**Author’s response to reviews**

**Title:** Capacity for health economics research and practice in Jordan, Lebanon, the occupied Palestinian territories and Turkey: needs assessment and options for development

**Authors:**

Adrian Gheorghe (a.gheorghe@imperial.ac.uk; adrian.e.gheorghe@gmail.com)

Mohamed Gad (m.gad@imperial.ac.uk)

Sharif Ismail (sharif.ismail@lshtm.ac.uk)

Kalipso Chalkidou (k.chalkidou@imperial.ac.uk)

**Version:** 1  **Date:** 03 Jun 2020

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03 June 2020

Dear Ms Gonzalez-Mcquire,

Re: HRPS-D-19-00320

Thank you for considering our paper “Capacity for health economics research and practice in Jordan, Lebanon, the occupied Palestinian territories and Turkey: needs assessment and options for development” for publication in Health Research Policies and Systems and sending us the reviewers’ comments.

Please find our point by point responses below.

Reviewer #1: The authors performed a great job on this research paper. There are few comments I would like to address:

a. It is not clear how the recruitment process took place. Still the method of selection is vague, which needs to be m clearer and clarified in a chronological order. As I understand the authors came down to 556 articles after the evaluation and selection process. It is not clear how the authors chose the 280 respondents. I understand they took the emails listed on their publications but how about those non-academics. So why only 280? why they didn’t go up to 556 emails and contact details? the description of the selection process has to be clear.

Response: Thank you for allowing us to explain. Firstly, 566 unique records were identified in the bibliometric analysis, but there was overlap between their authors and their departments,
particularly from Turkey. Secondly, for academic organizations we retained only authors from the following departments: public health, pharmacy, health economics, health policy and economics; we judged that these departments are likely hosts of institutional health economics expertise. We have added the following clarification to the relevant paragraph in the Methods section:

“A consolidated list was created by combining contacts from these three sources. For academic organizations, only researchers affiliated with departments of public health, pharmacy, health economics, health policy and economics were retained as these departments were judged to be likely hosts of institutional health economics expertise. No filters applied to non-academic organizations.”

b. the survey was an online one. How long the respondent needed to fill it. The authors claimed that the participation was low, I guess if the survey long that will diminish the participation. Also, the authors didn't mention whether there was an incentive to fill the survey (even though the survey long with the appropriate incentive would have gathered more data, but no too late)

Response: Thank you for allowing us to elaborate. In our manuscript we specify that the survey had 12 questions in the managerial track and 14 questions in the technical track. We have added the following information in the Methods section by way of clarification:

“Based on the pilot we anticipated that completing the survey would take between 10 and 15 minutes; this information was included in the participant information sheet linked to the recruitment email “[the survey] should take about 10-12 minutes to complete.” No incentives were offered to respondents for completing the survey.”

c. Was there a back to back translation of the survey to make sure of avoiding losing the meaning of the questions.

Response: Indeed, there was. In our Methods-Data collection and Survey instrument we specify:

“The English version was then translated into Arabic and Turkish by native speaker health economists […] Each page of the online questionnaire allowed responses to be collected in English, Turkish or Arabic based on the translated versions, as explained above.”

In general the authors mentioned about scarce resources in capacity developement, which is a difficult tasks since resources are nearly absent in that part of the world apart from Turkey. The economic strength of Tukey allowed it to play a crucial role in the domestic and international politics and alternatively impacted on its economy, health, education, research, etc. While the other three countries (which are considered newborn countries-I will describe them in such context- after the division of these countries post WWII among the Allies) their economies faced and still many challanges with the political instability, coup-detat (Syria and 2011 war till now), corruption, political stagnation in Lebanon and its long term wars and the Israeli-Palestinian conflict. All these factors contributed and still contributing to the scarce research because either lack of funds, or funds are diverted leading towards corruption, and because there is major concern, which is
concentrating on survival with doing only the job rather becoming innovative. i.e., and as the authors acknowledge, if the population is living in a peaceful and prosperous economy then people will be able to divert their way of thinking towards progress and innovation, while when the country facing continuous turmoils the attention will be diverted towards how to survive rather on innovation and progress. THESE FACTORS SHOULD BE CONSIDERED that is attributing to the low output of economics research capacity development.

Response: We fully agree all these nuances are relevant. Our Discussion section mentions them all, however it is beyond the scope of our descriptive study to cut through this intricate web of interdependencies.

