

## 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>	The role of chief executive officers in a quality improvement initiative: a qualitative study
<b>AUTHORS</b>	Parand, Anam ; Dopson, Sue; Vincent, Charles

### VERSION 1 - REVIEW

<b>REVIEWER</b>	Joanna Jiang Senior Social Scientist, Agency for Healthcare Research and Quality, USA
<b>REVIEW RETURNED</b>	09-Aug-2012

<b>THE STUDY</b>	There is no clear description of what the research question was. Therefore, it is difficult to assess whether the overall research design is appropriate and adequate to address the research question. There is no outcome measure which was already acknowledged by the authors in the limitations. The sample size is relatively small and homogeneous -- CEOs. No other categories of staff members were included (e.g., middle management, front line staff, clinicians).
<b>RESULTS &amp; CONCLUSIONS</b>	There is no clear statement of any research question(s) upfront. Therefore, it is not easy to assess whether the results answer the research question. The whole piece was so descriptive. The interpretation and conclusions seemed to be more informed by literature than by the results.
<b>GENERAL COMMENTS</b>	A few major concerns of this study -- a) The interviews capture mainly the self-perception (or self-assessment) of the CEO involvement in the PSI. As flawed human beings, we know that there is always huge gap between self-perception and the reality. If the authors could do some cross-validation, such as link to outcome measures of the program or interviews of other staff members, it would help improve the validity of the study results. b) In some places, it is not clear whether the CEO simply talked about his/her own opinion or about something that actually had taken place. There is a fundamental difference between one's thought/view (which may never be materialized) and the actual activity.

<b>REVIEWER</b>	Laura J. Damschroder Research Scientist Ann Arbor VA Center for Clinical Management Research USA I declare that I have no competing interests.
<b>REVIEW RETURNED</b>	28-Aug-2012

<b>THE STUDY</b>	The Study aim appears to be something like this: "Actions frequently
------------------	--

	<p>referenced as beneficial included displays of senior management commitment and support [14] and creating the right culture...there is little research-based practical guidance to outline the details of the senior management role in leading improvement. This study aims to answer this call by exploring the self-reported participation of Chief Executives (CEOs) involved in the second phase of an organisation-wide quality and safety collaborative...” – the aim is not very straight-forward and results do not actually link back to “displays of senior management commitment and support and creating the right culture” – whatever those might be.</p> <p>The first premise in the aim requires some kind of linkage between what CEOs report they did and how their facility actually fared in this improvement initiative. I understand that you cannot infer causality with the data/study design you have but I’ve interviewed CEOs and senior managers and I have found that a challenge with this level of leader is that most know very well what is “ideal” and many will be rather unclear about what they actually did in concrete terms versus what they know they should be doing (they seem to suffer more than many from a type of social desirability bias).</p> <p>I found myself wanting/needing to know how results from your other published work on this topic/initiative relate to what is presented here. The paper would be greatly strengthened by elaborating more on previous study findings. After a search, I found published findings that seemed to be linked to this initiative based on your citations. At least one paper found “managers involvement” and “resource availability and allocation” affect medical engagement with the SPI program (ref: <a href="http://qualitysafety.bmj.com/content/19/5/1.46.short">http://qualitysafety.bmj.com/content/19/5/1.46.short</a> ). Exploring patterns of the types of CEO involvement across successful and unsuccessful sites would help validate the veracity of data collected from CEOs self-report. At a minimum, the paper would be strengthened by integrating CEO data with perceptions from other stakeholders about their senior leader(s) that affirm or dis-affirm these self-reports.</p> <p>Please define "Trust". It is unclear whether a Trust includes more than one hospital. Only 2 CEOs oversee 2 hospitals while the others oversee only one. Were the study hospitals all in different Trusts or was there more than one hospital in a given trust but with different CEOs (other than the two aforementioned)? Picky observation: CEO refers to Chief Executive Officer but you refer to Chief Executive (no Officer).</p> <p><b>METHODS</b> Participants – A strength of this paper is that you had such a high level of participation by CEOs. Did the one CEO decline to participate or was there some other reason for not participating? Data Analysis - Need more explanation of the coding and analysis methods. Use of qualitative research reporting guidelines would be useful e.g., <a href="http://www.equator-network.org/resource-centre/library-of-health-research-reporting/reporting-guidelines/qualitative-research/">http://www.equator-network.org/resource-centre/library-of-health-research-reporting/reporting-guidelines/qualitative-research/</a> . The explanation provided is unclear. For example, “Axial coding was performed to group and relate the emerging themes.” Last sentence refers to there only being one interviewer per Trust – did you mean to say interviewee?</p>
<p><b>RESULTS &amp; CONCLUSIONS</b></p>	<p><b>FINDINGS</b> L36, P6: It is stated that “almost all gave detailed accounts of the value that they believed to have brought...” – why didn’t they all give detailed accounts? Do you mean to imply that some thought they did not have value or that some did not provide sufficient detail?</p>

