

## PEER REVIEW HISTORY

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### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Respiratory Syncytial Virus: A systematic scientometric analysis of the global publication output and the gender distribution of publishing authors
<b>AUTHORS</b>	Brueggmann, Doerthe; Köster, Corinna; Klingelhofer, Doris; Bauer, Jan; Ohlendorf, Daniela; Bundschuh, Matthias; Groneberg, David

### VERSION 1 - REVIEW

<b>REVIEWER</b>	Michael G Head University of Southampton, UK
<b>REVIEW RETURNED</b>	22-Aug-2016

<b>GENERAL COMMENTS</b>	<p>Comments</p> <p>This is a perfectly worthy and interesting paper, that addresses outputs and resource issues surrounding an important and curiously low-profile infection. However, in my view, there are several issues that would need to be remedied before publication.</p> <p>Overall</p> <ul style="list-style-type: none"><li>- The language is often unclear or ambiguous. I would recommend the authors read through it carefully or ask a native English speaker to thoroughly proof-read the paper. I have highlighted some (but not all) examples of unclear language further below.</li><li>- The articles/publication index is not a particularly appropriate metric (the GDP one is interesting and innovative). The OECD have metrics showing e.g. numbers of employees in R&amp;D etc, these would be more appropriate than simply comparing to whole populations (for example, Bangladesh has a population almost half that of the US, but a GDP far smaller, or a population more than double that of the UK but certainly not double the GDP or other economic measures) . See <a href="https://data.oecd.org/searchresults/?q=R%26D">https://data.oecd.org/searchresults/?q=R%26D</a></li><li>- Also, I think this discussion provides a great opportunity to more fully answer the 'so what?' question. i.e. "there are this many publications on RSV. So what? Why does that matter, and what next?"</li></ul> <p>Perhaps a fuller comment on the benefits of incorporating this work alongside measurements of other research outputs (patents, policy documents, tools and products). Plus, what other analyses can inform the bigger picture of RSV burden and how best to address that e.g. analyses of research investments, and consideration of aid funding/development assistance for health funding in the countries with highest RSV burden etc. There are lots of ways to get that bit more out of this paper and to provide a stronger more compelling message for policymakers, funders, researchers.</p>
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	<p>Specific points</p> <ul style="list-style-type: none"> <li>- Add a study design to the title e.g. a systematic analysis, content analysis, mixed-methods... etc</li> <li>- Abstract, line 27. 'Decoded' indicates something has been encoded. Maybe 'described'?</li> <li>- Abstract, line 27/28. Reference to scientific architecture and gender parameters are not clear at this stage, the reader rather needs to scan the full paper to get an idea of what that means (and bear in mind most people will only look at the abstract and if they can't understand the abstract, they won't read on)</li> <li>- Abstract, line 32. Sentence beginning 'items were analysed...'. This is also unclear to me.</li> <li>- Abstract, purely for the first mention of 'Articles from 1900'. This is a long time ago, and surely irrelevant to 'tackling existing healthcare disparities' (One of the aims you state in the introduction). I see from further in the paper that there are some interesting landmark papers that explain citation peaks etc, that's useful information. But numerical analyses of author's gender and country etc from the 1900s is not relevant. A cut-off point will be somewhat subjective, but surely 30 years, maybe less, is more than adequate?</li> <li>- Abstract, results. Add numbers/proportions of the total to the statements of 'USA leading the field' etc</li> <li>- Abstract, line 35. Reference to 'economic benchmarks' is not clear, specify one or two.</li> <li>- Abstract, line 36, 'RSV research benefited from collaborative networks'. What result or metric shows this benefit or collaborative networks, how was it measured?</li> <li>Abstract, line 40, conclusions. when you say 'research output', say 'RSV-related publications' as there are many other measures of research output that is not included here (Also, throughout the paper, refer to publications e.g. also the first bullet point of strengths/weaknesses where it refers to 'the research landscape'.</li> <li>- Abstract, conclusions, line 42. This last sentence doesn't read terribly clearly and overstates what can be inferred from the results. Suggest something like - 'research capacity in this nations should be increased in order to assist in addressing inequities in resource allocation and the clinical burdens of RSV'</li> <li>- Introduction, line 66. 'Mostly transmitted'. Revise to 'It is mostly transmitted...'</li> <li>- Intro, line 69. Sentence referring to vaccines needs a citation e.g. <a href="http://www.ncbi.nlm.nih.gov/pubmed/27182820">http://www.ncbi.nlm.nih.gov/pubmed/27182820</a></li> <li>- Intro, line 96. 'Deduce' isn't quite the right word. 'consider' would be a better word.</li> <li>- Intro, line 102. 'research output'. Replace to 'publication outputs' or similar.</li> <li>- Intro, line 105. 'To guide individual scholarship and publication of own research dedicated to the area". Unsure what this means.</li> <li>- Intro, line 107. 'Proliferative'. Not quite the right word, 'prolific' maybe? (See other uses of proliferative elsewhere in the paper too)</li> <li>- Methods line 129. 'We acknowledge that...'. This sentence prob better off in the limitations paragraph in the discussion section. Keep the methods to actually want you did, rather than the limitations of what you did. Similarly with line 133, the sentence starting 'no additional platforms...'</li> <li>- Methods, line 143. 'countries of origin'. Does this mean 'country of the institution each author is affiliated to'? Needs clarifying.</li> <li>- Line 144. Given you've said you only included original articles, what does 'document type' mean here?</li> <li>- Lines 144-148, mentions of 'semi-qualitative' and also reference to 'truly measure quality'. Which variables truly measure quality? I</li> </ul>
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haven't seen any that obviously do (especially if you consider that a citation rate does not measure the actual quality of a publication) I think that statement confuses things a little, and would suggest removing reference to semi-qualitative etc.

