Author’s response to reviews

Title: The Impact of Accreditation of Primary Healthcare Centers: Successes, Challenges and Policy Implications as Perceived by Healthcare Providers and Directors in Lebanon

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Author’s response to reviews: see over
Dear Editor-in-Chief,

Thank you for the opportunity to revise and resubmit the above manuscript to your esteemed journal. We thank the reviewers for their detailed and thorough comments and have addressed their concerns in the revised version of the manuscript. Kindly find below a point-by-point description of the changes made to the manuscript.

Reviewer #1: Charles Shaw
Comment 1:
Introduction: Second sentence of last paragraph on PAGE 5 implies that reference 10 refers to PHC practices. It actually refers to hospitals, specifically one slide from a presentation on hospital accreditation in Jordan; no supportive evidence provided.

Response 1:
Thank you for your comment. We used a reference that accurately reflects the case of PHC centers. Kindly refer to findings from O'Beirne et al. 2013 in the text.

Comment 2:
“In the Eastern Mediterranean Region (EMR),….” This expert meeting was in Cairo 2002, not Cyprus 1999.

Response 2:
Comment 3:
“(Seren and Baykal 2007)”. Is this reference 20?
Response 3:
Thank you for your comment, the text was modified accordingly.

Comment 4:
Intervention “The MOPH conducted the accreditation survey in 25 PHC centers in 2012” but “‘Some directors suggested that local experts should be involved in conducting the accreditation survey (instead of) foreign surveyors’”. Who did do the surveys (MOPH, ACI, others?), how long did they last? Was any evaluation made by centers, at the time, of the survey team, of the survey, or of the accreditation program?
Response 4:
The survey was done by ACI external surveyors from Canada. The survey duration for each center was 2 days. No evaluation was made by the center at the time of the survey. We assume that some directors preferred to have trained local surveyors from Lebanon to conduct the surveys since they speak Arabic and understand the context. To our knowledge, the MOPH is currently working with ACI to develop capacities of local surveyors in Lebanon. This is expected to be completed by end of 2014.
Part of the above was reflected in the manuscript on pages 7-8.

Comment 5:
The text refers to accreditation as a discrete event, an external survey, which occurred in 25 PHC centres in 2012. Items 1-5 of “accreditation impact” suggest that there had been more than one accreditation survey in each PHC. There is also mention of “a readiness assessment of PHC centers in Lebanon to implement accreditation standards” – which may be explained in another paper currently in press. Is this the same as the “baseline assessment”?
Response 5:
We understand the reviewers’ concern but would like to point out that this was the first accreditation survey that the PHC centers in Lebanon have undergone. We used the term “last survey” to refer to this survey only since that is a term that Lebanese people identify with when referring to an event that just occurred. While it may sound misleading in English, it translated into the corresponding Arabic term which made it understandable to the respondents. We added some information on page 10 pertaining to the issue of translation:
The survey was originally developed in English but translated to Arabic since that is the language respondents are most comfortable in. The survey was translated to Arabic by a professional translator. Two members of the research team conducted back translation to ensure that the correct wording and phrasing of questions is used throughout the survey. Cognitive
interviewing (Hughes, 2004, Willis, 1999) was conducted in lieu of a pilot with selected professionals at the MOPH to ensure the clarity of the questions and make additional corrections. Minor modifications to the wording of some questions were made to some questions mainly to ensure clarity of Arabic terms.

As for the issue of the terms readiness assessment and baseline assessment, we used the terms interchangeably to refer to baseline assessment. We realize this may have been confusing so we corrected it in the revised manuscript (PAGE 8).

**Comment 6:**
“In 2009, the MOPH initiated the PHC accreditation program in collaboration with Accreditation Canada International (ACI)” so we assume that several elements, other than the accreditation survey, influenced the centers over the next three years. We are told that “ACI… trained key stakeholders” and “Pilot organizations then conducted a self-assessment” – was that all 25 centers? There were also “the extensive workshops conducted by the MOPH to introduce staff members to concepts of quality and accreditation”.