	<p>L46, P6: The example quote about the CEO who was “away on leave” and things having all “gone downhill” is an ambiguous example of the significant influence on success/failure – for things to fall apart when the CEO is away, is an unhealthy sign that the organization is not set up to run without this person’s presence. This seems to be an example of “significant [negative] influence” in the larger scheme.</p> <p>L50, P6: The sentence “Barriers to their involvement included management of a large Trust and their limited time.” – is unclear; do you mean to say that SPI was just one small thing they needed to manage in the realm of larger Trust responsibilities? Again, it is unclear at what level these CEOs are operating: at a “Trust” level which has multiple hospitals but only one of which participated in the study or at a hospital level (except for the 2 CEOs listed in Table 1 who oversaw 2 hospitals...)?</p> <p>L50, P6: This sentence, “Whilst early involvement in the process, learning about the programme and having other executives and staff engaged with the programme were described as facilitators of their engagement.” Is an example of the lack of clarity in many of the findings: here, more questions are raised than are answered because of its lack of specificity and subsequent quotes do not do much to elaborate. For example, what kind of early involvement (e.g., attending meetings? Doing walk-arounds? Setting expectations with key anagers?)...what things did they need to learn about the program...how did they get other executives and staff engaged...and the latter seems circular with getting others engaged which got CEOs engaged.</p> <p>It would be more useful to have Table 2 ordered by relative importance. You start off (Line 28, Page 7) with “Resource provision” but then state it was least mentioned. You go on to say, however (L42, P7) that “they recognized this as one of their considerable contributions.” – few mentioned it but yet it was one of their key contributions? On what do you base this statement if only a few mentioned it?</p> <p>Citation in L25, P8 should be moved to Discussion</p> <p>L25, P8: Statement, “Communication was particularly described as key to staff engagement with the programme” – is unclear</p> <p>L5, P9: Statement, “...acts of commitment” – is an example of vague statements throughout results; what kinds of acts? Why do they show commitment?</p> <p>L33, P9: “auctioned” – what does this mean? ...”and it is not really driving change at the Board.” – mention of the Board here, doesn’t seem appropriate – why is change at the board important?</p> <p>L39+,P9: more information is needed about the role of monitoring. E.g., How does it increase frontline compliance and generate accountability – were CEOs intentional about using monitoring as a tool or mechanism by which to get commitment/engagement? How often did they themselves check up on results? Did their managers know they were going to watch it too? Did CEOs expect x results in y timeframe?</p>
--	--

L54, P9: How did “changing strategies and agendas...at the board level... help integrate” SPI? Again, vague statements without concrete actions/behaviors that are linked to the organization’s processes related to SPI. What role does the board have? This is not explained though the board is mentioned a few times in Findings and Discussion.

#### DISCUSSION

In general, your discussion doesn’t seem to follow your results well. You seem to conceptualize your findings in multiple different ways in an effort to tie in to the literature and most paragraphs lack a cohesive, coherent idea. Some examples follow:

L25, P10: You state that “executives gave detailed accounts” – and yet your results are rather vague and not actionable as described. An example is L35, P10: “Yet, our findings have also inferred that CEOs in bigger Trusts may have a lesser role to play than in smaller ones, especially if the CEO is in charge of more than one hospital. In these instances, the Medical or Clinical Director may subsume the outlined roles.” – on the one hand, it’s obvious that CEOs who have more to oversee will be able to pay less attention to a single initiative like SPI and yet it’s hard to see where you are able to make such a clear conclusion in your introductory paragraph when only two CEOs have two hospitals and the rest have only one (unless you are talking about large versus smaller hospitals). Secondly, it may be perfectly appropriate for lower level managers to “subsume the outlined roles” (whatever those roles are that you are referring to) but it is stated as a negative strike against these CEOs. The question is whether these CEOs are effective in appropriately delegating responsibilities to these managers and how it is that they do so. On the other hand, if they are ineffective in doing so, then SPI may suffer and that, perhaps, is what you are trying to convey. This statement is one example of the seeming black and white inferences made without full context and without the benefit of managerial theory to help make sense of the data.

The 2nd paragraph (starting L49, P10) is unclear. For example, “Monitoring may then be a function that was seen most by the CEOs alone. Reported benefits of the monitoring role of raising awareness of safety issues, trends and providing an opportunity for open discussion were all inward facing benefits for the Board.” – I don’t know what this means and how it relates to your actual results.

L27, P11: “Managerial commitment was an expected finding considering literary support for this inside and outside of healthcare.[24, 25] We identified manifestations of commitment from: attending SPI learning sessions; leadership walkarounds; prioritising safety on the Board agenda; talks explaining the programme; stamps of approval for programme practices; stating its purpose; and creating the right climate/environment.”

v What is “literary”?

v Your list is nice and concise but I didn’t see all these actually show up in your findings.