- Methods, line 160, gender analysis. You briefly mention in the results about first author and senior author genders. Add a line into the methods in this paragraph about this.
- Methods, line 160-164, gender analysis. These boundaries are fine, I think, but was there a particular reason for 50% and 60 authors (e.g. why not 60% and 50 authors?). Brief justification would be useful.
- Results, general comment. Where possible, mention both numbers and percentages. Both measures are typically useful to see.
- Methods, line 187. What year(s) are you taking GDP measures from? And what was the data source?
- Results, line 195/6. Revise to something like "increased by 100% from 3.8 in 1976 to..."
- Table 1. 'Country of origin'... of the corresponding author? or the country where most authors were affiliated? Or something else? Briefly clarify.
- Gender analyses line 264. This paragraph generally needs the wording to be clearer and in particular phrases like 'over-representation of female scientists'. This makes it sound like there are 'too many' female researchers. So be careful with how you phrase this paragraph!
- Results, line 270. 'since 1973'. Why did you restrict this bit of the analysis from 1973 onwards? Clarify why in the methods.
- Discussion lines 207-311. Other reasons also include new journals being launched, and greater investments in research?
- Discussion line 330. Yes, NIH is by far the biggest biomedical funder in the world. Other US agencies in the (current) top 10 R&D agencies, see <http://health-policy-systems.biomedcentral.com/articles/10.1186/s12961-015-0074-z>
- Discussion 349, briefly explain here what the Matthew effect is, many readers won't know. Also if this is your limitations para, highlight also that this is only one type of research output, doesn't include case reports or editorials/commentaries etc
- Discussion, 362-365. Add a citation for this statement (I'm sure he has, but didn't know Prof Greenwood did RSV, know of his malaria work as being more famous than RSV!)
- Discussion, line 376. Evidence of significant funds going from UK to Kenya in this paper (conflict of interest - it's one of mine...) <http://inthehealth.oxfordjournals.org/content/6/1/74>
- Discussion, line 390-395. Also one of my papers (so feel free to ignore), considers male/female PIs across global infectious disease research <http://bmjopen.bmj.com/content/3/12/e003362.full>  
With data specifically on RSV by PI here in the supplementary information [http://bmjopen.bmj.com/content/suppl/2013/11/20/bmjopen-2013-003362.DC1/bmjopen-2013-003362supp\\_table1b.pdf](http://bmjopen.bmj.com/content/suppl/2013/11/20/bmjopen-2013-003362.DC1/bmjopen-2013-003362supp_table1b.pdf)
- Discussion, 395. 'prove' is too strong a word; revise to something like 'suggests that Brazil may be'
- Discussion, 423-424. Ethical responsibility etc. Among the programs looking at this are the Research Fairness Initiative, led by Cohred . <http://rfi.cohred.org/>
- Discussion line 436. Suggest stick to high and middle/low income rather than introducing different terms like 'industrialized' etc at this stage.

