Reviewer's report

Title: Collecting household water usage data: telephone questionnaire or diary?

Version: 3 Date: 11 September 2009

Reviewer: Gertjan Medema

Reviewer's report:

The paper “collecting household water usage data: telephone questionnaire or diary?” from Joanne O'Toole, Martha Sinclair and Karin Leder is very clearly written and addressess, as the authors state, with important data gaps for the assessment of the (distribution of) exposure of the human population (in an Australia city) to contaminants in water through non-potable water use.

The authors have made a commendable effort to include the details of the methods they have used. This is very valuable for researchers who wish to study exposure in similar (or other) settings.

Overall, the collected data are only part of the exposure data needed in QMRA and it would have been very interesting to study human behaviour as this has a large impact on exposure (for example persons with automatic watering systems spent probably less time in the garden during watering than persons that have to do the watering themselves).

Major Compulsory Revisions

The discussion and conclusions now focus solely on the data collection methods. The collected water usage data themselves are equally valuable and should be highlighted in the discussion and conclusions.

Minor Essential Revisions

P13. Exposure estimates

Is the first conclusion that CATI and diary show highest agreement for most commonly performed water-using activities? It seems that number of toilet flushes is very different in CATI and diary.

P15. Last paragraph, second sentence. This appears to be incorrect in the statistical sense. When discordant results between CATI and diary would be equally likely to be lower of higher, there would not be a difference between the CATI and diary. The authors seem to refer to the fact that for some parameters the CATI yields higher results than the diary and for other parameters this is the reverse. The suggestion that this may be due to natural variations in water-related activities is too one-sided. Recall bias may possible explain the differences. I suggest rephrasing and discussion of the potential impact of recall bias.

Similar comment on p20 Conclusions, first sentence.
P9 last paragraph: 2nd category should be ‘Poor to fair’

Figure 1: explain what the different sizes of the data points indicate in the legend.

Table 3: Include title of second data column (Diary response)

Table 4: although this table is valuable for the comparison of the CATI and diary response, it would also be valuable to include a description of the average number of flushes and its standard deviation (as for garden watering and laundry)

The quality of the figures should be improved.

Discretionary revisions

The use of average and standard deviation as descriptive statistics suggest that the distribution of water use is normal. This may not be true for some of the water uses. Was this tested?

P3 Background

The first sentence is correct if it refers to the formal risk management process, but not correct if it refers to the more generic meaning of risk management. Suggest rephrasing.

I suggest to accept this paper after the essential revisions are made. The paper is important to those closely related to this field of research. I (and previous reviewers) have reviewed the statistics.

I declare that I have no competing interests.