L54, P11: Here you mention an earlier related study, “Indeed, senior managers have been identified as holding a facilitating responsibility,[23, 30] including research from another study on the first phase of the SPI programme.[31]” – it would have been useful to use findings like this from your earlier work to inform this new analysis of CEO data. This would help tie in with a larger body of

	<p>very relevant findings and make your results much more coherent and actionable.</p> <p><b>CONCLUSION</b></p> <p>L40, P13: "...and their reported actions are ones that were considered significant to their perceived achievements of the programme." – however, earlier you said you didn't have outcomes – even their own self-perceived outcomes. This statement would be wonderful to be able to make but your findings do not seem to support it.</p> <p>Table 3: many of the quotes are very difficult to interpret, stripped of context as they are. Some explanatory sentences are needed to help place quotes in context, e.g., "...we would probably take a paper to our trust executive group shortly after that with a decision...whether to continue on the current method, if so, are we going to internally fund it." –as an example of "1.1 Securing Funding" -- the only part of this I can understand is that they might internally fund the effort. The whole first clause does not have meaning for readers.</p>
<b>REPORTING &amp; ETHICS</b>	<p>Data Analysis - Need more explanation of the coding and analysis methods. Use of qualitative research reporting guidelines would be useful e.g., <a href="http://www.equator-network.org/resource-centre/library-of-health-research-reporting/reporting-guidelines/qualitative-research/">http://www.equator-network.org/resource-centre/library-of-health-research-reporting/reporting-guidelines/qualitative-research/</a> . The explanation provided is unclear. For example, "Axial coding was performed to group and relate the emerging themes." Last sentence refers to there only being one interviewer per Trust – did you mean to say interviewee?</p>
<b>GENERAL COMMENTS</b>	<p>This paper has potential importance because data based on CEO input is rare in the context of a quality initiative like SPI.</p>

### VERSION 1 – AUTHOR RESPONSE

<b>Reviewer Comments</b>	<b>Author responses &amp; changes</b>
<b>Reviewer 1: Joanna Jiang</b>	
1.1. There is no clear description of what the research question was. Therefore, it is difficult to assess whether the overall research design is appropriate and adequate to address the research question.	1.1 We acknowledge that our research question is broad and exploratory and we have re-worded the research question to a more specific and clearer research objective within the introduction and elsewhere, as follows: " <i>To identify the critical dimensions of hospital Chief Executives Officers' (CEOs) involvement in a quality and safety initiative: the Safer Patients Initiative (SPI).</i> " We have also added that we aim: " <i>To offer practical guidance that will assist CEOs to fulfil their leadership role in quality improvement.</i> "
1.2 There is no outcome measure which was already acknowledged by the authors in the limitations.	1.2 We entirely agree that associating the CEO remarks with programme outcomes would be invaluable and add a great deal to the strength of this study. Unfortunately, this was not possible with this programme and to demonstrate this point we have added the following paragraph within the limitations section: " <i>As the SPI as a programme did not</i>

	<p><i>demonstrate overall improvement or elucidate which organisations performed better than others, it is difficult to link CEO self-perceptions with formal outcomes, and the existing data does not show clear enough trends for this analysis. In the future, the framework presented here could provide the basis for a quantitative assessment of CEO engagement, which might be linked to trends in process and outcome changes in future programmes. Future work could also explore patterns of the types of CEO involvement across successful and unsuccessful sites'</i></p>
<p>1.3 The sample size is relatively small and homogeneous -- CEOs.</p>	<p>1.3 We recognise that we did not mention the limitation of the small sample size in the paper, so we have now included it along with some justification that it is adequate when considering a number of factors. <i>"Lastly, the sample size is relatively small yet can be judged respectable when considering that the interviewees included all but one of the CEOs in charge of all of the NHS Trusts that participated within SPI across the UK and when considering the low number of CEOs in the wider UK population compared with other healthcare professionals. Nevertheless, a larger sample that is less homogenous would have strengthened the study and its findings."</i></p> <p>We have further added some other peer reports to reduce the bias bought with a homogenous sample and to increase the sample size. This is described further in the following response (1.4).</p>
<p>1.4 No other categories of staff members were included (e.g., middle management, front line staff, clinicians).</p>	<p>1.4 We accept that an absence of peer-reports in this study is a limitation and we have therefore carried out additional analysis and included peer-reports from a cross-section of others that were involved in SPI, i.e. the programme coordinators, management and those working within different SPI 'workstreams', which include frontline clinical staff.</p> <p>We add a description of the sample in the methods and emphasise that the findings focus on the self-reports by adding the following <i>"The findings section pertains to the CEO reports, with a supplementary summary of the reports by staff."</i> and we have added the subtitle to differentiate the findings <i>"Staff reports of dimensions of CEO involvement in SPI"</i>.</p> <p>In addition to this, we have added findings from our previous research work on SPI that comprise of many peer views on management involvement within the programme.</p>
<p>1.5 [R]As mentioned above, there is no clear statement of any research question(s) upfront. Therefore, it is not easy to assess whether the results answer the research question.</p>	<p>1.5 Please see answer 1.1 regarding our addition of more explicit aims.</p>
<p>1.6 The whole piece was so descriptive. The</p>	<p>1.6 We have re-ordered and re-framed the</p>