**Response 6:**
ACI in collaboration with MOPH conducted capacity building workshops for the 25 centers to build knowledge and capacity of those centers to implement accreditation standards. During those workshops, they provided all necessary information on the implementation of the Lebanese PHC standards and educated the 25 PHC centres on the accreditation process and the implementation of self-assessment. Those workshops also introduced participants to the concepts of quality and accreditation. These capacity building workshops prepared the PHC centres to undertake the self-assessment process.

**Comment 7:**
Following the survey, did all centres receive similar feedback? Were some more bruised or elated than others, or simply did not achieve as highly? Could this affect the way staff responded?

**Response 7:**
Based on the ACI accreditation process, each of the 25 PHCs received an external accreditation report that highlights the strength and areas of improvements related to the accreditation dimensions and standards. The reports were not identical but reflected the performance of each center. The reports also provided the recommended steps for improvements that each center should adopt. We do not have access to the content of the reports as they are owned by the PHC centers.

It is important to note that PHC accreditation is not yet linked with reimbursement and contractual arrangements in Lebanon. So far, the MOPH implemented accreditation to improve the overall quality of PHC services, hence better coverage and improved outcomes. As such, we
believe that the feedback that each center received in the accreditation report did not affect the
way staff responded.

Comment 8:
To begin to understand what influenced the responses of staff and directors, readers do need to
know what exposure respondents had to what pressures, and how they were involved.

Response 8:
Ethical approval from the Internal Review Board of the American University of Beirut was
obtained prior to data collection. As detailed on page 12 of the manuscript: “Staff were assured
that their participation was voluntary, their choice to participate would not affect their
employment and that directors would not view their responses. Participants were requested to
complete the survey during their free time and in a setting of their choice and to return it in a
sealed envelope within one week of receiving it.”
As for interviews, consent was obtained prior to conducting and recording the interview as
detailed on page 12 of the manuscript.
As such and building on our response to comment 7 above, we strongly believe that respondents
were not exposed to any pressure to respond in a certain way.

Comment 9:
Sample selection: The 25 centres “These 25 centers are representative of the 150 PHC centers
forming the PHC network in Lebanon.” It would be helpful to insert a table of characteristics of
the set and study subset to support this statement eg location, size, distribution between MoPH,
MoSA, NGOs? Did findings differ between these groups?

Response 9:
Thank you for your comment. Please note that the actual selection of the 25 centers was done by
the national working group on this project which included key stakeholders from MOPH and
ACI. We do not have access to the criteria they used to identify the 25 centers. However, MOPH
classified them as representatives of PHC network in Lebanon.

The 150 centers in the National PHC Network in Lebanon are part of the 1,085 PHC
centers and dispensaries distributed across Lebanon. Most of the 1,085 centers are located in
Mount Lebanon (402 centers; 37.1%), 219 (20.2%) centers are located in the South, 152 (14%) in
Bekaa, 136 (12.5%) in Beirut, 113 (10.4%) in Nabatiyeh and only 63 (5.8%) in the North
(MOPH as cited in ELARD). The 150 centers in the national network are distributed across
regions as follows: 34% in Beirut and Mount Lebanon, 29% in the South, 30% in the North and
17% in Bekaa.

Please note, that in 2013, the MOPH increased the number of PHC center in the network
to 184 centers. To our knowledge, ACI is supporting MOPH in building capacities and surveying
additional PHC centers beyond the original 25 centers. Please see pages 8 and 9.
Comment 10:
“… three centers participated in the survey only, and two centers participated in the semi-structured interviews only. “Did the partial responders differ from the other 20? eg critical report, difficult survey? Why were questionnaires not distributed in two centers?
Response 10:
This study was voluntary so we did not press PHC centers to participate since that would be a breach of ethical protocol. The choice to not participate in the survey component was due to not having sufficient staff to respond in those centers. As such, we did not pursue this further or pressure centers to participate.
As for participation in the interviews, three PHC center directors were too busy at that time to schedule an appointment. Our attempts were not successful to book an appointment with them and we chose not to pursue the respondents further.
Please see page 11 for the clarification made to the manuscript.