<b>REVIEWER</b>	Tim Kinyanjui University of Manchester United Kingdom
<b>REVIEW RETURNED</b>	13-Sep-2016

<b>GENERAL COMMENTS</b>	<p>Comments:</p> <p>1) Please check that there are no typographical errors. In a lot of instances, author uses colon (:) instead of a full stop (.). There are also a few other grammatical errors.</p> <p>2) Assertions about the pattern of RSV on page 9 line 88-91 is not necessarily true. More recent publications suggest alternative patterns for some geographic locations and introduction of a new B sub-group also has an influence on the A/B pattern observed.</p> <p>3) Page 13 line 196 reports the number of authors per article. For completeness, the authors should make an effort to report what the distribution of the number of authors is and if the tails are long, then reporting median rather than mean might be more useful. Is the value of 3.8 the mean? Also, for all the other statistical measures reported, a 95% credible interval might be a good measure to report to give a measure of how reliable the point estimates are.</p> <p>4) A clarification about the determination of an author country of affiliation should be done. E.g. if an author was both affiliated to the UK and Japan, how would they be categorized?</p> <p>5) I think the limitations of the study can be discussed in more depth. E.g. in Table 1, the most cited paper has both influenza and RSV in the study. What proportion of citations are in influenza papers and what are in RSV papers? The ordering might change if this is accounted for. Authors can discuss this or try to determine the proportions.</p>
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### VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name: Michael G Head

Institution and Country: University of Southampton, UK

This is a perfectly worthy and interesting paper, that addresses outputs and resource issues surrounding an important and curiously low-profile infection. However, in my view, there are several issues that would need to be remedied before publication.

Overall:

- The language is often unclear or ambiguous. I would recommend the authors read through it carefully or ask a native English speaker to thoroughly proof-read the paper. I have highlighted some (but not all) examples of unclear language further below.

We apologize for the unclear wording. Dr. Jenny Jaque, MD (University of Southern California, Los Angeles) is a native speaker of the English language. She edited the paper thoroughly and is mentioned in the acknowledgments.

- The articles/publication index is not a particularly appropriate metric (the GDP one is interesting and innovative). The OECD have metrics showing e.g. numbers of employees in R&D etc, these would be more appropriate than simply comparing to whole populations (for example, Bangladesh has a population almost half that of the US, but a GDP far smaller, or a population more than double that of the UK but certainly not double the GDP or other economic measures). See [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_data.oecd.org\\_searchresults\\_-3Fq-3DR-](https://urldefense.proofpoint.com/v2/url?u=https-3A__data.oecd.org_searchresults_-3Fq-3DR-)

2526D&d=DQIFaQ&c=cIK7kQUTWtAVEOVIgvi0NU5BOUHpN0H8p7CSfnc\_gl&r=R6bCk8b3v7H7TvFo05md\_jiFY5sOiGHLxJXl4OT74nA&m=ai9\_OsN8y74cB4lNOxGNPcDumQ\_vp910lZhESTwOMl0&s=ZZTHRSpj7tnq5OFbNrJWfHYBuZfRWZolcJCqUoTECyg&e=

We were happy to add two new analyses to our study. Here, we related the country-specific article count to the Research and Development expenditures and to the number of researchers of a particular country (per billion inhabitants). Data were based on the resources published by the OECD. Please see the appropriate sections in methods, results and discussion.