<p>interpretation and conclusions seemed to be more informed by literature than by the results.</p>	<p>discussion to emphasise the findings rather than the literature. However, we still keep almost all of the literature references in as we believe it helps to show both how our work adds to research on this topic and how research lends supports to our findings. We believe that the study's strengths are in the finding descriptions and accept that because of this, it is very descriptive.</p>
<p>1.7 [R]The interviews capture mainly the self-perception (or self-assessment) of the CEO involvement in the PSI. As flawed human beings, we know that there is always huge gap between self-perception and the reality.</p>	<p>1.7 Please see answer 1.4 regarding addition of peer views. In addition to this we have provided evidence to your statement concerning the perception gap from our previous research within SPI, with the following sentence to show that we acknowledge this problem. <i>"In a previous research survey of 635 of the SPI participators (including the CEOs), not only did senior management and frontline staff have many divergent views on the programme's strengths, weaknesses and impact, but also the senior managers held overall more positive views than the frontline.(Parand et al 2010; Benn et al, 2012)"</i></p>
<p>1.8 [r]If the authors could do some cross-validation, such as link to outcome measures of the program or interviews of other staff members, it would help improve the validity of the study results.</p>	<p>1.8 Thank you for these suggestions. Please see answers 1.2 regarding the difficulty to add outcome measures for this particular programme, and 1.4 on our additional analysis of interviews of other staff.</p>
<p>1.9 b) In some places, it is not clear whether the CEO simply talked about his/her own opinion or about something that actually had taken place. There is a fundamental difference between one's thought/view (which may never be materialized) and the actual acitivity.</p>	<p>1.9 The intention of the article was not to describe CEOs opinions on which actions were important, but to describe CEOs reports of their own actions that they deemed important. We have made some changes to remove ambiguity. Firstly we have spelled out the intention to focus on actual involvement rather than opinions in the updated introduction <i>"we intend to offer evidence on the critical dimensions of their actual involvement rather than opinions on what this should be."</i>, secondly we have added a sentence on this within the methods section: <i>"All references coded were in regards to their actual involvement/contributions .. as opposed to their opinions on what CEOs should do."</i> Thirdly, we have clarified all instances where we can see that there may be ambiguity over whether quotes refer to CEO opinion or actions. For example, changing <i>"the CEOs asserted the importance of listening to the frontline to get their input on safety issues."</i> to <i>"the CEOs conveyed the benefits they gained from listening to the frontline to get their input on safety issues."</i> Several such changes have been</p>

	made.
<b>Reviewer 2: Laura J. Damschroder</b>	
2.1 The Study aim appears to be something like this: "Actions frequently referenced as beneficial included displays of senior management commitment and support [14] and creating the right culture...there is little research-based practical guidance to outline the details of the senior management role in leading improvement. This study aims to answer this call by exploring the self-reported participation of Chief Executives (CEOs) involved in the second phase of an organisation-wide quality and safety collaborative..." – the aim is not very straight-forward and results do not actually link back to "displays of senior management commitment and support and creating the right culture" – whatever those might be.	2.1 Thank you for your valuable points. Please see answer 1.1 for the response to your concerns about the study aim and changes to make the aim more explicit. We have also further added to the introduction so that it does not appear that we are investigating 'displays of commitment' or 'safety culture'.
2.2 The first premise in the aim requires some kind of linkage between what CEOs report they did and how their facility actually fared in this improvement initiative. I understand that you cannot infer causality with the data/study design you have but I've interviewed CEOs and senior managers and I have found that a challenge with this level of leader is that most know very well what is "ideal" and many will be rather unclear about what they actually did in concrete terms versus what they know they should be doing (they seem to suffer more than many from a type of social desirability bias).	2.2 Please see answer 1.7 on our acknowledgement of this issue and addition of previous evidence of it within our research on SPI.
2.3 I found myself wanting/needing to know how results from your other published work on this topic/initiative relate to what is presented here. The paper would be greatly strengthened by elaborating more on previous study findings. After a search, I found published findings that seemed to be linked to this initiative based on your citations. At least one paper found "managers involvement" and "resource availability and allocation" affect medical engagement with the SPI program (ref: <a href="http://qualitysafety.bmj.com/content/19/5/1.46.short">http://qualitysafety.bmj.com/content/19/5/1.46.short</a> ).	2.3 Thank you for this suggestion. In the introduction we have now added a considerable section on our previous research work in SPI drawing out findings related to management in the SPI programme, and link it to our research question. We also now refer back to these more clearly within the discussion.
2.4 Exploring patterns of the types of CEO involvement across successful and unsuccessful sites would help validate the veracity of data collected from CEOs self-report.	2.4. Please see answer 1.2 acknowledging this very valid point along with the difficulties in obtaining such outcomes from this particular programme.
2.5 [R]At a minimum, the paper would be strengthened by integrating CEO data with perceptions from other stakeholders about their senior leader(s) that affirm or dis-affirm these self-reports.	2.5 Please see answer 1.4 regarding addition of peer views to the paper.
2.6 Please define "Trust". It is unclear whether a Trust includes more than one hospital. Only 2 CEOs oversee 2 hospitals while the others oversee only one. Were the study hospitals all in different Trusts or was there more than one hospital in a given trust but with different CEOs	2.6 To clarify we have added the following sentence: <i>"Specifically, every Trust was managed by a different CEO and only two Trusts had more than one hospital participating in the SPI programme, therefore two CEOs oversaw two</i>

