Reviewer's report

Title: The Health Fair Effect: Bias in Screening for Thyroid Disease

Version: 2 Date: 5 February 2013

Reviewer: Deborah McCahon

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Major compulsory revisions before publication
1. The abstract and methods section should mention that this is an observational study of participants at a Health fair with a focus on testing for thyroid dysfunction.
2. A flow diagram should be included; presenting both the total number (n) and proportion of the health fair population (%) in each of the thyroid function groups receiving and not receiving treatment.
3. Results; Paragraph 1; last sentence; the mean age of the general population should be reported.
4. The results section should report the prevalence of previously unknown hypothyroidism (9.7%) and previously unknown hyperthyroidism (2.5%) separately.
5. Table 1 should report demographics (age, gender distribution, family history of TD) by thyroid function group (euthyroid, hyperthyroid and hypothyroid).
6. Tables 2 and 3 should include; the total number of individuals in each of the thyroid function groups/ groups receiving and not receiving medication and the total number of individuals reporting presence of each symptom.

Minor essential revisions before publication
1. The header of Tables 2 and 3 suggest that proportions are reported within brackets (%) – this is not the case and needs correcting.
2. Abstract; Results; Last sentence reads as follows ‘in fact higher than a previously published study of the general population’. This study (ref 13) (as reported in Table 2) is however, a case –control study based in the secondary care setting. Similarly, Abstract; Conclusions: sentence 6 and Discussion; Conclusions; paragraph 1; sentence 7.
3. Discussion; Conclusions; paragraph 1; last sentence; should read ‘as compared with a previous study found the yield of thyroid disease on testing this group of health fair attendees higher than previously reported in the literature’. This sentence also requires a reference. (10).
4. Discussion; Conclusions; paragraph 2; sentence 1 refers to prevalence of thyroid disease in the health fair population (12%) and sentence 2 compares this with generally reported prevalence rates of hypothyroidism.... as 1-2% in the general population’. I think that both sentences should refer to thyroid
dysfunction.