Also, I think this discussion provides a great opportunity to more fully answer the 'so what?' question. i.e. "there are this many publications on RSV. So what? Why does that matter, and what next?" Perhaps a fuller comment on the benefits of incorporating this work alongside measurements of other research outputs (patents, policy documents, tools and products). Plus, what other analyses can inform the bigger picture of RSV burden and how best to address that e.g. analyses of research investments, and consideration of aid funding/development assistance for health funding in the countries with highest RSV burden etc. There are lots of ways to get that bit more out of this paper and to provide a stronger more compelling message for policymakers, funders, researchers.

We thank the referee for raising these important points. However, due to the extensive restructuring of the manuscript and addition of new data, we already extended the text to over 6,000 words. Comments or news may now use and cover the presented data and approach policymakers or funders.

#### Specific points

Add a study design to the title e.g. a systematic analysis, content analysis, mixed-methods... etc  
Title: We changed the title to „Respiratory Syncytial Virus: A systematic scientometric analysis of the global publication output and the gender distribution of publishing authors”.

Abstract, line 27. 'Decoded' indicates something has been encoded. Maybe 'described'?

Abstract, line 31: We agree and changed the wording to 'described'.

Abstract, line 27/28. Reference to scientific architecture and gender parameters are not clear at this stage, the reader rather needs to scan the full paper to get an idea of what that means (and bear in mind most people will only look at the abstract and if they can't understand the abstract, they won't read on)

Abstract, line 31. We apologize for this imprecision. Hence, we changed the wording to: „Hence, we assessed the associated scientific output (represented by research articles) by geographical, chronological and socio-economic criteria and analyzed the authors publishing in the field by gender.”

Abstract, line 32. Sentence beginning 'items were analysed...'. This is also unclear to me.

Abstract, line 38: We improved the wording to „We performed a numerical analysis of all articles and examined citation-based aspects (e.g. citation rates).....”

Abstract, purely for the first mention of 'Articles from 1900'. This is a long time ago, and surely irrelevant to 'tackling existing healthcare disparities' (One of the aims you state in the introduction). I see from further in the paper that there are some interesting landmark papers that explain citation peaks etc, that's useful information. But numerical analyses of author's gender and country etc from the 1900s is not relevant. A cut-off point will be somewhat subjective, but surely 30 years, maybe less, is more than adequate?

We agree with the reviewer. Although we investigated the worldwide publication output on RSV since

1900, we know that most of the articles that are useful for funding allotment and guidance of research planning were published in the last 30 years. Hence, we acknowledge that our search could be limited to this time period but we chose to conduct our analysis from 1900 to 2013 to encompass the whole time span covered by the WoS for maximal completeness.

Abstract, line 33: We added the identification of landmark publications in line 33. Please refer to the following: “Also, the 15 most cited articles and the most prolific journals were identified for RSV research.”

Abstract, results. Add numbers/proportions of the total to the statements of ‘USA leading the field’ etc  
Abstract, line 41: We apologize for the missing information and changed the wording to „US-American authors published 2,139 articles (46.5% % of all identified articles), which have been cited 83,000 times.”

Abstract, line 35. Reference to ‘economic benchmarks’ is not clear, specify one or two.  
Abstract, line 44. We specified two economic benchmarks’ by mentioning “GDP and R&D expenditures”.

Abstract, line 36, ‘RSV research benefited from collaborative networks’. What result or metric shows this benefit or collaborative networks, how was it measured?  
Apologizing for the fact that we did not measure outcomes assessing benefits of collaborative networks, we deleted this sentence.

Abstract, line 40, conclusions. when you say 'research output', say 'RSV-related publications' as there are many other measures of research output that is not included here (Also, throughout the paper, refer to publications e.g. also the first bullet point of strengths/weaknesses where it refers to ‘the research landscape’.

We agree and modified imprecise wording such as 'research output' or 'the research landscape' throughout the paper. We changed research output to 'RSV-related publications' or 'publication output'.

