that barrier precautions may afford substantial benefit in medical and possibly specialty surgical ICUs, but that barriers to its effectiveness may need further study in general surgical ICUs.

All authors have seen and approved the manuscript, and have contributed significantly to the work. All conflicts of interest have been disclosed. This manuscript has not been published and is not under consideration for publication elsewhere.

Many thanks for your consideration of this work.

Sincerely,

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