PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	High Risk Basal Cell Carcinoma Excision in Primary Care – A retrospective observational study of compliance with NICE Guidance
AUTHORS	Cole, Simon; Howes, Rachel; Meehan, Chris; Cole, Richard

VERSION 1 – REVIEW

REVIEWER	Peter Murchie University of Aberdeen, UK
REVIEW RETURNED	09-Apr-2018

GENERAL COMMENTS	Thank you for asking me to review this paper. It reports an audit of compliance with NICE guidance in the community excision of 200 consecutive skin lesions, subsequently diagnosed as basal cell carcinomas, from two hospitals in the South of England. The authors report the proportion of high risk BCCs excised and the proportion of incomplete excisions. They conclude that guidelines are not being adhered to in 23.5% of cases in the sample. I have a number of comments/thoughts that may help the authors to improve the paper. 1. Both hospitals are in the south of England - do they believe that there results are externally valid? Can this be justified? 2. Why did they limit the analysis to just 200 consecutive lesions? It seems that more data over a longer time period would have afforded a stronger paper. A clearer justification of this decision would be important, along with the biases it may have introduced. 3. It would be good to see some discussion around the strength of the evidence underpinning the NICE guidelines. Is there good epidemiological evidence that GP excision of high-risk BCCs actually disadvantages patients or the health service? Or are the guidelines based on opinion? The strength of the evidence in the paper, largely demonstrating the proportions of incomplete excisions by GPs in several studies, is not especially strong. 4. The paper presents proportions of high risk and incomplete BCCs. In of itself this is not especially illuminating. Are there particular groups of patients, GPs with particular characteristics more likely to not comply with guidelines. I would suggest rather more data could have been collected and brought to bear in a more sophisticated analysis. 5.The paragraph on future research, and the suggested projects, do not seem to add greatly to the work presented. Maybe efforts to provide stronger evidence on the true implications of primary care BCC referral are a higher priority. It seems likely that GP excision of high risk BCCs offers considerable potential advantages to patients and health services. If these are being mandated against, without good evidence, then opportunities are missed. If on the other hand patients welfare is being jeopardized the guidelines are

	correct. The paper as presented simply shows that 1/5 of primary care excised BCCs didn't comply with expert opinion - I'm not sure that this is important in the the context of the wider NHS. 6. It's notable that the majority of non-compliant excisions are deemed so on the basis of post-hoc histological features. How could this problem be tackled? 7. The authors concluded that further GP education, closer involvement with MDTs and more training is the answer. This view would seem to ignore the realities and pressures on current primary care. An alternative approach, if GP excision of high-risk BCCs is undesirable, would be to increase the capacity of secondary care diagnostic services (perhaps through tele-dermatology) or surgical capacity e.g. clinical nurse specialists. These are also options, again research to inform the best approach would be illuminating. 8. The author may consider involving one of their GP colleagues in writing the paper – the primary care perspective could add depth and balance.

REVIEWER	Dr Alex Holme Department of Dermatology, Queen Margaret Hospital, Dunfermline. UK
REVIEW RETURNED	26-Apr-2018

GENERAL COMMENTS	The paper is well-written, and documents compliance clearly against the NICE guidelines, with regard to primary care excision of BCC. BCC are a common issue in primary care. As a result, I believe it is suitable for a general medical readership, not just Dermatological.

REVIEWER	Caroline Watts University of Sydney, Australia
REVIEW RETURNED	08-Jul-2018

GENERAL COMMENTS	Thank you for the opportunity to review this paper. It is of interest to a wide audience in examining if management of BCC's follows practice guideline recommendations. The paper is clearly written. I have a couple of points regarding the presentation of results and also some comments regarding the Methods and Discussion for the authors to consider. Methods: I am assuming the assessment was based on reading the full pathology report, and giving either a Yes or No to meeting the five criteria. This is not explicitly stated, nor how many people reviewed the pathology reports and how queries were resolved. Results: In the Methods you nominate five items you will focus on in the guidelines review, but in the Table 1 there are 6 columns. At first, I found this confusing as there is no reference to the 64 high risk histology in the results. On rereading, I realised this was reported in the abstract however I think this information should also be in the results. Once these few sentences from the abstract are in the results section, and in addition noting that Model 2 practitioners are expected to recognise and excise these lesions, this column "High Risk Histology" could be removed from the table as it is duplicate of "Fail Histology Criterion". I think the results section is a bit brief and the authors should discuss their findings for each of the five guideline points reviewed. Table 1 could be better laid out perhaps with less borders and column titles consistent with the order described in the methods, and some %.

