Author's response to reviews

Title: Comparing measures of comorbidity and functional status for risk adjustment to evaluate colorectal cancer surgery: a retrospective data-linkage study

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Giulia Mangiameli
Executive Editor
BMC Medical Informatics and Decision Making
BioMed Central

Dear Dr Mangiameli,

Please consider our manuscript, "Comparing measures of comorbidity and functional status for risk adjustment to evaluate colorectal cancer surgery: a retrospective data-linkage study" for publication as a research article in BMC Medical Informatics and Decision Making.

In this study, we assess the utility of two measures of patient health and function: the ECOG Performance Status and the ASA score of physical status over and above the Charlson comorbidity index, in comparing outcomes of cancer surgery in NSW, Australia using linked administrative data. This study uses a unique data collection: the NSW Clinical Cancer Registry that collects, on a routine basis, ECOG performance status for patients whose care is managed through public hospitals.

We found that ECOG performance status had quite low coverage. The ASA score had better coverage that the ECOG performance status, but not as high as the complete coverage of the Charlson comorbidity index. The predictive ability of models comparing outcomes across hospital type was improved by the addition of one or both of ASA and ECOG to patient characteristics and Charlson comorbidity index, however there was no consistently best combination. The addition of ASA or ECOG to patient characteristics and Charlson comorbidity index did not substantially change results comparing patient outcomes between types of hospital. Our study therefore recommends risk adjustment models use the Charlson comorbidity index as a measure of patient health.

We confirm that this manuscript has not been published elsewhere and is not under consideration by another journal. All authors have approved the manuscript and agree with its submission to BMC Medical Informatics and Decision Making.

We suggest Professor Hude Quan (hquan@ucalgary.ca) and A/Prof Vijaya Sundararajan (vijaya.sundararajan@unimelb.edu.au) as potential reviewers of this manuscript. We confirm there are no associations between the authors and the suggested reviewers.

Sincerely,

Timothy Dobbins