Comment 11:
The staff: Was non-response similar across all staff categories eg clinical, non-clinical, and ages?
Response 11:
We cannot accurately assess non-response as we were not provided with information on the number of staff, their gender, age, work experience and positions at the centers that did not participate in this survey. Please note that we added this to the limitation section page 24. Specifically, we stated that the centers included in this survey all underwent the accreditation survey. The MOPH is current working on building capacity of surveyors and PHC center staff in preparation for another accreditation survey. It is hoped that this study can then be replicated on a larger scale.

Comment 12:
“Resistance from staff, especially among older staff and physicians, was also reported as a major challenge” (by 50% of directors).” Would this not be reflected in doctor responses to the questionnaire, if these were analysed by staff group and/or age?
Response 12:
The statement the reviewer is referring to stems from the results of the qualitative component of the study targeting center directors. Staff resistance was the challenge most frequently reported by center directors. With examining the items in the survey, there may be several items that reflect the degree of staff resistance to some degree but only one was significantly associated with staff positions. That item stated “Our team worked well together” and agreement on that item was highest among physicians (27.1%) and nurses (18.8%) and lowest among center directors (4.3%). Please refer to our response to comment 17 below for more information on results of analyzing items by staff groups.
Comment 13:
Data collection tools: The questionnaire. A table may present the seven scales and component items more clearly than text
Response 13:
Thank you for your comment. This information is already available in Table 3.

Comment 14:
The first six scales are about quality management generally rather than accreditation (from Shortell’s paper “Assessing the impact of continuous quality improvement/total quality management”). “Accreditation” is tacked onto the end of the questionnaire previously used in Lebanon by El-Jardali et al. (2008) for one homogenous staff group, nurses. The seventh scale does not unbundle the components of accreditation, so we do not know which elements respondents are evaluating.
Response 14:
The last scale of the survey was obtained from the tool developed by Brigid Milner (2007). See page 10. Please note that that questionnaire previously used in Lebanon by El-Jardali et al. (2008) was originally designed for all health care professionals, but due to time and budget limitations, it was only administered to nurses.

Comment 15:
Semi-structured interviews with directors Table 5 shows” Thematic Analysis of the Semi-Structured Interviews” with 22 facility directors. Without knowing more about how these interviews were structured, it is hard to know how to interpret the statistics. Were these open questions, leading questions, multiple choice? What were the questions?
Response 15:
The topics covered in the semi-structured interview were included on page 11 in the Methods section. The topics were: benefits of accreditation, the effect of accreditation on staff and patient satisfaction, enabling and success factors, and challenges to the process of accreditation as well as strategies for improving implementation of accreditation. The specific questions used in the semi-structured interview were:
1. Based on your experience, how has the accreditation process contributed to the improvement of the quality of care delivered by this center?
2. In your opinion, how sustainable are the changes brought about by accreditation?
3. May you share your views on how accreditation has affected your satisfaction as an employee?
4. To what extent do you think the accreditation process has affected patient satisfaction in this center?
5. List the top three barriers/challenges that you have faced throughout the accreditation process
6. What are, in your opinion, some strategies to better implement accreditation in the future?

None of the questions had structured responses. The questions are now integrated to the Methods section on page 11.

Comment 16:
Data handling How was three point scale in appendix 1 converted to a score out of five in table 3?
Response 16:
This information was available in the original version of the manuscript (page 13, section on data analysis). This section was elaborated for further clarification to the following: “Scores were created by summation of the items within the scales and dividing by the number of items with non-missing values. This produced a score that varies between 1 and 5 for each scale with higher scores indicating higher agreement.” This was integrated into the data analysis section on page 13.