	Discussion: The principle finding in the discussion could be further developed particularly given there were a few areas of low compliance. I was interested to note there is no mention of excision margins. Are recommendations for margins included in the NICE guidelines, particularly for high risk lesions? I think it would be useful to mention in the discussion if this is the case. I would also like to know if excision type was collected, as Mohs or curettage may explain why a complete excision was not made. Could the authors cover if the guidelines make recommendations regarding excision type? It would be useful if the guidelines could be included as an appendix. BCCs are known to reoccur and information such as re-excision is often noted on pathology reports. Can the authors comment if such information was collected and if they think this is a limitation? The authors also noted that in some cases more than one guideline recommendation was disregarded. Where any patterns noted? This is a relatively small sample of reports. Area 1 and Area 2 appear to be quite different in terms of medical service provision, could the authors comment on this and if there were barriers to referrals to MDTs for example in one region which meant GP's may not be able to refer, or if structures in the two hospitals were similar. Also can the authors include in the discussion if they believe these results are representative of the UK in terms of guideline adherence and service provision. And to conclude, do the authors have any information on dermoscopy use, which is particularly useful in distinguishing suspicious pigmented lesions? Definitely worth mentioning. Minor points It is often useful to the reader if any abbreviations are spelt out in the manuscript and the abbreviation is put in brackets. Sometimes abbreviations are used in one country and not another may be confusing. In the body of the text MDT,BCC and GP are used without definition. Table 1 Should it be criteria or criterion? Page 6 Line 51 I think should be small a, area not Area

VERSION 1 – AUTHOR RESPONSE

Reviewer(s)' Comments to Author:

Reviewer: 1
Reviewer Name: Peter Murchie
Institution and Country: University of Aberdeen, UK
Please state any competing interests or state ‘None declared’: None declared

Please leave your comments for the authors below
Thank you for asking me to review this paper. It reports an audit of compliance with NICE guidance in the community excision of 200 consecutive skin lesions, subsequently diagnosed as basal cell carcinomas, from two hospitals in the South of England. The authors report the proportion of high risk BCCs excised and the proportion of incomplete excisions. They conclude that guidelines are not being adhered to in 23.5% of cases in the sample.
I have a number of comments/thoughts that may help the authors to improve the paper.

1. Both hospitals are in the south of England - do they believe that there results are externally valid? Can this be justified?

-Our main comparison was between units with and without Model 2 practitioners so geographical location is less relevant; both areas have a high incidence of BCC. The proportions of histological high risk BCC from our study are similar to those elsewhere in the literature and as with Murchie et al 2008 in relation to North-East Scotland, we have no good reason to believe that the South of England differs markedly from elsewhere in the UK.

2. Why did they limit the analysis to just 200 consecutive lesions? It seems that more data over a longer time period would have afforded a stronger paper. A clearer justification of this decision would be important, along with the biases it may have introduced.

-We have already acknowledged modest numbers and our sample of Primary care excisions is of similar size to many papers on this and related issues, including the excellent Murchie et al 2008 paper (reference 4), and we have demonstrated a large percentage discrepancy in compliance with guidance.

3. It would be good to see some discussion around the strength of the evidence underpinning the NICE guidelines. Is there good epidemiological evidence that GP excision of high-risk BCCs actually disadvantages patients or the health service? Or are the guidelines based on opinion? The strength of the evidence in the paper, largely demonstrating the proportions of incomplete excisions by GPs in several studies, is not especially strong.

-NICE guidance is based on best available evidence and expert opinion including from primary care, also from patients and carers; it includes the Murchie et al 2008 paper in its analysis along with other UK based observational studies and a randomised controlled trial. To quote from the guidance: “the retrospective studies, although flawed, do indicate a consistent trend of current practices and outcomes in favour of specialist care in this setting”.

4. The paper presents proportions of high risk and incomplete BCCs. In of itself this is not especially illuminating. Are there particular groups of patients, GPs with particular characteristics more likely to not comply with guidelines. I would suggest rather more data could have been collected and brought to bear in a more sophisticated analysis.

-We agree that analysis of non-compliance by category of GP could be included in more detail in a future study; one of our references (Walsh & King) did report poor GP compliance at recommended MDT attendance and annual appraisal both of which could be contributing factors in difficulty with clinical identification of histologically high risk BCCs. We have adjusted our results section to better reflect that although all groups had difficulties complying there are some types of GP who are more likely to follow NICE guidance.

5.The paragraph on future research, and the suggested projects, do not seem to add greatly to the work presented. Maybe efforts to provide stronger evidence on the true implications of primary care BCC referral are a higher priority. It seems likely that GP excision of high risk BCCs offers considerable potential advantages to patients and health services. If these are being mandated against, without good evidence, then opportunities are missed. If on the other hand patients welfare is being jeopardized the guidelines are correct. The paper as presented simply shows that 1/5 of primary care excised BCCs didn't comply with expert opinion- I'm not sure that this is important in the the context of the wider NHS.

