Reviewer’s report

Title: Illness and Economic Costs Associated with Recreational Waterborne Illness on United States Surface Waters

Version: 0 Date: 10 Oct 2017

Reviewer: Tek-Ang Lim

Reviewer's report:

This is an interesting paper and the authors attempt to provide a quantification of the economic costs associated with recreational waterborne illness on United States surface waters. The categorisation of illnesses into three groups is interesting and enables to tackle some of the challenges of the quantification of the health impacts in monetary unit.

This paper could be more complete if:

1) age groups were distinguished for health impacts as well. I understand that age groups were identified to determine the millions of person days and then the health impacts is determined based on the overall person days. However, the health impacts (and most likely the associated severity) won't be the same between a 3 year old child, an adult of say 30 years and an elderly of say 65 years old, as they don't have the same immune. I would expect different attributable risks based on the age groups. Not only, will the attributable risks be different, I would also expect different economic costs associated with the illness based on the age groups, (loss in productivity for instance).

2) the time frame considered was presented. I acknowledge that the incubation period of the illness is very short but what about how long does the disease last? (1-2 days for mild illness? 3-5 for moderate? XXX for severe?)

3) the authors strengthen the discussion regarding the added value (so to speak) of the overall message of the paper. I'm always puzzled to see estimates of health impacts irrespect of water quality monitoring data, however according to the authors, the attributable risks were drawn from NEEAR and CHEERS projects where the recreational surface water generally meet the local water quality criteria. Therefore, I'm not sure to have understood the message of the paper. The annual economic burden of illness due to surface-water recreation ranges from $2.2-3.7 billion but given that it seems that local water quality criteria are met, the authorities need to reevaluate the water quality criteria? What would be the economic gains if the water quality criteria is improve by say 10%? etc.

Overall, it's an interesting paper but the overall message would benefit from being enhanced.
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An article of limited interest

Quality of written English
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Acceptable

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