Comment 17:
Results Questionnaire, staff “More than 90% of respondents strongly agreed that leadership is the driving force behind quality improvement.” How consistent was this, and other responses among the various staff grades and ages?
Response 17:
Thank you for your comment. While this finding held true at the level of the full sample, detailed analysis of items revealed that items reflecting leadership were not significant across age, gender, position and experience. Cross tables were constructed to assess whether a statistical association existed between age, gender, position and experience and the items in the survey. Results showed that some items were indeed significant. With regard to age, respondents in the 30 to 45 years age group had the highest agreement rates on items pertaining to participation in the accreditation process (50.2%) and whether it would contribute to the their career advancement (Table 1). As for gender, female respondents had higher agreement scores on items pertaining to whether accreditation enables the improvement of patient care (66%) and contributes to the development of collaboration with partners in the health care system (66.7%). Female respondents also had higher agreement scores on the item pertaining to teamwork (65.6%) and whether their involvement in accreditation contributed to their personal development (67.2%) (Table 2).

With regard to position, physicians consistently had the highest agreement rates on the items listed in Table 3. These items pertained to customer satisfaction (27.2%), changes implemented at the center (25.7% and 19.4%), teamwork (27.1%), reflection on work practices (22.3%), self development (21.4%), personal development (21.4%), professional development (20.4%), awareness of objectives of accreditation (26.1%), and accreditation as a worthwhile process (25.8%).
As for work experience, agreement rates were highest among respondents who had 5 to 10 years of experience. This was significant for the items pertaining to changes implemented at the center (35.2%) and their participation in these changes (36.3%), participation in changes resulting from accreditation recommendations (35.3%), and awareness of associated healthcare centers that accreditation was underway (36.3%) (Table 4).

It is worth noting that this analysis was done prior to the submission of this paper. However, we felt that delving into such an analysis would be beyond the scope of just one paper. As such, we chose not to detail these results in this paper but we would be willing to include them in an Appendix if the Editor thinks it is necessary.
### Table 1: Association between survey items and age

<table>
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<th></th>
<th>Below 30 years</th>
<th>Between 30 - 45 years</th>
<th>Between 46 - 55 years</th>
<th>Over 55 years</th>
<th>P-Value</th>
</tr>
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<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
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<td>Everyone was encouraged to participate in the accreditation process.</td>
<td></td>
<td></td>
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<tr>
<td>Disagree</td>
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<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
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</tr>
<tr>
<td>Nor Disagree nor agree</td>
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<td>0.0%</td>
<td>9</td>
<td>60.0%</td>
<td>6</td>
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<tr>
<td>Agree</td>
<td>61</td>
<td>22.7%</td>
<td>135</td>
<td>50.2%</td>
<td>50</td>
</tr>
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<td>Involvement in the accreditation process will contribute to my career advancement.</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Disagree</td>
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<td>25.0%</td>
<td>1</td>
<td>25.0%</td>
<td>1</td>
</tr>
<tr>
<td>Nor Disagree nor agree</td>
<td>2</td>
<td>6.9%</td>
<td>14</td>
<td>48.3%</td>
<td>12</td>
</tr>
<tr>
<td>Agree</td>
<td>57</td>
<td>22.8%</td>
<td>127</td>
<td>50.8%</td>
<td>43</td>
</tr>
</tbody>
</table>