-We agree that NICE guidance should put patients at the forefront and also make the most of opportunities to deliver care in the most convenient location for them; our study has demonstrated a high complete excision rate for BCCs treated in Primary Care. However, we did reference several other studies where the recognition of BCC was poor and also where there were high incomplete excision rates. This can lead to poor patient outcomes. NICE guidance is specifically intended to improve the outcomes for people with skin tumours. In its Patient perspective section the 2010 NICE guidance reports that patients want their BCC to be accurately diagnosed and treated effectively first time, with minimal risk of recurrence and the best cosmetic result possible by adequately trained professionals who have met prescribed standards, participate in audit and undertake CPD in this area.

6. It's notable that the majority of non-compliant excisions are deemed so on the basis of post-hoc histological features. How could this problem be tackled?

-We discussed this issue in our final paragraph and agree that clinical recognition of histologically high risk BCC is difficult, which compromises compliance. Even experienced dermatologists and plastic surgeons cannot always recognise histologically high risk BCCs. We have now further emphasised this point regarding the NICE guidance in the final paragraph.

7. The authors concluded that further GP education, closer involvement with MDTs and more training is the answer. This view would seem to ignore the realities and pressures on current primary care. An alternative approach, if GP excision of high-risk BCCs is undesirable, would be to increase the capacity of secondary care diagnostic services (perhaps through tele-dermatology) or surgical capacity e.g. clinical nurse specialists. These are also options, again research to inform the best approach would be illuminating.

-We feel very positively about the potential for the increase in numbers of Model 2 practitioners as a bridge between Primary and Secondary Care for skin cancer surgery. Murchie et al (2008) also comment on scope for improving training for GPwSIs. To quote from the 2010 NICE guidance: “only doctors and nurses who have received locally approved training and who are active members of a skin cancer MDT should carry out surgery for skin cancers”. Although important, we feel that it is beyond the scope of this paper to discuss the realities and pressures of working in today’s NHS but concur that increased provision in both primary and secondary care is likely to be necessary to giving the best outcomes for people with skin tumours.

8. The author may consider involving one of their GP colleagues in writing the paper – the primary care perspective could add depth and balance.

-The concept of our study was discussed with a Professor of Primary Health Care Research who agreed with the concept and suggested that submission to BMJ Open would be appropriate.

Reviewer: 2
Reviewer Name: Dr Alex Holme
Institution and Country: Department of Dermatology, Queen Margaret Hospital, Dunfermline. UK
Please state any competing interests or state ‘None declared’: None declared

Please leave your comments for the authors below
The paper is well-written, and documents compliance clearly against the NICE guidelines, with regard to primary care excision of BCC. BCC are a common issue in primary care. As a result, I believe it is suitable for a general medical readership, not just Dermatological.

-Thank you for these encouraging comments.

Reviewer: 3
Reviewer Name: Caroline Watts
Institution and Country: University of Sydney, Australia
Please state any competing interests or state 'None declared': None

Please leave your comments for the authors below
Thank you for the opportunity to review this paper. It is of interest to a wide audience in examining if management of BCC's follows practice guideline recommendations. The paper is clearly written. I have a couple of points regarding the presentation of results and also some comments regarding the Methods and Discussion for the authors to consider.

Methods: I am assuming the assessment was based on reading the full pathology report, and giving either a Yes or No to meeting the five criteria. This is not explicitly stated, nor how many people reviewed the pathology reports and how queries were resolved.

-This is a good point and is now clarified in the methods.

Results: In the Methods you nominate five items you will focus on in the guidelines review, but in the Table 1 there are 6 columns. At first, I found this confusing as there is no reference to the 64 high risk histology in the results. On rereading, I realised this was reported in the abstract however I think this information should also be in the results. Once these few sentences from the abstract are in the results section, and in addition noting that Model 2 practitioners are expected to recognise and excise these lesions, this column "High Risk Histology" could be removed from the table as it is duplicate of "Fail Histology Criterion". I think the results section is a bit brief and the authors should discuss their findings for each of the five guideline points reviewed. Table 1 could be better laid out perhaps with less borders and column titles consistent with the order described in the methods, and some %.

-We agree and have made some changes to the results and table, but have retained the high risk histology column because the criteria for failure of compliance are different for Areas 1 and 2 because of the availability of Model 2 practitioners, so this information is relevant for inclusion.