(other than the two aforementioned)?	<i>hospitals participating in SPI, while the rest each oversaw one participating hospital.” We have also defined Trust in a footnote, as follows: “A Trust is a public sector organisations led by a Board that manages one or more hospitals to ensure their quality and financial performance and service developments”</i>
2.7 Picky observation: CEO refers to Chief Executive Officer but you refer to Chief Executive (no Officer).	2.7 Thank you for pointing this out. We have appended the word ‘Officer’ to every instance that the term Chief Executive is used, including within the title of the manuscript. Participant quotations remain untouched.
2.8 METHODS Participants – A strength of this paper is that you had such a high level of participation by CEOs. Did the one CEO decline to participate or was there some other reason for not participating?	2.8 We have added the following text in brackets: <i>“one CEO did not participate in the interviews (we have reason to believe this was because s/he was busy in the process of moving on to another Trust)”</i>
2.9 Data Analysis - Need more explanation of the coding and analysis methods. Use of qualitative research reporting guidelines would be useful e.g., <a href="http://www.equator-network.org/resource-centre/library-of-health-research-reporting/reporting-guidelines/qualitative-research/">http://www.equator-network.org/resource-centre/library-of-health-research-reporting/reporting-guidelines/qualitative-research/</a> . The explanation provided is unclear. For example, “Axial coding was performed to group and relate the emerging themes.”	2.9 We have re-written parts of this section to expand and allow for better transparency of the data analysis.
3.0 Last sentence refers to there only being one interviewer per Trust – did you mean to say interviewee?	3.0 Yes, thank you, we meant ‘interviewee’.
3.1 FINDINGS L36, P6: It is stated that “almost all gave detailed accounts of the value that they believed to have brought...” – why didn’t they all give detailed accounts? Do you mean to imply that some thought they did not have value or that some did not provide sufficient detail?	3.1 We apologise for the confusion. We mean that not all gave in depth information on their value bought. To address confusion we have changed this to <i>“all gave accounts of the value..”</i> We identify that this confusion may have been exacerbated by another sentence where we have similarly used the word ‘almost’ and have removed this also. One of the CEOs did not recognise their importance at the start of the interview but then went on to describe their value. Rather than confuse the reader further, we will not include this sentence.
3.2 L46, P6: The example quote about the CEO who was “away on leave” and things having all “gone downhill” is an ambiguous example of the significant influence on success/failure – for things to fall apart when the CEO is away, is an unhealthy sign that the organization is not set up to run without this person’s presence. This seems to be an example of “significant [negative] influence” in the larger scheme.	3.2 We agree that insight into the person-dependence of the Trust is a likely indicator of poor project management, yet we believe that this example quotation exemplifies the great extent to which certain CEOs perceived their involvement (or lack of) affects SPI.
3.3 L50, P6: The sentence “Barriers to their involvement included management of a large Trust and their limited time.” – is unclear; do you mean to say that SPI was just one small thing they needed to manage in the realm of larger Trust responsibilities?	3.3 We have substituted this unclear statement with the following: <i>“The most reported barrier to their involvement was their time constraints to participate within programme efforts, which was often attributed to the demands of managing a large Trust.”</i>
3.4 [R]Again, it is unclear at what level these CEOs are operating: at a “Trust” level which has multiple hospitals but only one of which	3.4 Please see answer 2.6 for insertions to clarify this point.

<p>participated in the study or at a hospital level (except for the 2 CEOs listed in Table 1 who oversaw 2 hospitals...)?</p>	
<p>3.5 L50, P6: This sentence, “Whilst early involvement in the process, learning about the programme and having other executives and staff engaged with the programme were described as facilitators of their engagement.” Is an example of the lack of clarity in many of the findings: here, more questions are raised than are answered because of its lack of specificity and subsequent quotes do not do much to elaborate. For example, -what kind of early involvement (e.g., attending meetings? Doing walk-arounds? Setting expectations with key anagers?)...what things did they need to learn about the program...how did they get other executives and staff engaged...and the latter seems circular with getting others engaged which got CEOs engaged.</p>	<p>3.5 We have added further details to this section: <i>“Whilst early involvement in the process (from helping at the application stage or/and from attending the first learning session), learning about the programme (such as the quality improvement techniques, the targets set, the support networks available, and the motivational impetus delivered by IHI)”</i></p> <p>Here, having staff/Board engaged is not referring to CEOs engaging staff. That is separately described under the theme ‘commitment and support’.</p>
<p>3.6 It would be more useful to have Table 2 ordered by relative importance.</p>	<p>3.6 Thank you for this suggestion, we did consider ordering the table by relative importance but it was decided to order both the table and the text in the present way because it better reflects the time of the stages that CEOs most get involved in these roles. That is, they start with resource allocation, then motivate and engage and offer support and commitment, followed by monitoring and finally embedding the programme for sustainability. Because these dimensions overlap considerably we are aware that we have not emphasised the reasoning for the presentation of this order. Therefore, we emphasise this with the following sentence: <i>“Although not discretely, our findings show some indication of the stages in which CEOs most get involved in these dimensions, most notably resource allocation before the start and (to a lesser extent) at the end of the programme, followed by engagement, motivation, commitment and support for staff, and towards the end of the process the CEOs are more likely to engage in decisions and strategies to embed the programme elements in order to sustain it.”</i></p>
<p>3.7 You start off (Line 28, Page 7) with “Resource provision” but then state it was least mentioned. You go on to say, however (L42, P7) that “they recognized this as one of their considerable contributions.” – few mentioned it but yet it was one of their key contributions? On what do you base this statement if only a few mentioned it?</p>	<p>3.7 Sorry for the misunderstanding that only a few mentioned ‘Resource Provision’. Each dimension, including ‘Resource Provision’ was mentioned by the majority of CEOs, that is more than half the interviewees. We have acknowledged this already with the following statement: <i>“Resource provision was the theme that was least mentioned, but was still referenced by more than half of the CEOs.”</i> We understand that the term ‘least mentioned’ can be misleading, and because it was actually many more than half that mentioned Resource provision, we have amended the statement in the following way: <i>“Resource provision was mentioned less than the others, but was still referenced by well over more than half of the</i></p>