One last remark I would like to address is about cooperation in research among the four countries. This is still not matured yet in that region of the world because I believe it is a cultural behaviour where each one wants to lead rather working in teams (in general) now there are few collaboration among same school, or different schools within each country but the regional and international cooperation is still at its lowest level because lack of trust and lack or interaction with international and regional level of scholars whether in person face to face in conferences, during post docs, or visiting professorship programs.

Response: Thank you for pointing this out. We have made an addition to our recommendations:

“Secondly, capacity development activities that focus on both knowledge transfer (e.g. short courses), practical applications (e.g. learn by doing) and confidence building (e.g. mentoring) appear to respond best to the potential beneficiaries’ expectations; an additional element of activities aimed at building trust and collaboration routines across institutions (e.g. regional visiting fellowships) could also energise cross-jurisdiction collaborations.”

As for the recommendation of improving capacity development, there is a need of establishing a regional institution that will supervise the funding to these four countries and will be supervisied and operated by the donor country( ies) to develop a framework of performance and connectivity between the four countries in addition to what the authors the mentioned in theirrecommendations. By following these steps will ensure transparency of the funds how and to where the funds are directed. An there is a need for and quarterly, semi, and annual back reports sent by each country to the regional centre of health economics about their

Response: Thank you for this suggestion. We have included it in our Discussion section (addition):

“Thirdly, linking together existing of pockets of expertise within and across countries appears sensible with a view to sustainability, for example leveraging the existing EMRO-DCP Health Economic Evaluation Network (WHO Office for the Eastern Mediterranean Region 2019) and existing academic concentrators of expertise toward establishing a regional centre of excellence for health economics research.”
Reviewer #2: The manuscript was well written, however, I have a few concerns:

1. the conclusion in the abstract needs to be recast, reads better without 'however' or can be revised into two sentences

Response: We agree and have replaced “however” to read:

“Successful capacity development efforts will need to build on existing methodological capacity and thematic priorities while acknowledging the substantial differences in terms of capacity strength and networks of collaborating organizations across the four jurisdictions.”

2. did the authors consider conducting a review of courses offered in universities in the region to confirm that health economics research topics were not available, this would back the need for development.

Response: Thank you for pointing this out. Such a study has already been conducted by Alefan et al (2015), with a focus on pharmacoeconomics courses. We are now referring to it in the Introduction. A follow-up with a broader scope to include other health economics sub-areas would, indeed, be very useful.

3. Table 1. Summary of studies included in the bibliometric analysis 'Top journals (by number of articles)' does not add up to 128; "at least one author from an organization" does not have a total please check the numbers.

Response: Thank you for pointing these out. We have removed the last row (Subtotal), as we agree it was confusing and was not adding relevant information. We deliberately omitted the total for “At least one author from an organization” to minimise confusion; given the overlap (cross-jurisdiction co-publication), it is higher than n=566 unique records.

4. page 11 line number 8, delete rather

Response: We have deleted “rather”.

4. a more detailed analysis of tables 3 and 4 "Previous exposure to and future development preferences for health economics topics among survey respondents" and "preferences for capacity development modalities among survey respondents" by country would be beneficial as it is important to see the specific country needs in the region.

Response: Unfortunately, editorial limitations prevent us from showing complete results in the manuscript. However, we believe that differences between the four jurisdictions are not substantial and we mention those that stand out (e.g. higher preference for online courses in Lebanon). The detailed survey results by country are included in Appendix 4, from Figure A4.5 to Figure A4.10.
5. the discussion is too long and too many headings. it should be summarised to just discuss 2-4 main findings in relation to other studies conducted on this topic area. the many heading make it read like a thesis/dissertation.

Response: We have revised and condensed our Discussion section as much as possible.

6. the study "Kilic, et al. 2014" should have be mention in the introduction and used as a justification for the study, it cannot just be mentioned in the discussion.

Response: We have moved the reference to the Kilic et al (2014) study to the Introduction.

7. line 54 page 19-line 16 page 20 reads like a limitation and could be moved there.

Response: We agree and have moved the paragraph to “Strengths and limitations”.

Reviewer #3: Scope

Exploring health economics practice and capacity development needs are within the scope of the journal and with increasing emphasis on progress to universal health coverage and evidence-informed decision making, understanding this field of work is important.

Recommendations

Thank you for the opportunity to review this manuscript.