Abstract, conclusions, line 42. This last sentence doesn't read terribly clearly and overstates what can be inferred from the results. Suggest something like - 'research capacity in this nations should be increased in order to assist in addressing inequities in resource allocation and the clinical burdens of RSV'

Abstract, conclusions, line 51. We thank the reviewer for his suggestion and added the sentence as suggested.

Introduction, line 66. ‘Mostly transmitted’. Revise to ‘It is mostly transmitted...’

Introduction, line 106. We changed the wording to „single-stranded RNA virus, which is mostly transmitted by droplets “

- Intro, line 69. Sentence referring to vaccines needs a citation e.g.

[https://urldefense.proofpoint.com/v2/url?u=http-3A\\_\\_www.ncbi.nlm.nih.gov\\_pubmed\\_27182820&d=DQIFaQ&c=clK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc\\_gl&r=R6bCk8b3v7H7TvFo05md\\_jiFY5sOiGHLxJXI4OT74nA&m=ai9\\_OsN8y74cB4INOxGNPcDumQ\\_vp910IZhESTwOMI0&s=jhbTALjeSiEKzmfntbpKs\\_bC1wC1rMVOSQiVQkRM0Qg&e=](https://urldefense.proofpoint.com/v2/url?u=http-3A__www.ncbi.nlm.nih.gov_pubmed_27182820&d=DQIFaQ&c=clK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc_gl&r=R6bCk8b3v7H7TvFo05md_jiFY5sOiGHLxJXI4OT74nA&m=ai9_OsN8y74cB4INOxGNPcDumQ_vp910IZhESTwOMI0&s=jhbTALjeSiEKzmfntbpKs_bC1wC1rMVOSQiVQkRM0Qg&e=)

Introduction, line 110. We agree and thank the reviewer for his suggestion and added the valuable citation.

- Intro, line 78. 'Deduce' isn't quite the right word. 'consider' would be a better word.  
Introduction, line 157. We thank the reviewer for his suggestion and changed the wording to 'consider'

- Intro, line 102. 'research output'. Replace to 'publication outputs' or similar.  
Intro, line 163. We changed the wording to the more precise 'publication outputs'

- Intro, line 105. 'To guide individual scholarship and publication of own research dedicated to the area'. Unsure what this means.  
Intro, line 166. We apologize for the cryptic wording and deleted the part of the sentence.

- Intro, line 107. 'Proliferative'. Not quite the right word, 'prolific' maybe? (See other uses of proliferative elsewhere in the paper too)  
Intro, line 167. Yes, we meant 'prolific' and changed the wording in the manuscript accordingly.

- Methods line 129. 'We acknowledge that...'. This sentence prob better off in the limitations paragraph in the discussion section. Keep the methods to actually want you did, rather than the limitations of what you did. Similarly with line 133, the sentence starting 'no additional platforms...'  
We agree and placed the two paragraphs in a dedicated „Study limitation“ section. Please see lines 769 and following.

- Methods, line 143. 'countries of origin'. Does this mean 'country of the institution each author is affiliated to'? Needs clarifying.  
Methods, line 263. Yes, it does need clarifying. Hence, we added the following: „defined as the 'country where the institution is located each author, who worked on publishing the article, is affiliated')...”

- Line 144. Given you've said you only included original articles, what does 'document type' mean here?  
Yes, we did include only original research articles. We apologize for this lack of clarity and deleted 'document type'.

- Lines 144-148, mentions of 'semi-qualitative' and also reference to 'truly measure quality'. Which variables truly measure quality? I haven't seen any that obviously do (especially if you consider that a citation rate does not measure the actual quality of a publication)  
I think that statement confuses things a little, and would suggest removing reference to semi-qualitative etc.  
Lines 644. We agree and toned down the statement to the following: “Furthermore, all citation-based variables have limitations in assessing the quality of the identified articles because they rather reflect the recognition of the research in the scientific community than measure quality.”

- Methods, line 160, gender analysis. You briefly mention in the results about first author and senior author genders. Add a line into the methods in this paragraph about this.