Discussion: The principle finding in the discussion could be further developed particularly given there were a few areas of low compliance. I was interested to note there is no mention of excision margins. Are recommendations for margins included in the NICE guidelines, particularly for high risk lesions? I think it would be useful to mention in the discussion if this is the case.

-Although we did cover the standard excision margins and the challenges they may pose in our discussion, there is no quantitative mention of specific excision margins for different types of BCC in

the NICE guidance and the emphasis is more on the importance of achieving complete excision. NICE does mention excision margins as an area of concern regarding difficulty of primary closure and poor cosmesis in even 10mm diameter low risk BCCs. In the evidence section, NICE guidance notes variations in practice on excision margins as an area of discrepancy in several skin cancers including BCCs, concluding that the evidence favours specialist care.

I would also like to know if excision type was collected, as Mohs or curettage may explain why a complete excision was not made. Could the authors cover if the guidelines make recommendations regarding excision type?

-We only investigated whole specimen excisions and have now made this clearer in the methods. This NICE guidance only mentions curettage and Mohs in passing as part of a number of possible treatment options for all types of BCC which require suitable training and quality assurance prior to use.

It would be useful if the guidelines could be included as an appendix.

-The reference to the NICE guidance is included in the references (number 1) including the link to the 57 page document.

BCCs are known to reoccur and information such as re-excision is often noted on pathology reports. Can the authors comment if such information was collected and if they think this is a limitation?

-Our focus has been on primary BCC excisions from Primary Care. All cases in our study were primary excisions confirmed on histology as BCC but we cannot comment on how many re-excisions of other lesions were performed during the study period- we would hope these were discussed in the local MDT as is recommended.

The authors also noted that in some cases more than one guideline recommendation was disregarded. Where any patterns noted?

-It is difficult to draw strong conclusions other than that Model 2 practitioners never failed on more than one of the criteria, and that anatomical site and histological subtype were most commonly disregarded together, but this is a useful suggestion for future study.

This is a relatively small sample of reports. Area 1 and Area 2 appear to be quite different in terms of medical service provision, could the authors comment on this and if there were barriers to referrals to MDTs for example in one region which meant GP's may not be able to refer, or if structures in the two hospitals were similar.

-The referral structures and 2 week cancer targets are applied in the same way in both areas, the main difference being the availability of Model 2 practitioners, as you state, which is dependent on uptake of opportunities by individual GPs. We are not aware of nor can envisage any differential barriers. The criteria for MDT referral are set nationally.

Also can the authors include in the discussion if they believe these results are representative of the UK in terms of guideline adherence and service provision.

-Thank you, we have added a comment relating to this in the discussion and also mention in our reply to Reviewer 1. We consider our results to be comparable to those in the UK literature suggesting that they are representative.

And to conclude, do the authors have any information on dermoscopy use, which is particularly useful in distinguishing suspicious pigmented lesions? Definitely worth mentioning.

-We have already mentioned this as a possible avenue for improvement and aid to diagnosis. We note a paper has been published in Clin Exp Dermatol by a European team since we first submitted our manuscript, regarding dermoscopy of BCC. It concludes that no single dermoscopic structure indicates a particular subtype of BCC, but rather patterns of features may suggest subtype. Future research may clarify if dermoscopy will achieve the same sensitivity and specificity for high risk BCC identification (rather than just to distinguish between features of the various low risk BCC subtypes) as for pigmented lesions. Dermoscopy attachments and apps for smartphones may increase the use in Primary Care and referrals via Dermatology into Secondary Care to help with diagnosis of BCC and its sub-types.

Minor points
It is often useful to the reader if any abbreviations are spelt out in the manuscript and the abbreviation is put in brackets. Sometimes abbreviations are used in one country and not another may be confusing. In the body of the text MDT,BCC and GP are used without definition.
Table 1 Should it be criteria or criterion?
Page 6 Line 51 I think should be small a, area not Area

-Thank you, we have taken note of these points and made changes as appropriate. Criterion is the singular so this has not been changed.

VERSION 2 – REVIEW

REVIEWER	Caroline Watts University of Sydney, Sydney, Australia Kirby Institute, UNSW, Sydney, Australia
REVIEW RETURNED	03-Sep-2018

GENERAL COMMENTS	Thank you for addressing the concerns of the reviewers. I have two comments; firstly providing the justification for your view that this is a representative sample should be considered and secondly it should be stated in the conclusion that you are referring to management of BCCs in a health district the south of England. And two minor points, there are inconsistencies in the font size, and the addition of 'with' to the first sentence in principle findings, as in compliance with NICE guideance.

VERSION 2 – AUTHOR RESPONSE

Many thanks for your further constructive revisions. We have clarified the sample size in the strengths and limitations sections and been more specific in the conclusion as advised.