Reviewer's report

**Title:** Are hygiene interventions likely to improve outcomes for Australian Aboriginal children living in remote communities: systematic review of the literature?

**Version:** 1  **Date:** 4 January 2008

**Reviewer:** Sandy Cairncross

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Are hygiene interventions likely to improve outcomes for Australian Aboriginal children living in remote communities? Systematic review of the literature.

Like other systematic reviews which you have published, this can be considered as a Research Article. All revisions suggested below are discretionary.

The question posed by the authors is new, in several ways. First, others (myself included) have carried out systematic reviews of the impact of hygiene interventions in poor communities, but mostly they have looked at specific aspects of hygiene such as hand washing, or at a specific health outcome such as diarrhoeal diseases. This review considers all hygiene interventions, and a range of outcomes including skin and respiratory infections. Second, where they specify the setting they have usually focussed on developing countries, excluding minorities in developed countries, such as indigenous Australians. Third, most systematic reviews are not conducted by public health practitioners, in my experience, but by researchers. This one was led by a practitioner-turned-researcher who genuinely sought guidance from the literature for when she turned practitioner again. That gives this review a sharper perspective, which your readers are likely to find interesting, and indeed useful.

In general the scope of the review is well defined, but I have two niggles. First, the focus seems to be on INFECTIOUS diseases though this is not explicitly stated. It should be stated whether this was an objective or a finding. Second, since overcrowding is an important feature of the housing conditions of many Australian indigenous families, it would be helpful to state, if true, that no examples of interventions to reduce crowding were found.

The methods are appropriate and mainly well described, though the Boolean expression in the box on the search strategy cannot be parsed without more information, such as brackets to indicate whether each OR takes precedence over the nearby ANDs, or vice versa.

The data are generally sound, though I have a concern in the light of a recent review of drinking water quality interventions by Clasen et al. (2007), which showed that the substantial reductions in diarrhoea found in unblinded studies disappeared when they were blinded. Most of the interventions in the present review cannot be blinded, but it should at least be noted whether a placebo
intervention was provided in any of the studies.

The manuscript does adhere to the relevant standards for reporting and data deposition, the discussion and conclusions are well balanced and adequately supported by the data, the title and abstract are accurate, and the writing is acceptable.

Minor points:

(suggested insertions/changes are in upper case)

Title: note re-punctuation above.

Abstract, para 1 line 8: skin, diarrhoeal and INFECTIOUS diseases

Introduction para 1 line 5: improved medical CASE management.

Results para 3 line 7: diagnosis of trachoma [38], AND WAS THUS THERAPEUTIC RATHER THAN PREVENTIVE.

Characteristics of included studies, para 1, line 12: improved water storage in the home (4 studies).

State whether any of the four studies involved treatment of the water.

Idem, para 2, line 3: the scope of this review. Besides, a Cochrane review was published recently (Clasen et al. 2007). The search terms

Idem, para 7, line 5: six months to six years [17, 26, 39]. Reference [39] is the same as ref [12].

Magnitude of effect, para 1 line 7: The six quality indicators for CBA studies should be listed in the same order as the seven for RCTs.

Water supply, sanitation and hygiene education, line 1: delete al in multi-interventional

Idem, line 12: both these studies IS in Table 8.

The quality of the evidence, para 2, line 4: This RCT met six out of seven study design quality indicators (reliable primary outcome measures). The authors may wish to reconsider this statement in view of the fact that the outcome assessment in this study [22] was done by the same people who promoted the hygiene intervention.

Discussion para 1 line 12: The methodology used by Esrey [30] has been questioned (Cairncross & Kolsky 1997).

Idem, line 15: generally failed to show any SIGNIFICANT evidence of effect. (The reduction was by 37%, with a p value of 0.068, which is certainly evidence, even if not statistically significant.)

Idem, para 7 line 9: Luby et al. [52] SUBSEQUENTLY published additional study results (They were published in 2005).

Table 2: Education and face washing should come above Education and other behaviour change.

Table 5: specify the nature of the behaviour change in each study. Tonon 1982 is ref. [27] not [7].
Tables 4 â## 8: It may prove preferable to combine all these little tables into one.
In footnotes, insert â##isâ## after â##Maximum score for RCT/CBAâ##

References
American Journal of Epidemiology 146, 4, 359-360.

Clasen T, Schmidt W-P, Rabie T, Roberts I, Cairncross S 2007. Interventions to
improve water quality for preventing diarrhoea: a systematic review and
2007;12;127-128)

What next?: Accept after discretionary revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a
statistician.

Declaration of competing interests:

1. When I was on a recent visit to Australia for other purposes, the Menzies
School of Health Research paid for me to visit Darwin and an indigenous
community.

2. Dr McDonald recently spent three weeks as a visiting scholar at my institution.
A bench fee will be paid for this by her institution to mine.