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

TITLE (PROVISIONAL)	Scottish Intercollegiate Guideline Network–analysis of evidence
	levels for their recommendations.
AUTHORS	Baird, Alastair; Lawrence, James

VERSION 1 - REVIEW

REVIEWER	Muhammad Imran Omar Managing Editor Cochrane Incontinence Group, & Research Fellow Academic Urology Unit, Health Sciences Building, Second Floor, University of Aberdeen
	I work as the Managing Editor of the Cochrane Incontinence review group and we work closely with some of the national and international guideline developers.
REVIEW RETURNED	04-Nov-2013

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GENERAL COMMENTS	The manuscript requires following modifications:
	1. This statement/inference is very strong "Guidelines with large numbers of recommendations are are more likely to use weak evidence". The review authors can say that they found that guidelines with large numbers of recommendations were associated with weak evidence but they cannot say that they are "more likely to use weak evidence" as this suggest the future guidelines as well.
	2. Bullet 5 should be properly worded.
	3. Under limitation specify the guidleine under bullet point 1.
	4.Under results. First sentence. specify whether the page range is with/withut references.
	5. Reference should be provided of the Oxford Textbook of Primary Medical Care.
	6. Method sections should be expended and require more information so that the study can be repeated expecially more information about search strategy is required.

REVIEWER	Robin Harbour Scottish Intercollegiate Guidelines Network United Kingdom
	Lead Methodologist for SIGN. I have been involved with SIGN almost since it was launched and have major responsibility for the methods used.

	Member of the GRADE group since 2001.
REVIEW RETURNED	12-Nov-2013

GENERAL COMMENTS	Two factual errors in the introduction. (1) SIGN does now (and has for the past few years) accept responsibility to consider costeffectiveness. (2) SIGN guidelines are approved by NHS Evidence, and as such can directly support outcomes in the QOF. 16 SIGN guidelines are cited in the 2013/14 QOF.
	The 'different form of grading' referred to in paragraph 2 of the introduction is the GRADE system. SIGN and many other guideline developers are moving to using this new system, and the article would be strenghthened by a reference to that and the opportunity it presents to address some of the issues raised.
	The paper rather leaps from a factual approach to a largely speculative discussion, but it is a useful contribution to the debate over how guideline development should change and improve.

REVIEWER	Dr Pierre Durieux
	Department of Public Health and Medical Informatics
	Paris Descartes University - Hôpital Européen Georges Pompidou,
	Paris (France)
REVIEW RETURNED	26-Nov-2013

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GENERAL COMMENTS	Two titles are proposed by the authors, one concerns national guidelines, the other (in the first page of the text) SIGN guidelines. Please choose.
	There is an extensive literature on the poor quality of clinical guidelines. In this article, the authors address a specific problem which is the link between the number of recommendations in a guideline and the use of poor evidence (level D). For this work, they use the SIGN guidelines available online. They conclude that practice guidelines should be brief and based on scientific evidence.
	This study has several limts: - It addresses a limited problem, the quality of evidence provided by clinical guidelines has been largely discussed in numerous papers - The authors did not examine why longer guidelines used poor evidence. In addition we do not know how (and by whom) evidence is appraised in SIGN guidelines the fact that only SIGN guidelines were examined is also a
	limitation. The way evidence is appraised in SIGN guidelines can be questioned. In addition we do not have any information on the way expert groups are organized. - It could be possible that the findings of this study are limited to SIGN guidelines and the way expert groups are organized. - What about the development of GRADE system which could improve the quality of guidelines and the way evidence is presented??
	The rationale of the introduction is difficult to understand. I do not understand the link between the first two paragraphs. Some statements are not clear: what is the meaning of "current recommendation categories" (second paragraph)? What are these

categories? The authors do not give the rationale to use SIGN guidelines in this article.
Results A flow chart presenting the number of eligible guidelines, excluded guidelines and included guidelines could be useful

VERSION 1 – AUTHOR RESPONSE

Reviewer Name Muhammad Imran Omar Institution and Country Managing Editor Cochrane Incontinence Group, & Research Fellow Academic Urology Unit, Health Sciences Building, Second Floor, University of Aberdeen

The manuscript requires following modifications:

- 1. This statement/inference is very strong "Guidelines with large numbers of recommendations are more likely to use weak evidence". The review authors can say that they found that guidelines with large numbers of recommendations were associated with weak evidence but they cannot say that they are "more likely to use weak evidence" as this suggest the future guidelines as well. We have altered this.
- 2. Bullet 5 should be properly worded. We have reworded this
- 3. Under limitation specify the guidleine under bullet point 1. Altered
- 4.Under results. First sentence. specify whether the page range is with/withut references. Amended
- 5. Reference should be provided of the Oxford Textbook of Primary Medical Care. This textbook is not referenced for information, but length; Iwe rae not sure whether a reference is appropriate.
- 6. Method sections should be expended and require more information so that the study can be repeated especially more information about search strategy is required.

We think the methodology is clear – however it is very simple and suspect that the reviewer is looking for a more complex search strategy. We have tried to clarify this further.

Reviewer Name Robin Harbour

Institution and Country Scottish Intercollegiate Guidelines Network United Kingdom

Please state any competing interests or state 'None declared': Lead Methodologist for SIGN. I have been involved with SIGN almost since it was launched and have major responsibility for the methods used.