	<i>CEOs and consequently stands firm as a critical dimension of CEO involvement in SPI.”</i>
3.8 Citation in L25, P8 should be moved to Discussion	3.8 We have moved this sentence to the discussion and amended it slightly.
3.9 L25, P8: Statement, “Communication was particularly described as key to staff engagement with the programme” – is unclear	3.9. We have clarified the sentence as follows: <i>“Communicating with staff was particularly useful in attempting to encourage their engagement with the programme, through conversations on issues arising from implementation of programme elements and reinforcing behaviours including expressions of vocal encouragement or disapproval of non-compliance.”</i>
4.0 L5, P9: Statement, “...acts of commitment” – is an example of vague statements throughout results; what kinds of acts? Why do they show commitment?	4.0 In the previous paragraph we describe acts of commitment, which is what we are referring to here. To make this clearer for the reader, we have amended the sentence as follows: <i>“the outlined acts of commitment”</i> . To explain why these were considered acts of commitment, the following sentence has been added: <i>“These were considered demonstrations of commitment to SPI because they required observable effort by the CEOs to prioritise, promote and become involved in the programme.”</i>
4.1 L33, P9: “auctioned” – what does this mean?	4.1 Thank you, this typo has been amended to “actioned”
4.2 ...”and it is not really driving change at the Board.” – mention of the Board here, doesn’t seem appropriate – why is change at the board important?	4.2 We agree that this sentence is not entirely relevant to this topic and have therefore deleted this sentence.
4.3 L39+,P9: more information is needed about the role of monitoring. E.g., How does it increase frontline compliance and generate accountability – were CEOs intentional about using monitoring as a tool or mechanism by which to get commitment/engagement? How often did they themselves check up on results? Did their managers know they were going to watch it too? Did CEOs expect x results in y timeframe?	<p>4.3 We have added more information on monitoring that answers your queries. This insertion is as follows: <i>“It was additionally considered as a method of increasing frontline staff compliance indirectly through feedback at Board/project meetings on whether staff were complying with SPI prescribed activities. Accountability was also said to be generated at these meetings through assessment of targets met and actions delivered. The CEOs primary intention to monitor the process and its key indicators was to become familiar with the programme and to keep track of progress rather than to improve compliance. Timeframes were set by the workstream leads and coordinators but CEOs would query the programme leads if they were falling behind on self-imposed deadlines and targets. Outside of the meetings, the CEOs did not audit the programme’s progress or compliance to it, instead they relied on the implementers of the programme to report back on these, especially if there was any problems”</i></p> <p>Further information has also been provided through staff insight on what monitoring offers them: <i>“staff feedback and presentation to the CEOs on SPI data measures (in the form of high level data and metrics in Run Charts and traffic light measures) and summaries of</i></p>

	<i>progress and future plans (through verbal presentations and written reports), were reported to provide awareness, recognition, solutions and direction from the CEOs. These were considered invaluable, especially the recognition of staff work, and staff conveyed their wish to avoid disappointing the CEO. This suggests that subtle acts of listening to presentations, reading reports, understanding and acknowledging the difficulties faced in implementation and the strides made were all benefits gained from CEOs monitoring data and attending meetings.”</i>
4.4 L54, P9: How did “changing strategies and agendas...at the board level... help integrate” SPI? Again, vague statements without concrete actions/behaviors that are linked to the organization’s processes related to SPI.	4.4 We have added the following explanation: <i>“because, through adding SPI objectives (i.e. patient safety) high on the agenda and amending strategies to focus on SPI prescribed activity and aims, it raised the profile of SPI/patient safety targets and created plans to achieve them.”</i> This is followed by examples of integration.
4.5 What role does the board have? This is not explained though the board is mentioned a few times in Findings and Discussion.	4.5 We have added a sentence on the role of the Board, as follows: <i>“The Board is made up of executives (including the CEO) and non-executives and, through regular meetings, they collectively oversee, offer direction and are responsible for the financial and quality performance of the hospitals within their Trust. Therefore, they hold crucial control over the activities, culture and quality and safety of their organisations and consequently their engagement is likely to be influential.”</i>
4.6 [R]In general, your discussion doesn’t seem to follow your results well. You seem to conceptualize your findings in multiple different ways in an effort to tie in to the literature and most paragraphs lack a cohesive, coherent idea. Some examples follow:	4.6 Please see answer 1.6 on re-framing the discussion to emphasise the findings rather than the literature. Please also see changes below.

