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CORRESPONDENCE

Comment on ''Screening for abdominal aortic aneurysm and overall mortality in men''

To the editor,

The title and principal finding of the recent article by Lindholt,[1] namely that ''Screening for abdominal aortic aneurysm reduces overall mortality in men'', reflect an invalid analysis. As seen in Lindholt's Figure 1, the alleged finding is most strongly driven by ''all deaths'' from the West Australia trial, which are the unadjusted numbers from Table 5 in the original West Australia manuscript.[2] A very different story is told in the last column of that original Table, which shows age standardized numbers that are nearly identical for the two groups. The authors of the original West Australia manuscript ignored the unadjusted numbers and commented that ''there were no meaningful differences in the age standardized mortality rates for all causes for the invited and control groups''. Because the mean ages of the two groups were identical at 72.6 years, this represented a very odd situation and prompted my query, to which the West Australian authors replied[3] that randomization of the first cohort in 1996 produced a substantial age imbalance that was corrected in the randomizations of the 1997 and 1998 cohorts. This results in longer follow up of older patients in the control group, and makes comparison of the unadjusted numbers of deaths invalid. For this reason, the original authors, and a subsequent systematic review for the US Preventive Services Task Force,[4] correctly considered only the age adjusted numbers. When the age adjusted numbers are incorporated into Lindholt's Figure 1, no significant difference in overall mortality is observed (Fig. 1).

In Lindholt's Figure 2, the West Australia deaths again drive the conclusion of a long term difference in overall mortality. Here Lindholt has used previously unpublished data from West Australia that are neither referenced nor described except to say that they ''were available after 11 years of follow up''. These presumably represent another unadjusted and therefore invalid comparison, and no adjusted numbers have been published with which to redo the analysis.

Other meta-analysts have made the same error of using unadjusted deaths from the West Australia trial, including Cosford in a Cochrane review[5] and Takagi on multiple occasions,[6–9] so it is time to set the record straight.

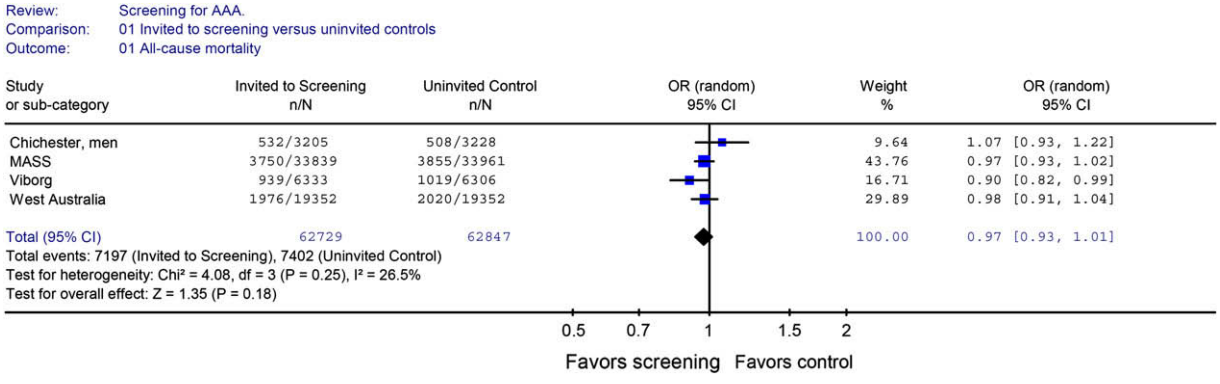

Figure 1 Meta-analysis of mid-term overall mortality using age adjusted numbers from West Australia.

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References

1 Lindholt JS, Norman P. Screening for abdominal aortic aneurysm reduces overall mortality in men. A meta-analysis of the mid- and long-term effects of screening for abdominal aortic aneurysms. *Eur J Vasc Endovasc Surg* 2008;**36**:167–71.

2 Norman PE, Jamrozik K, Lawrence-Brown MM, Le MT, Spencer CA, Tuohy RJ, et al. Population based randomised controlled trial on impact of screening on mortality from abdominal aortic aneurysm. *BMJ* 2004;**329**:1259–62.

3 Norman PE, Le MT, Jamrozik K. Re: Questions about AAA screening trial. Online materials associated with reference 2, http://www.bmj.com [Accessed June 2008].