### Table 2: Association between survey items and gender

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<th>Male</th>
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</tr>
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<td>Accreditation enables the improvement of patient care.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0.0%</td>
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<tr>
<td>Nor Disagree nor agree</td>
<td>13</td>
<td>61.9%</td>
<td>8</td>
</tr>
<tr>
<td>Agree</td>
<td>169</td>
<td>66.0%</td>
<td>87</td>
</tr>
<tr>
<td>Accreditation contributes to the development of collaboration with partners in the health care system.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
<td>50.0%</td>
<td>1</td>
</tr>
<tr>
<td>Nor Disagree nor agree</td>
<td>5</td>
<td>29.4%</td>
<td>12</td>
</tr>
<tr>
<td>Agree</td>
<td>168</td>
<td>66.7%</td>
<td>84</td>
</tr>
<tr>
<td>Our team worked well together.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0.0%</td>
<td>4</td>
</tr>
<tr>
<td>Nor Disagree nor agree</td>
<td>11</td>
<td>61.1%</td>
<td>7</td>
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<tr>
<td>Agree</td>
<td>172</td>
<td>65.6%</td>
<td>90</td>
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<tr>
<td>Involvement in the accreditation process contributed to my personal development.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>10</td>
<td>76.9%</td>
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<tr>
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<td>15</td>
<td>45.5%</td>
<td>18</td>
</tr>
<tr>
<td>Agree</td>
<td>162</td>
<td>67.2%</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>Director of the center</td>
<td>Nurse</td>
<td>Physician</td>
</tr>
<tr>
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</tr>
<tr>
<td><strong>N</strong></td>
<td><strong>%</strong></td>
<td><strong>N</strong></td>
<td><strong>%</strong></td>
</tr>
<tr>
<td><strong>Over the past year, the center has shown steady, measurable improvements in the quality of customer satisfaction.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
<td>25.0%</td>
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<td>2</td>
</tr>
<tr>
<td>Agree</td>
<td>11</td>
<td>4.5%</td>
<td>46</td>
</tr>
<tr>
<td><strong>During the preparation for the last survey, important changes were implemented at the center.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>Nor Disagree nor agree</td>
<td>0</td>
<td>0.0%</td>
<td>7</td>
</tr>
<tr>
<td>Agree</td>
<td>12</td>
<td>5.0%</td>
<td>43</td>
</tr>
<tr>
<td><strong>These recommendations were an opportunity to implement important changes at the center.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>0</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
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<td>0</td>
<td>0.0%</td>
<td>6</td>
</tr>
<tr>
<td>Agree</td>
<td>12</td>
<td>5.5%</td>
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<td><strong>Our team worked well together.</strong></td>
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<td>0</td>
<td>0.0%</td>
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<td>0</td>
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<td>4</td>
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<tr>
<td>Agree</td>
<td>11</td>
<td>4.3%</td>
<td>48</td>
</tr>
<tr>
<td><strong>Involvement in the accreditation process has allowed me to reflect on my work practices.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
</tr>
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<td>Nor Disagree nor agree</td>
<td>0</td>
<td>0.0%</td>
<td>2</td>
</tr>
<tr>
<td>Agree</td>
<td>12</td>
<td>4.9%</td>
<td>46</td>
</tr>
<tr>
<td><strong>Involvement in the accreditation process has allowed me to self develop</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>5.3%</td>
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<td>Agree</td>
<td>10</td>
<td>4.3%</td>
<td>49</td>
</tr>
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<td><strong>Involvement in the accreditation process contributed to my professional development.</strong></td>
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<td>0</td>
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<td>Nor Disagree nor agree</td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
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<tr>
<td>Director of the center</td>
<td>Nurse</td>
<td>Physician</td>
<td>Pharmacist</td>
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<tr>
<td>N %</td>
<td>N %</td>
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<tr>
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<tr>
<td>Agree</td>
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<td>4.6%</td>
<td>47</td>
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Staff members in the center are aware of the aims and objectives of the accreditation process.

Staff members in the center believe that accreditation is a worthwhile process.