#### VERSION 2 – REVIEW

<b>REVIEWER</b>	Laura J. Damschroder Ann Arbor VA Center for Clinical Management Research USA I have no competing interests.
<b>REVIEW RETURNED</b>	30-Oct-2012

<b>THE STUDY</b>	DATA ANALYSIS: this section needs further improvement. You offer unnecessary detail (e.g., “The 17 CEO transcripts were divided by the five researcher interviewers so that three of the researchers content analysed three transcripts each (JB, SB, SI) and two researchers content analysed four transcripts each (AP, APo) “ without information about what method guided your analyses – e.g., did you use content analysis techniques? Grounded theory? Constant comparison? Did analysts independently code or did multiple analysts code the same transcript and then compare? How were differences resolved? Reference to NVivo terminology is unnecessary (e.g., node versus code). Look up other qualitative articles for examples of short but useful descriptions of qualitative
------------------	---

	<p>methods.</p> <p>The manuscript still suffers from very obscure language and run-on sentences throughout:</p> <ol style="list-style-type: none"> <li>1. MESSAGES: “Queries raised are on the tangible benefits of the executives’ changing structures &amp; embedding for sustainability and on practical steps to creating the “right” environment for QI.”</li> <li>2. Page 5, Line 36+: “...within the remit of management action or authorization, such as incorporating elements into induction and training...”</li> <li>3. Page 15, Lin 40+: “For example, remarks cited the disappointment at the lack of feedback and actions following the walkrounds and, whilst the walkrounds were conveyed as a mark of commitment and examples supported CEOs claims that they empowered staff at the frontline to authorise resources and fix problems themselves, this was not viewed as empowering by all, but rather as CEOs disregarding the opportunity to action organisation-wide changes.”</li> </ol>
<p><b>RESULTS &amp; CONCLUSIONS</b></p>	<p>Page 4: Paragraph starting at the bottom of the page is quite long and would benefit by breaking into smaller chunks. One suggestion is a paragraph break at the end of the first line on page 5 starting with “Other...”</p> <p>Page 5, Line 15 states, “...it is likely that leadership walkrounds will feature as a critical dimension of CEO involvement...” – is this appropriate here? This sounds more like a hypothesis that might guide your current study – but it doesn’t sound like this is an actual finding from your earlier studies.</p> <p>Page 9-10, Line 50+. The quote, “It is very important the Board is engaged early on in a real way and that the Board begins to see the data...” should be moved up with the statement about early involvement.</p> <p>Is the Clinical Director or Medical Director from the Board? If not, why is this in the paragraph about getting early engagement by the Board?</p> <p>The relationship between the Board and hospital continues to be unclear. In the US, the Board comprises leaders from other entities who help to advise the, in the case, hospital or Trust. You say the Board is “made up of executives (including the CEO) and non-executives...” ... this information is vague and does not indicate whether these members are employed by the Trust/hospital or are from other entities. Thus, I question whether the Board would actually see themselves as holding “crucial control over...culture and quality and safety..” – they would have role only from a strategic perspective, not day-to-day oversight. They are typically not present in the organization and so would be hard-pressed to influence culture, per se; is this a finding or speculation? The paper would be helped by specifying activities related to “managing upward” (assuming the Board is “up” in the hierarchy for the CEO (though they are a member) versus “managing down” ie., managing staff employed by the Trust/hospital. This causes problems in Sections 2 &amp; 3 in particular. The activities related to the Board and staff appear to be conflated and in some cases do not make logical sense. For example, what is meant by saying, “CEOs engaged the Board through discussions at meetings, those CEOs who attended SPI learning sessions to learn about relevant improvement practices reported that their learning helped when engaging others, as they</p>

	<p>were more knowledgeable on various aspects of the programme, such as quality improvement techniques.” – this sentence seems to link together two very different ideas.</p> <p>Continuing with this lack of clarity, in Section 4 (monitoring), you say, “The CEOs monitored progress by reviewing SPI outcome measures at Board meetings.” By definition, monitoring does not happen simply by reporting outcomes at Board meetings. Or did the Board provide outcomes to the CEO? How did the Board’s attention to feedback indirectly affect staff compliance?</p> <p>Also, there is this sentence on page 16 (line 53), “The findings from both analyses further infer that Medical or Clinical Directors may subsume these outlined critical dimensions and that much of the dimensions of CEO involvement transfer to other Board members.” – this is saying that CEO’s behaviors didn’t factor into the change effort? Are Medical or Clinical director part of the Board?</p> <p>Consider integrating the staff reports into each of the sections rather than relegating to its own set of sections.</p> <p><b>MINOR ESSENTIAL REVISIONS</b></p> <ol style="list-style-type: none"> <li>1. Page 3, Line 29: “much” should be many</li> <li>2. Page 5, Line 29: fix “...other examination...”</li> <li>3. Page 5, Line 55-56: “Similarly to our other studies, what possible acts</li> <li>4. took place was not within the scope of this quantitative study.” – awkward and needs to be edited.</li> <li>5. Page 6, Line 11: “...countless...” is rather hyperbolic –this is saying that many studies have offered countless assumptions which is impossible</li> <li>6. Page 7, Line 24+: Shorten sentence beginning with “Specifically,...” to “Specifically,</li> <li>7. every Trust was managed by a different CEO and two Trusts had two hospitals (is this true?) participating in the SPI programme.</li> <li>8. Page 9, line 22-23: The sentence starting with, “The sample per Trust...” is not necessary.</li> <li>9. Page 10, Line 34: delete remainder of sentence starting with, “...and consequently stands firm...”</li> <li>10. Page 10, Line 16: what is “...discretely...”?</li> <li>11. Page 10, line 54-56: delete “...saw it as their task to secure and provide it and...”</li> <li>12. Page 11, line 3-5: you are talking about resources within the hospital/Trust? This needs to be indicated because procuring funding is implied to be from outside sources but authorizing funding applies to making internal resources available.</li> <li>13. Page 11, Line 27: “improve behavior...” do you mean improve “attitude”? If not, then what behaviors are you referring to?</li> </ol> <p>I stopped tracking particular changes after this point. It was too time-consuming to record them all.</p>
--	---