4 Fleming C, Whitlock EP, Beil TL, Lederle FA. Screening for abdominal aortic aneurysm: a best-evidence systematic review for the U.S. Preventive Services Task Force. *Ann Intern Med* 2005;**142**:203–11.

5 Cosford PA, Leng GC. Screening for abdominal aortic aneurysm. *Cochrane Database Syst Rev* 2007 Apr 18;(2):CD002945.

6 Takagi H, Tanabashi T, Kawai N, Kato T, Umemoto T. Abdominal aortic aneurysm screening reduces mortality: meta-analyses of randomized, controlled trials. *Eur J Vasc Endovasc Surg* 2007;**33**:132–3.

7 Takagi H, Kawai N, Umemoto T. Abdominal aortic aneurysm: screening reduces all cause mortality in men. *BMJ* 2007;**335**:899.

8 Takagi H, Tanabashi T, Kawai N, Umemoto T. Regarding screening for abdominal aortic aneurysm reduces both aneurysm-related and all-cause mortality. *J Vasc Surg* 2007;**46**:1311–2.

9 Takagi H, Kawai N, Umemoto Regarding T. Screening for abdominal aortic aneurysm in Canada. *J Vasc Surg* 2008;**47**:1376–7.

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Response to comment on ''Screening for abdominal aortic aneurysm and overall mortality in men''

As a response to the meta-analysis: ''Screening for abdominal aortic aneurysm reduces overall mortality in men. A meta-analysis of the mid- and long-term effects of screening for abdominal aortic aneurysms'', we are grateful for Professor Lederle's insightful observation that the significant finding concerning overall mortality was caused by an age imbalance in the West Australian (WA) study. Due to a problem in the first year of randomisation (1996), there were indeed more old men in the control group of this study, and consequently more deaths. The optimal way to clarify this would be a merged dataset allowing proper survival analysis with

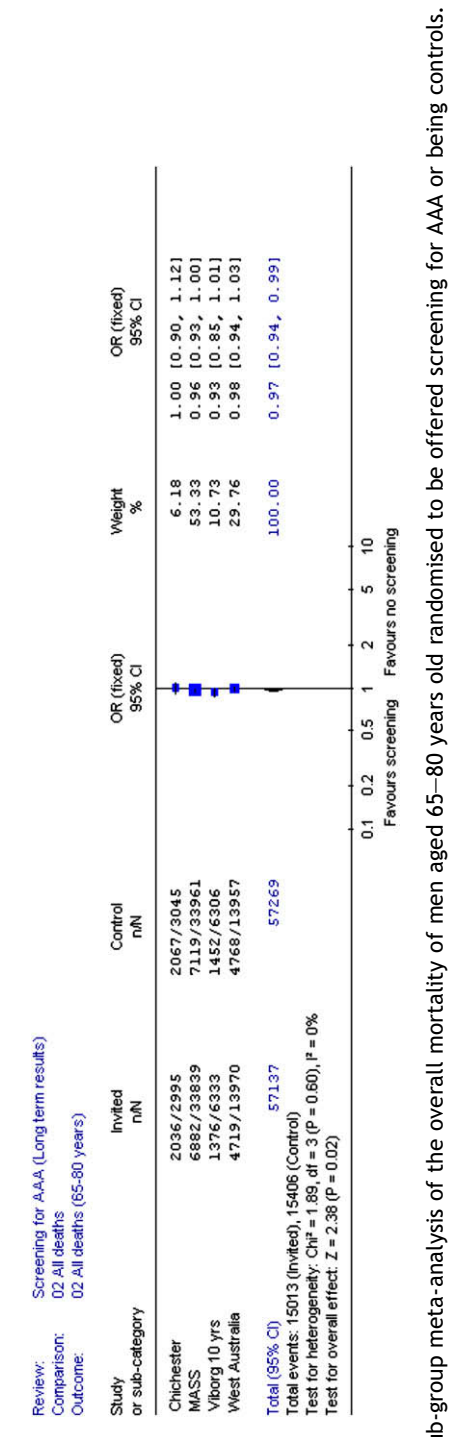

Figure 1 Sub-group meta-analysis of the overall mortality of men aged 65–80 years old randomised to be offered screening for AAA or being controls.

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