Table 3: Association between survey items and work experience

<table>
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<th>&lt;5 years</th>
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<th>&gt;15 years</th>
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<td>During the preparation for the last survey, important changes were implemented at the center.</td>
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<tr>
<td>Disagree</td>
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<td>14.3%</td>
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</tr>
<tr>
<td>You participated in the implementation of these changes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>10</td>
<td>71.4%</td>
<td>3</td>
<td>21.4%</td>
<td>0</td>
</tr>
<tr>
<td>Nor Disagree nor agree</td>
<td>4</td>
<td>25.0%</td>
<td>3</td>
<td>18.8%</td>
<td>4</td>
</tr>
<tr>
<td>Agree</td>
<td>69</td>
<td>26.3%</td>
<td>95</td>
<td>36.3%</td>
<td>43</td>
</tr>
<tr>
<td>You participated in the changes that resulted from accreditation recommendations.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>8</td>
<td>80.0%</td>
<td>2</td>
<td>20.0%</td>
<td>0</td>
</tr>
<tr>
<td>Nor Disagree nor agree</td>
<td>5</td>
<td>23.8%</td>
<td>8</td>
<td>38.1%</td>
<td>4</td>
</tr>
<tr>
<td>Agree</td>
<td>66</td>
<td>25.9%</td>
<td>90</td>
<td>35.3%</td>
<td>44</td>
</tr>
<tr>
<td>Other associated healthcare organizations in the region are aware that the accreditation process in the center is underway.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>22.2%</td>
<td>2</td>
<td>22.2%</td>
<td>5</td>
</tr>
<tr>
<td>Nor Disagree nor agree</td>
<td>12</td>
<td>32.4%</td>
<td>13</td>
<td>35.1%</td>
<td>5</td>
</tr>
<tr>
<td>Agree</td>
<td>38</td>
<td>21.2%</td>
<td>65</td>
<td>36.3%</td>
<td>29</td>
</tr>
</tbody>
</table>
**Comment 18:**
Too good to be true? Do all staff really have an informed and positive view on questions such as “Accreditation enables the center to better respond to the populations needs” to which 86% said “yes”

**Response 18:**
As detailed in Response 17 above, few items were statistically significant when stratifying by age, gender, position and experience. The high scores may also reflect the fact that only PHC centers that completed the accreditation survey were sampled in this study so this may have affected their responses and allowed them to see the actual value of accreditation in responding to population health needs and other positive outcomes. It is important to note that prior to the accreditation process, PHC centers did not have exposure to quality standards. We assume that the implementation of accreditation standards (for the first time) helped transform the PHC centers and enabled them to perform their mandate in a more effective way, including responding to population health needs. For example, we know of many PHC centers that have implemented community needs assessment exercises and conducted outreach activities as a result of accreditation.

**Comment 19:**
When asked about leadership, 96% of staff felt that top management was the driving force behind quality improvement, but only 83% felt there was sufficient leadership for the accreditation process. Were they discriminating between processes or between leaders?

**Response 19:**
Since year 2010, many PHC centers identified quality improvement as a key strategic priority. Although 96% of staff felt that top management was the driving force behind quality improvement, only 83% of staff felt that there was a tangible support of leadership to the actual implementation process of accreditation standards. In their response, they focused on the process.

**Comment 20:**
Interviews, directors “All directors affirmed that accreditation has led to quality improvement in several areas”; even accepting that quality improvements were perceived to have occurred, we could agree that these improvements coincided with a range of interventions by MOPH, ACI and American University of Beirut. It is hard to be convinced that the relationship with accreditation is causal.

**Response 20:**
Please note that we don’t mention that the relationship is causal. Our study followed a cross sectional design. These studies are often described as taking a “snapshot” of a particular population. While they have limited values in testing hypotheses, they can be useful in assessing practices, attitudes, knowledge and beliefs. Results of cross sectional studies can give an indication of the magnitude of the condition/problem and help researchers obtain information on
patterns and trends which can help them establish proper interventions. However, cross sectional studies cannot ascertain causality (Bryman 2012). This was added to the limitations section on page 25.

Please note that only capacity building workshops were provided by ACI to the 25 PHCs, and no other interventions were provided by MOPH and the American University of Beirut. According to international accreditation processes, organizations usually undergo capacity building activities when preparing for the actual accreditation surveys, particularly if for the first time.

**Comment 21:**
“Respondents from PHC centers may have provided answers they considered desirable to the Researchers”. Given the high ratings on almost every question, and the lack of variation between questions, this looks to be a very likely explanation.

**Response 21:**
We understand the reviewer’s concern but would also like to point out that the fact that the 25 centers sampled in this survey all passed through the accreditation survey. This may have influenced their responses in the sense that they were more aware of the requirements and outcomes of accreditation. We should not neglect the issue of reporting socially desirable responses which may have also played a role in the positive responses to most items in the survey. This was highlighted as a limitation in the original version of the manuscript on page 24.

Reviewer #2: Wendy Nicklin
**Comment 1:**
No revisions necessary. Note comment above.

