

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form ([see an example](#)) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	An evaluation of the performance of the NHS Health Check programme in identifying people at high risk of developing Type 2 diabetes
<b>AUTHORS</b>	Smith, Sarah; Waterall, Jamie; Burden, AC Felix

### VERSION 1 - REVIEW

<b>REVIEWER</b>	Dalton, Andrew University of Oxford, Primary Care Health Sciences No conflicts of interest
<b>REVIEW RETURNED</b>	02-Nov-2012

<b>GENERAL COMMENTS</b>	<p>Summary Main points Strengths</p> <ul style="list-style-type: none"><li>• The NHS Health Check programme is a major English initiative, and the authors are correct that the “diabetes filter” used will impact heavily on patient care, and further has limited evidence base. Therefore it is important to evaluate its performance.</li><li>• Very few areas of the country are likely to have HbA1c testing over such a sample of the general population, therefore this stands as a splendid opportunity to assess the filter.</li></ul> <p>Weaknesses</p> <ul style="list-style-type: none"><li>• The article in areas would benefit from significant re-writing for greater clarity, and in order to extract greater utility from the data</li><li>• The analysis is brief for a research article; possibly some of the mentioned extension, such as sub-group analyses could be undertaken here. Also, there is an opportunity to look for specificity- the filter is used to save resources, so the authors could look if any unnecessary people were identified.</li><li>• The discussion section needs to more far-sighted, it reads like an audit of one PCT, with the results solely related to that PCT. The author need to think about the impact of these data on the programme as a whole; alternative methods of stratification and links to wider academic literature. Put simply, I want to be told why I should care about this filter not working in the NHSHC!</li><li>• The methods could be written in a more systematic manner, progressing stepwise through what was done.</li><li>• Generally, the work is not described within its setting of related academic literature.</li><li>• At times sections are repeated too often, especially in terms of the results which are re-stressed on a few occasions.</li><li>• What are the merits of looking at the individual aspects of the filter, BP/BMI when they are in fact a whole</li><li>•</li></ul>
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	<p>Minor points</p> <p>Abstract</p> <p>L8-9 “known” diabetes suggests they had the condition before the Check- newly diagnosed may be better</p> <p>L39-40 “The potential to fail” – here and elsewhere, a more clear positive phrase could be found.</p> <p>Introduction</p> <p>P4 L4 Define what a PCT is for an international audience.</p> <p>P4 L13 Comparison of demographics to what</p> <p>P4 L4-34 Less time could be spent on quite generic background, with focus instead on the relevance of this analysis</p> <p>P6 L4, remove initial from the reference</p> <p>Methods</p> <p>P6 L42-48 A little wordy and repeated.</p> <p>More systematic description of the eligibility criteria</p> <p>Results</p> <p>The results are repeated too often; first the text adds nothing different to the tables. Then the results are repeated again at the end.</p> <p>P9 L44-55 These are not results</p> <p>The figs3-5 and table 2 could be combined.</p>
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<b>REVIEWER</b>	<p>Prof Roger Gadsby MBE</p> <p>GP &amp; Associate Clinical Professor, Warwick Medical School, University of Warwick</p> <p>Visiting Professor, University of Bedfordshire</p> <p>I have no relevant conflicts of interest to declare in relation to this paper</p>
<b>REVIEW RETURNED</b>	05-Nov-2012

<b>THE STUDY</b>	The point that a decision was made to go outside the health check protocol to record HBA1c on all people having the health check in the area, so making this research possible needs highlighting in the abstract and earlier in the methods.
<b>RESULTS &amp; CONCLUSIONS</b>	There are areas that could be simplified and re-written to make the paper easier to read and follow
<b>REPORTING &amp; ETHICS</b>	The summary statement could helpfully list the reasons and numbers of people excluded at each stage
<b>GENERAL COMMENTS</b>	This is an interesting paper that would benefit from some editing and re-phrasing to make it easier to read and follow.

### VERSION 1 – AUTHOR RESPONSE

In response to the decision letter the manuscript has been almost completely revised - to the extent that tracked changes were impracticable. In particular the results have been streamlined and the entire paper set in the context of the academic literature around risk identification in type 2 diabetes rather than the local context.

## VERSION 2 – REVIEW

<b>REVIEWER</b>	Andrew R H Dalton Senior Researcher University of Oxford Department of Primary Care Health Sciences England  No conflict of interest
<b>REVIEW RETURNED</b>	10-Dec-2012

<b>THE STUDY</b>	<p>The final sentence in the introduction could be made clearer, just to give a really clear study aim</p> <p>The limitations of the study need mention, for example the data were based on HC uptake /there were missing data (risk factors not recorded within 3 months of HC) what impact do these have??</p> <p>A couple of references, notably explaining why early diagnosis of IGT is beneficial would add to the study.</p>
<b>GENERAL COMMENTS</b>	<p>The authors have addressed many of my original concerns, and have done a splendid job in presenting the methods in a more systematic fashion, expanding the studies scope beyond a single PCT and generally improving clarity. This paper only focuses on a single very specific research question, but this is a unique opportunity with the data to answer this question – and further it is an important question and finding in English preventive policy and the Health Check programme. I have a few more suggestions to further improve the article:</p> <p>The second bullet of the “Article Focus” section still suggests that this article is going to be too focused on one PCT. P2 L36, replace with NHS Health Check filter.</p> <p>Introduction is quite long, for a start I would prefer the description of the PCT to be a paragraph in the methods section. Outside of this it could be shortened</p> <p>Some of the points in the discussion could flow better together, and their relevance. E.g. the first two paragraphs give facts about the diabetes burden not what can be done about it (ref below). Lso in paragraph page 11 starting on line 24, there is a lot of time spent on a single study, but less spent integrating the details with the presented results.</p> <p>Could comment on some of the literature as to why it is a good thing to diagnose “pre-diabetes” e.g. progression can be slowed, Diabetes Care. 2009 Aug;32(8):1404-10 /earlier diagnosis leads to more complications.</p> <p>Consider the reference PLoS ONE 6(10): e26464. doi:10.1371/journal.pone.0026464 (<a href="http://www.ncbi.nlm.nih.gov/pubmed/19602539">http://www.ncbi.nlm.nih.gov/pubmed/19602539</a>)</p> <p>Strengths &amp; Limitations section – limitations include missing data, people without risk factors within 3 months of HC etc. I would also go further to emphasise the uniqueness of this dataset, i.e. a whole population sample to have HbA1c will not happen often in the HCs very often – readers who know the area will understand this, but others won't.</p>

<b>REVIEWER</b>	Prof Roger Gadsby GP & Associate Clinical Profesor, Warwick Medical School, University of Warwick
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	Visiting Professor, Institute of Diabetes in Older People (IDOP), University of Bedfordshire
	No conflicts of interest in relation to this paper
<b>REVIEW RETURNED</b>	20-Dec-2012

<b>GENERAL COMMENTS</b>	The authors have undertaken an extensive review and re-write of the paper. It now reads more clearly and has a more defined message. The data is well presented and the paper well written.
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### **VERSION 2 – AUTHOR RESPONSE**

I have considered the suggestions from the reviewers for a revision of the manuscript and have made the following changes in response:

1. I have added references supporting early diagnosis and intervention in IGT.
2. I have made specific line by line alterations as suggested above.
3. I have reduced the length of the introduction and added some of the narrative to the methods section instead.
4. I have added a section on strengths and limitations into the main body of the document.
5. I have revised the discussion section as suggested in the reviewers feedback.