Methods, line 280. We restructured our gender analysis section. In the light of the paper by Filardo et al., who analyzed chances of female first authors rather than the just the proportional percentage, we omitted this section of the paper. We are currently adapting our platform to the new approach published by Filardo et al for future studies.

Filardo G, da Graca B, Sass DM, Pollock BD, Smith EB, Martinez MA.  
Trends and comparison of female first authorship in high impact medical journals: observational study (1994-2014). *BMJ*. 2016 Mar 2;352:i847. doi: 10.1136/bmj.i847.

- Methods, line 160-164, gender analysis. These boundaries are fine, I think, but was there a particular reason for 50% and 60 authors (e.g. why not 60% and 50 authors?). Brief justification would be useful.

Methods, line 288. These thresholds were chosen arbitrarily based on our experience with studies we conducted in the past.

- Results, general comment. Where possible, mention both numbers and percentages. Both measures are typically useful to see.

We apologize for the missing data and added numbers and percentages in the methods section. For an example, please see line 367 (“the majority of the articles were written in English (4444 articles, 96.6 % of all published RSV articles”).

- Methods, line 187. What year(s) are you taking GDP measures from? And what was the data source?

Methods, line 332. The data covered the GDP of 2012 and were collected from the CIA World Factbook.

- Results, line 195/6. Revise to something like “increased by 100% from 3.8 in 1976 to...”

Methods, line 348. We agree and added the suggested wording to the sentence.

- Table 1. ‘Country of origin’... of the corresponding author? or the country where most authors were affiliated? Or something else? Briefly clarify.

We clarified the expression ‘Country of origin’ and added the following description: “defined as the countries where first, senior- and co-authors are affiliated”

- Gender analyses line 264. This paragraph generally needs the wording to be clearer and in particular phrases like ‘over-representation of female scientists’. This makes it sound like there are ‘too many’ female researchers. So be careful with how you phrase this paragraph!

We apologize for the unclear wording, and restructured and rephrased our section on country-specific gender distribution of publishing authors. Please see line 478 and following.

- Results, line 270. ‘since 1973’. Why did you restrict this bit of the analysis from 1973 onwards? Clarify why in the methods.

We added a statement regarding this issue in the Discussion section. Please refer to the following in line 793: “We identified the first collaborative article on RSV in 1973, which would indicate that researchers from different countries did not work together on RSV before then. This assumption is not necessarily true. In 1972, the WoS indexed author affiliations for the first time, which indicates that articles published in a joint effort before 1972 would not have been detected by our methodological approach.”

- Discussion lines 207-311. Other reasons also include new journals being launched, and greater investments in research?

We thank the reviewer for the excellent suggestions and added the following:

Line 573: “The continuous increase since the beginning of the 1990s may be attributed to the launch of a growing number of scientific journals providing a platform...”

Line 584: Also, it is noticeable that the increasing publication output since the 1960s was paralleled by a globally growing funding volume allocated to the R&D sector. In the USA alone, a total of 13,711 million US-Dollars (USD) was allocated to R&D in 1960 as.....“

- Discussion line 330. Yes, NIH is by far the biggest biomedical funder in the world. Other US

agencies in the (current) top 10 R&D agencies, see [https://urldefense.proofpoint.com/v2/url?u=http-3A\\_\\_health-2Dpolicy-2Dsystems.biomedcentral.com\\_articles\\_10.1186\\_s12961-2D015-2D0074-2Dz&d=DQIFaQ&c=clK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc\\_gl&r=R6bCk8b3v7H7TvFo05md\\_jiFY5sOiGHLxJXI4OT74nA&m=ai9\\_OsN8y74cB4INOxGNPcDumQ\\_vp910IzhESTwOMI0&s=MEyx-yvLD\\_OTd07KeH85JRhy1rneK6SBvK\\_LG5LV0Cw&e=](https://urldefense.proofpoint.com/v2/url?u=http-3A__health-2Dpolicy-2Dsystems.biomedcentral.com_articles_10.1186_s12961-2D015-2D0074-2Dz&d=DQIFaQ&c=clK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc_gl&r=R6bCk8b3v7H7TvFo05md_jiFY5sOiGHLxJXI4OT74nA&m=ai9_OsN8y74cB4INOxGNPcDumQ_vp910IzhESTwOMI0&s=MEyx-yvLD_OTd07KeH85JRhy1rneK6SBvK_LG5LV0Cw&e=)

Discussion, line 634: We appreciate this resource and added the following wording to this section: “The US-American National Institutes of Health (NIH) are by far the biggest biomedical funder in the world (e.g. with a funding volume of 26.08 billion USD in 2013 compared to the biggest...”