Overall, the use of two research methods - the bibliometric analysis and online survey - strengthens the results and the recommendations.

Several minor corrections may be required prior to acceptance for publication. I have outlined these below as they relate to the sections of the manuscript.

One overarching issue that requires clarification is the importance of the field of non-communicable diseases (NCDs). In the title the authors mention NCDs but this theme does not carry through the manuscript - this needs attention.

Response: Thank you for pointing this out. We only mention NCDs when introducing the R4HC-MENA project, under which this study was conducted, but there is no NCD-focus in this particular study.

Minor copy editing is required throughout.

Detailed feedback
Abstract

The methods reporting should be further strengthened. For the bibliometric analysis, what were the eligibility criteria for studies being sought i.e. which countries or jurisdictions, which study designs were eligible. What was not eligible and therefore excluded.

For the survey - clarify how you identified survey respondents and who they were (what does academic and non-academic practitioner mean?) maybe name the relevant actors you included. The term 'development' may be a little unclear - consider capacity building, learning or capacity development as the more explanatory term.

In results - you refer to 'strong preference' - I'm not clear on how you quantified the magnitude of the preference - is that how the survey question was phrased? Referring to a preference, already indicates the direction of the results.

The conclusion sentence is long and the second part a little unclear. Consider the key message and making this conclusion more informative, specific and clear in terms of implications for policy and practice.

Response: Thank you, we have revised the abstract substantially and incorporated the points raised above.

Background

Non-communicable diseases only have a brief mention in the background (and throughout the manuscript). The title implies that this is a main issue behind the study, this needs to be checked in the background with either more information about NCDs or leaving it out.

Response: We have removed any mention of NCDs as the topic is not essential to our study.

The first three sentences make statements all of which need referencing to back them up.

Response: We have added two references to support our statements:


The final paragraph describes a 'needs assessment' and then goes onto outline a two fold approach including 'taking stock of existing capacity…'. This paragraph that introduces the overarching aim of the study is very important, but at the moment does not reflect the planned
methods, as it omits mention of aspect of the survey enquiring about capacity development needs. I suggest re-working the paragraph, using appropriate research terms, e.g. explore, explain, describe, evaluate, rather than 'take stock of' and ensuring the aim here aligns with the methods described and results reported in the manuscript.

Response: Thank you for raising this point, we have rephrased the paragraph as follows:

“The focus of this particular needs assessment is two-fold: 1) to describe, based on a bibliometric analysis, the recent corpus of health economics research published by authors in Jordan, Lebanon, oPt and Turkey in terms of volume, thematic areas and collaboration patterns; and 2) to identify, using an online survey, the health economics areas that researchers and practitioners see as most important to develop, as well as their preferences for capacity development modalities.”

Methods

Within the bibliometric analysis - it is helpful to have the question written out, however further details about the eligibility criteria should be included. This may include the kinds of economic studies, the study designs and whether anything would be excluded (e.g. editorial, commentary). Additionally, describe whether there were any language restrictions (e.g English studies only). This information is provided in the section on data extraction but fits best with the information about the eligibility criteria.

Response: Thank you for this suggestion. We have reorganised the sub-sections as suggested: first “Eligibility criteria”, then “Study selection” and then “Data analysis”.

For the two specific questions, you add 'more or less' - which is a vague phrase and I suggest removing and rather explaining what was meant.

Response: We have revised the question to read “Which health economics topics have been researched by organizations in the four jurisdictions, and to what extent?”.

Useful that regionally relevant indexes were searched as reports: 'The Index Medicus for the Eastern Mediterranean Region was also searched but no relevant records were found.' In this section only report what was searched, not what was found which should be reported in results.

Response: We have revised accordingly.

Search strategy. The systematic reviews mentioned in the methods section under the search strategy should be referred to in the background with justification for why your study is addressing a gap. This does not seem to fit with the description of the development of the search strategy.

Response: We agree and have condensed the information presented as follows:
“We tested four search strategies for health economics research outputs, informed by previous bibliometric reviews (Wagstaff and Culyer 2012, Rubin and Chang 2003, Jakovljevic and Pejcic 2017) and reference textbooks (details in Appendix 1) and selected a search strategy which was then adapted and ran across seven databases (full search strategies in Appendix 2).”

I was not able to access to search strategy to review.

Response: The full search strategy is included in Appendix 2, attached as a separate file.