**Response 1:**
No response needed
Reviewer #3: Marie-Pascale Pomey

Comment 1:
Abstract In the abstract, it would be relevant to add a word: “Results: The scales measuring Management and Leadership had the highest mean score followed by Accreditation Impact, Human Resource Utilization, and Customer Satisfaction. Regression analysis showed that Strategic Quality Planning, Customer Satisfaction and Staff Involvement were associated with a perception of higher Quality Results.”

Response 1:
Thank you. Changes were made to the abstract

Comment 2:
Introduction It would be interesting to describe more precisely the structure of the PHC center including if physicians practice alone or group of physicians with nurses, etc.

Response 2:
As indicated on page 7 of the manuscript, several PHC centers are owned and managed by the MOPH or the Ministry of Social Affairs (MOSA), the majority are owned and managed by Non-Governmental Organizations (NGOs). Centers are managed by groups of physicians, nurses and allied health professionals. We also made sure to add the below sections on pages 8 and 9 of the revised manuscript.

These centers were selected as being representative of the 150 PHC centers in the MOPH network by the national working group on this project which included key stakeholders from MOPH and ACI. The 150 centers in the National PHC Network in Lebanon are part of the 1,085 PHC centers and dispensaries distributed across Lebanon. Most of the 1,085 centers are located in Mount Lebanon (402 centers; 37.1%), 219 (20.2%) centers are located in the South, 152 (14%) in Bekaa, 136 (12.5%) in Beirut, 113 (10.4%) in Nabatiyeh and only 63 (5.8%) in the North. The 150 centers in the national network are distributed across regions as follows: 34% in Beirut and Mount Lebanon, 29% in the South, 30% in the North and 17% in Bekaa (Ammar, 2009).

All the centers provide the same services but technological differences exist between them (Mohammad Ali et al. 2005). The centers provide the following services, general medical care, pediatrics, dental and oral health, reproductive health, and cardiovascular medical care. In addition to those services, they play a major role in dispersing essential drugs. The MOPH is the main provider of the drugs distributed at these centers (Mohammad Ali et al. 2005). Irrespective of location, any health center that provides the above mentioned services package qualifies it to be called a PHC center (Mohammad Ali et al. 2005).
Comment 3:
Is it possible to have the timeline of the different initiatives?

Response 3:
There were two main phases: Phase I (2010) included the development, piloting and finalization of context-specific PHC accreditation standards for Lebanon through a national working group including translation of standards into Arabic. In Phase II (2011 – 2012), capacity building workshops were conducted (April – May 2011), self-assessment was done by centers (June – September 2011) and accreditation surveys were conducted for the 25 PHCs (October 2011–June 2012). This was added to the manuscript on page 7.

Comment 4:
“Findings from a readiness assessment of PHC centers in Lebanon to implement accreditation standards revealed that PHC centers were at the early stages of preparation for accreditation. They lacked quality improvement plans and did not regularly review evidence-based guidelines or identify and monitor outcome measures or indicators. Moreover, most centers lacked a system for incident and accident reporting and did not complete a summary of care provision in the client’s record [16].

Given this lag in quality regulations and capacity at PHC centers in Lebanon, an incremental approach to implementing accreditation standards was undertaken starting with implementing accreditation in 25 centers in 2012, followed by evaluation and refinement of the process, and then scale-up. These 25 PHC centers were selected based on their large size, coverage as well as the representation of all the PHC centers in the country with regards to the services they provide and their distribution across all the geographic regions.”

Methods “This study was conducted in 2012; several months after the centers completed the accreditation survey.” Could you precise when the accreditation survey was done?

Response 4:
Accreditation surveys were conducted between the months of October 2011 and June 2012. Kindly refer to our response to comment 2 above and the additions to page 7 in the manuscript.

Comment 5:
“A total of 20 centers participated in both components of the study, three centers participated in the survey only, and two centers participated in the semi-structured interviews only.” Could you explain why some centers did not take part in data collection?