**VERSION 2 – AUTHOR RESPONSE**

Reviewer Comments	Author responses & changes
<p><b>Reviewer 2: Laura J. Damschroder</b></p> <p>DATA ANALYSIS: this section needs further improvement. You offer unnecessary detail (e.g., “The 17 CEO transcripts were divided by the five researcher interviewers so that three</p>	<p>We have deleted the unnecessary detail including “NVivo node” and the number of transcripts analysed per researcher.</p>

<p>of the researchers content analysed three transcripts each (JB, SB, SI) and two researchers content analysed four transcripts each (AP, APo) “ without information about what method guided your analyses – e.g., did you use content analysis techniques? Grounded theory? Constant comparison? Did analysts independently code or did multiple analysts code the same transcript and then compare? How were differences resolved? Reference to NVivo terminology is unnecessary (e.g., node versus code). Look up other qualitative articles for examples of short but useful descriptions of qualitative methods.</p>	<p>We have added the clarification that the transcripts were “<i>independently coded</i>”.</p> <p>In addition to the existing sentence “<i>a sample of data fragments were checked and resolved through dialogue with other members of the team</i>” we add “<i>by one researcher’s (AP) identifying differences in coding between the five coders and speaking with the coders in question to arrive at an agreement</i>”.</p> <p>Because the initial coders coded any references related to the work of CEOs, we initially used the term ‘<i>content analysed</i>’, however this may be misleading because the content was large pieces of text and was not counted, therefore we have removed the words ‘<i>content analysed</i>’.</p> <p>Instead we highlight that selected ground theory approaches were used: “<i>Qualitative analysis was performed, based on inductive grounded theory analysis techniques of open coding, constant comparative analysis and theory building</i>” We add words and sentences to explain these more fully, such as “<i>The constant comparative method was used to compare emerging codes with earlier codes drawn from the dataset</i>”</p>
<p>The manuscript still suffers from very obscure language and run-on sentences throughout: 1. MESSAGES: “Queries raised are on the tangible benefits of the executives’ changing structures &amp; embedding for sustainability and on practical steps to creating the “right” environment for QI.”</p>	<p>We have re-read the article with the specific aim to remove the unclear language and run-on sentences. As a result we have made a substantial number of amendments.</p> <p>From your specific example, we amend the text to the following: “<i>Queries raised include the tangible benefits of executive involvement in changing structures &amp; embedding for sustainability and the practical steps to creating the “right” environment for QI</i>”</p>
<p>2. Page 5, Line 36+: “...within the remit of management action or authorization, such as incorporating elements into induction and training...”</p>	<p>We have amended the sentence to “<i>..within their remit, for example incorporating elements into induction and training.</i>”</p>
<p>3. Page 15, Lin 40+: “For example, remarks cited the disappointment at the lack of feedback and actions following the walkrounds and, whilst the walkrounds were conveyed as a mark of commitment and examples supported CEOs claims that they empowered staff at the frontline to authorise resources and fix problems themselves, this was not viewed as empowering by all, but rather as CEOs disregarding the opportunity to action organisation-wide changes.”</p>	<p>We have amended the sentence to “<i>For example, remarks cited the disappointment at the lack of feedback and actions following the walkrounds. Whilst examples supported CEOs claims that they empowered staff to fix problems themselves, staff also viewed this as CEOs disregarding the opportunity to make organisation-wide changes.</i>”</p>
<p>Page 4: Paragraph starting at the bottom of the page is quite long and would benefit by breaking into smaller chunks. One suggestion is a paragraph break at the end of the first line on page 5 starting with “Other...”</p>	<p>We have inserted the recommended paragraph break and we have also broken up other similarly long paragraphs e.g. the paragraph on staff reports.</p>
<p>Page 5, Line 15 states, “...it is likely that</p>	<p>We have deleted this sentence so that it is not taken</p>

<p>leadership walkrounds will feature as a critical dimension of CEO involvement...” – is this appropriate here? This sounds more like a hypothesis that might guide your current study – but it doesn’t sound like this is an actual finding from your earlier studies.</p>	<p>as a hypothesis and does not mislead that it is a finding from earlier research.</p>
--	---

## Correction

---

Parand A, Dopson S, Vincent C. The role of chief executive officers in a quality improvement initiative: a qualitative study. *BMJ Open* 2013;**3**:e001731. There were errors within the text of this article and the word “initiative” was missing from the title and throughout the text. The publisher apologises for these errors. We have since corrected the online version.

*BMJ Open* 2013;**3**:e001731corr1. doi:10.1136/bmjopen-2012-001731corr1