Study selection and data extraction. Information about the language, publication dates, publication types along with what is eligible or not, should be placed with the details of the eligibility criteria for the bibliometric analysis.

Response: Thank you, we have now done this.

There is mention of an exception to the coding rule for University of London, it is not clear why this exception was made. Did this impact the analysis and if not, perhaps this detail is not needed here.

Response: We agree this detail is confusing and can be removed without loss of meaning; we have done so.

Online survey. Is there any information about the development of the survey instrument, is this a new instrument or was it based on any previous survey instruments? I don't see the survey instrument in the version I'm peer reviewing and therefore am not 100% clear on the questions and how they were posed.

Response: The survey instrument is presented in full in Appendix 3. This was a new instrument and we explain our option in in the sub-section “Survey development” (page 10):

“In questions about past exposure to health economics topics, respondents were presented with multiple choice items, e.g. “no exposure to the topic”, “I have worked on this topic”, “I am an expert in this topic”. In questions concerned with future priorities in terms of health economics capacity development, respondents were asked to rank the items (using drag and drop functionality of the survey platform) from the most important to the least important.

This approach was preferred to the Likert-scale rating approach used by the WHO Hennessy-Hicks needs assessment tool (Hennessy and Hicks 2011), which compares for a given skill the self-reported achievement and the perceived importance of the skill for the professional role, for two reasons: health economics is a niche discipline in the public health space; and preliminary discussions with R4HC consortium partners and other academics in Jordan, Lebanon and Palestine indicated there were very few ‘pure’ health economists in these settings. As such, a deliberate decision was made to broaden the professional profiles of the response sample while acknowledging that their professional role specifications (where these are available) may not include explicit health economics competencies.”
We explain its development further down in the sub-section “Survey development” (page 11):

“The draft survey (English version) was piloted with five researchers (including two health economists) in the Global Health Development group at Imperial College London and five health systems researchers with regional experience (including four health economists), following which modifications were made based on their feedback. The English version was then translated into Arabic and Turkish by native speaker health economists. Respondents were able to choose the language they wanted to view the questions and respond in (English, Turkish or Arabic) on every page of the survey.”

I find the terms 'academic and non-academic' unclear. Does this refer to university based or something else? Can you be more specific about which actors you were interested in engaging for the survey? Below under the survey instrument you mention researchers and technical analysis, policymakers and healthcare administrators - how do these relate to the terms 'academic and non-academic'?

Response: Indeed, academic refers to university-based in this context. We clarified both for Recruitment “A consolidated list of contacts was created by combining these three sources. Only researchers affiliated with university departments of public health, pharmacy, health economics, health policy and economics were retained as these departments were judged to be likely hosts of institutional health economics expertise. No exclusions applied to contacts who were not affiliated with universities.”

and for Survey instrument “The survey instrument (Appendix 3) distinguished between two tracks based on the respondents’ professional role, as reported in the first question: the technical track applied to respondents self-identifying as academic researchers, technical analysts (non-academic) and clinicians; the 14 questions focused on detailed health economics methods. The managerial track applied to respondents self-identifying as policy managers or healthcare administrators; the 12 questions focused on the application of health economics methods to answer higher-level policy questions.”

Please add description of how the ranking exercise was analysed? You report a rank and standard deviation. What is the range? This is important for interpreting the results presented in the tables.

Response: We have added the interquartile range (IQR) in column 6 of Table 3 and in column 2 of Table 4, next to the standard deviation, as a measure of spread.

Recruitment

It is not clear how many individual emails were sent - is that 566? Kindly clarify.

You do report that 286 individual received the invitation, but how this tally's with the number sent is not clear. Also, how you were able to tell whether they were received - did you use specific email software?
Response: Thank you for allowing us to clarify. We have added the following details to the "Survey sample" sub-section:

“Survey sample. Survey respondents were identified through several means. Firstly, the email addresses of the authors of the records (n=566) included in the bibliometric analysis reported above were identified based on publicly available information on their respective institutions and departments. Secondly, R4HC project partners were consulted on the relevant academic and non-academic institutions/departments to approach in each country. Thirdly, representatives of relevant regional organizations (e.g. World Health Organization Office for the Eastern Mediterranean Region) and in-country professional associations (e.g. local chapters of the International Society for Pharmacoeconomics and Outcomes Research) were approached for additional relevant professionals/organizations and for support with disseminating the questionnaire within their networks. A consolidated list of potential respondents was created by combining contacts from these three sources. For academic organizations, only researchers affiliated with departments of public health, pharmacy, health economics, health policy and economics were retained as these departments were judged to be likely hosts of institutional health economics expertise.”