Member of the GRADE group since 2001.

Two factual errors in the introduction. (1) SIGN does now (and has for the past few years) accept responsibility to consider cost-effectiveness. (2) SIGN guidelines are approved by NHS Evidence, and as such can directly support outcomes in the QOF. 16 SIGN guidelines are cited in the 2013/14 QOF. Amended as suggested

The 'different form of grading' referred to in paragraph 2 of the introduction is the GRADE system. SIGN and many other guideline developers are moving to using this new system, and the article would be strengthened by a reference to that and the opportunity it presents to address some of the issues raised.

We are aware of the specifics of the WHO report; however it is not at all clear that the GRADE system will resolve these issues; we do mention the GRADE system later; in the first instance we referred to this document because it outlined the need for change.

The paper rather leaps from a factual approach to a largely speculative discussion, but it is a useful contribution to the debate over how guideline development should change and improve. Given that we are pointing out a new finding, we feel it reasonable to speculate on the circumstances that may contribute to these findings.

Reviewer Name Dr Pierre Durieux Institution and Country Department of Public Health and Medical Informatics Paris Descartes University - Hôpital Européen Georges Pompidou, Paris (France)

Please state any competing interests or state 'None declared': none

Two titles are proposed by the authors, one concerns national guidelines, the other (in the first page of the text) SIGN guidelines. Please choose.

There is an extensive literature on the poor quality of clinical guidelines. In this article, the authors address a specific problem which is the link between the number of recommendations in a guideline and the use of poor evidence (level D). For this work, they use the SIGN guidelines available online. They conclude that practice guidelines should be brief and based on scientific evidence.

This study has several limts:

- It addresses a limited problem, the quality of evidence provided by clinical guidelines has been largely discussed in numerous papers
- Agreed it is a limited problem; but one not previously reported
- The authors did not examine why longer guidelines used poor evidence. In addition we do not know how (and by whom) evidence is appraised in SIGN guidelines.
- SIGN guideline 50 defines this process; it is clearly referenced; it is a complicated process, and this paper concentrates on outcome of that process, not the process itself
- The fact that only SIGN guidelines were examined is also a limitation. The way evidence is appraised in SIGN guidelines can be questioned. In addition we do not have any information on the way expert groups are organized.
- SIGN guideline 50 states how these groups are organized. We accept that this study only looks at SIGN guidelines and have introduce a sentence at the beginning of the discussion to state why the paper is important.
- It could be possible that the findings of this study are limited to SIGN guidelines and the way expert groups are organized.
- Agree with that but we do not know; now that we do, developers should look for it!!! It seems unlikely that the SIGN methodology is in some way so different.
- What about the development of GRADE system which could improve the quality of guidelines and the way evidence is presented??
- The GRADE system has been introduced; we are clinicians, not guideline developers and are reluctant to make proposals without knowing the implications; from our current understanding, there is no certainty that GRADE will resolve this issue.

The rationale of the introduction is difficult to understand. I do not understand the link between the first two paragraphs. Some statements are not clear: what is the meaning of "current recommendation categories" (second paragraph)? What are these categories?

I have referenced table 1 here

The authors do not give the rationale to use SIGN guidelines in this article.

Should we add Scotland to our addresses? Not sure how to resolve this – could we leave it to the editor?

Results

A flow chart presenting the number of eligible guidelines, excluded guidelines and included guidelines could be useful

We feel this might complicate what is a simple concept.

VERSION 2 - REVIEW

REVIEWER	Dr Muhammad Imran Omar
	Managing Editor Cochrane Incontinence Review Group, &
	Research Fellow Academic Urology Unit,
	Health Sciences Building, Second Floor,
	University of Aberdeen
REVIEW RETURNED	28-Dec-2013

GENERAL COMMENTS	The review authors have made appropriate changes in this revised
	manuscript as suggested earlier during peer-review. There are a few
	typographical errors, however, I think these will be addressed at the
	time of copy editing.

REVIEWER	Robin Harbour SIGN United Kingdom
	Lead Methodologist for SIGN; editor of SIGN 50.
	Member of the GRADE group since 2001.
REVIEW RETURNED	09-Dec-2013

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GENERAL COMMENTS	Reference 26 is rather general. A more useful reference would be: GRADE working group. Grading quality of evidence and strength of recommendations. BMJ 2004;328:1490 (GRADE has developed a lot since, but this article gives a good overview of the principles involved).
	There is some confusion at the end of the discussion where GRADE is mentioned. The new grading system proposed in 2001 is the one used by SIGN up till 2012. From 2013 SIGN is introducing a grading system based on GRADE principles (http://www.sign.ac.uk/pdf/SIGN_grading.pdf) It would be better to reword two sentences to reflect this. I do not think that affects the statement in the last sentence, just clarifies the background.
	One other small point. Stating that SIGN guideline 'inform the Quality Outcomes Framework' could be read as if they were the only source. For clarity, it might be better to say 'help to inform' or 'contribute to'.
	Both the above issues follow from my comments in the last review. Sorry!

VERSION 2 – AUTHOR RESPONSE

Reviewer2 - We have quoted his paper as he suggests. We had tried to avoid discussing how SIGN structured itself and we are grateful to describe what they are doing; we are happy to include the description, and hope that we have conveyed it adequately. We have acknowledged SIGN's position appropriately.

Thank you for your patience and attention to detail, which is much appreciated.