Response 5:
This study was voluntary so we did not press PHC centers to participate since that would be a breach of ethical protocol. The choice to not participate in the survey component was due to not having sufficient staff to respond in those centers. As such, we did not pursue this further or pressure centers to participate.
As for participation in the interviews, three PHC center directors were too busy at that time to schedule an appointment. Our attempts were not successful to book an appointment with them and we chose not to pursue the respondents further.

Please see page 12 for the clarification made to the manuscript.

**Comment 6:**
Quantitative results It would be relevant to precise that the Quality Results are perception results and not indicators that are monitored.

“Results of the linear model indicated that the score on Quality Results increased by 0.297 (p-value = 0.003) for every unit increase in the score on Strategic Quality Planning. An increase of 0.412 (p-value = 0.008) in Quality Results was also observed for every unit increase in the score on Customer Satisfaction.

Quality Results also increased by 0.309 (p-value = 0.004) for every unit increase in Staff Involvement in Accreditation (Table 4).”

**Response 6:**
Thank you for your comment. We added a statement on page 16 stating “Readers should be reminded that these findings are based on staff perceptions and not indicators that are continuously being measured at PHC centers.”

**Comment 7:**
It would have been interesting to discuss the implication of ACI in the intervention.

**Response 7:**
ACI played a significant role in developing context-specific PHC accreditation standards that are internationally recognized and locally applicable. This is particularly important since international standards might not be fully applicable in specific contexts. ACI implemented the stepwise approach for accreditation by building capacities within PHC in terms of quality concepts, accreditation standards and implementation. More importantly, ACI provided each center with a detailed accreditation report that details the strengths and areas of improvement with recommendations for action. Overall, the approach implemented by ACI can ensure sustainable and long-lasting improvements as a result of accreditation.

**Comment 8:**
Data Analysis In this section, it has not been mentioned that the presentation of percentages in the results section was made possible by counting the number of times each concept or idea was cited during interviews.

“Thematic analysis was used for the analysis of interviews. The findings were first coded and brought together in a spreadsheet to better manage the data. Open coding was conducted first, where findings were broken into chunks that relate to different concepts or ideas. Axial coding was then conducted, which involves organizing the emerging concepts into themes. Themes were pre-identified based on the study objectives and interview questions.”
Response 8:
Thank you for this comment. We added the statement “By counting the number of times each theme was cited during the interviews, we identified the percentage of responses related to each theme” to page 16.

Comment 9:
Qualitative results Could you tell us the reasons why three directors did not participate in the interviews?
“Out of the 25 directors that were approached, 22 directors participated in the semi-structured interviews.”
Response 9:
As detailed in our response to comment 5, the study was voluntary so we did not press PHC centers to participate since that would be a breach of ethical protocol. The choice to not participate in the survey component was due to not having sufficient staff to respond in those centers. As such, we did not pursue this further or pressure centers to participate. As for participation in the interviews, three PHC center directors were too busy at that time to schedule an appointment. Our attempts were not successful to book an appointment with them and we chose not to pursue the respondents further.

Comment 10:
Discussion A discussion about the context and the implication of Accreditation Canada International could have been done considering these two sentences: “Additionally, some directors reported that some accreditation standards are not fully applicable to the context of PHC centers in Lebanon (32%), as one director indicated”
Response 10:
It is important to note that ACI developed context-specific PHC accreditation standards for Lebanon through a national working group. The development phase included piloting of those standards to ensure applicability. We assume that centers who did not have enough resources to comply with specific standards, complained that the standards are not fully applicable. Kindly refer to page 25 where we highlight the need to continuously revised accreditation standards and build the capacity of PHC centers.

Comment 11:
“Some directors suggested that local experts should be involved in conducting the accreditation survey and the financial resources that would otherwise be used to employ foreign surveyors could be invested in improving the delivery of services (18%), as one director suggested”
Response 11:
The MOPH is already working to address that issue and is currently collaborating with ACI to develop capacities for local surveyors in Lebanon. It is expected to be completed by end of 2014.
Thank you for providing us with the opportunity to address the reviewers’ comments. We look forward to the outcome of the review process.

Thank you,

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