There is no mention of ethics - was informed consent required from participants, if so, add detail of the institutional ethics approval details.

Response: Per the journal’s submission guidelines, we included information on ethical approval at the end of the manuscript, after Conclusions and Abbreviations.

“The protocol and supporting documentation for the online survey was reviewed by and received ethical approval from the Imperial College Research Ethics Committee (Reference 19IC5418).”

Results

Under the sub-heading 'bibliometric analysis' the description of the use of the bubble plot should be included in methods as a method for reporting the analysis, rather than in the results. Hence everything from 'Each bubble…. ' to '….one cluster' fits within the methods.

Response: Thank you, we agree. We have moved and revised the respective paragraph in the Methods section.

Under sub-heading 'online survey respondents' profile' - it is still not clear how many emails were sent, as you refer to the number of recipients who received the email? Is it 566? Not all who are sent an email may have received it, as some email addresses may be out of date or incorrect etc. Please add this information to give a better understanding of the response rate.

Response: Thank you for allowing us to clarify. We have now specified in Methods – Recruitment that 286 unique individuals were sent by email the invitation to participate in the survey.
When reporting on the ranking there is use of terms such as 'strong preference' as seen in the abstract and here 'least interest'. It may be more correct to refer to the whether a result ranked highest or lowest, rather than the strength (strong vs least) of the preference. Also, it would be appropriate to add the actual effect sizes of the ranking to support the results. Without understanding the range of the ranking, it's hard for the reader to understand the difference between the highest and lowest ranked choices.

Response: Thank you for raising this important point. We have clarified and unified the language throughout; specifically, we report in terms of high/low ranked and avoid “interest” or “preference”. We also include the actual survey questions in the footnotes to Table 3, to support the reader in interpreting the results; the range of the ranking was from 1 to 11, where 1 was most important and 11 least important. We have added the interquartile range (IQR) in column 6 of Table 3 and in column 2 of Table 4, next to the standard deviation, as a measure of spread.

Discussion

In the first paragraph you refer to 'in absolute and relative terms' - it is not clear what this is referring to and it may be better to explain or provide details.

Response: We have removed the phrase to improve clarity.

Under the sub-heading 'interpretation of findings': I have not been able to see the wording of the survey - you may have asked about 'least interest', however, if you asked people to rank the importance then I don't agree with the judgment regarding 'low perceived interest'. That is a value judgement you may have placed on the result. The results, as I understand them, capture what kinds of studies are most commonly produced (bibliometric analysis) and which skills people have and wish to build (online survey). You have not asked people about which studies they value most or what they do not find interesting - but rather the survey forces people to rank their choices - but it does not imply that those ranked lower are of less interest or less important, only that they are of lower priority in your sample population. In other words, instead of 'low perceived interest' it may be more appropriate to write this as 'ranked lower' or 'lower priority'.

Response: Thank you, we agree. We have harmonised the language throughout the Results and Discussion toward reporting our results using “high/low ranks”.

Pg 19 Ln 24: some results are reported for the first time in discussion. There is no information about the analysis by different survey tracks reported in the methods or results. Please cross check this.

Response: We explain the two tracks of the survey in Methods – Survey instrument (page 10): “The survey instrument (Appendix 3) distinguished between two tracks based on the respondents’ professional role, as reported in the first question: the technical track applied to respondents self-identifying as academic researchers, technical analysts (non-academic) and clinicians; the 14 questions focused on detailed health economics methods. The managerial track applied to respondents self-identifying as policy managers or healthcare administrators; the 12
questions focused on the application of health economics methods to answer higher-level policy questions.” We have moved the respective paragraph in the Results.

Tables and figures

Table 1 and table 2: avoid acronyms and write out 'OPT' and 'NGO' or add as footnote.

Response: We have removed the acronyms.

Table 3: are the topics along the left hand column in a specific order? consider presenting the table by the ranked priority topics under the 'future preferences'.

Response: We have rearranged the table in decreasing order of average rank for future development.

Table 4: suggest ordering the results by ranking (from most to least or vice versa).

Response: We have rearranged the table in decreasing order of average rank.

Thank you again for considering our manuscript.

Yours sincerely,

Adrian Gheorghe, PhD