- Discussion 349, briefly explain here what the Matthew effect is, many readers won't know. We added the following explanation for the Matthew effect in line 673: “Also, the Matthew effect might influence citation-based variables. Here, scientists prefer to cite articles issued by well-known researchers to papers by junior scientists leading to a disproportional increase of the related citation counts”.

Also if this is your limitations para, highlight also that this is only one type of research output, doesn't include case reports or editorials/commentaries etc

Yes, we added this problem to the discussion of the weak points of our study. Please see line 880, “We acknowledge that this strategy narrowed down the focus on the topic since other publication types such as commentaries, reviews, case reports, or meeting reports were not included.”

- Discussion, 362-365. Add a citation for this statement (I'm sure he has, but didn't know Prof Greenwood did RSV, know of his malaria work as being more famous than RSV!) We are happy to add some citations about Prof. Greenwood's work on RSV (Line 714)

- Discussion, line 376. Evidence of significant funds going from UK to Kenya in this paper (conflict of interest - it's one of mine...) [https://urldefense.proofpoint.com/v2/url?u=http-3A\\_\\_inthehealth.oxfordjournals.org\\_content\\_6\\_1\\_74&d=DQIFaQ&c=clK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc\\_gl&r=R6bCk8b3v7H7TvFo05md\\_jiFY5sOiGHLxJXI4OT74nA&m=ai9\\_OsN8y74cB4INOxGNPcDumQ\\_vp910IzhESTwOMI0&s=7NSJkjUQ41ZwyF5M\\_hIQATpwFBpams9x73wzlx6eOhQ&e=](https://urldefense.proofpoint.com/v2/url?u=http-3A__inthehealth.oxfordjournals.org_content_6_1_74&d=DQIFaQ&c=clK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc_gl&r=R6bCk8b3v7H7TvFo05md_jiFY5sOiGHLxJXI4OT74nA&m=ai9_OsN8y74cB4INOxGNPcDumQ_vp910IzhESTwOMI0&s=7NSJkjUQ41ZwyF5M_hIQATpwFBpams9x73wzlx6eOhQ&e=)

We appreciate this resource since it fits perfectly in the context, and added value information to this paragraph (line 758) as “As revealed by Fitchett et al., a substantial funding volume goes to infectious disease research in countries with colonial ties to the UK such as Kenya and The Gambia. From 1997 – 2010, these countries received 13.13 million £ (The Gambia) and 12.92 million £ (Kenya) of biomedical funding by UK based institutions” and to the following paragraph (line 797) as “Also, existing collaborations and funding streams need to be viewed critically since they should rather reflect local disease burden....”.

- Discussion, line 390-395. Also one of my papers (so feel free to ignore), considers male/female PIs across global infectious disease research [https://urldefense.proofpoint.com/v2/url?u=http-3A\\_\\_bmjopen.bmj.com\\_content\\_3\\_12\\_e003362.full&d=DQIFaQ&c=clK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc\\_gl&r=R6bCk8b3v7H7TvFo05md\\_jiFY5sOiGHLxJXI4OT74nA&m=ai9\\_OsN8y74cB4INOxGNPcDumQ\\_vp910IzhESTwOMI0&s=EPEbbFedl3brvNAM2xT3F-CVOq\\_OrQx81YxWywdKjh0&e=](https://urldefense.proofpoint.com/v2/url?u=http-3A__bmjopen.bmj.com_content_3_12_e003362.full&d=DQIFaQ&c=clK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc_gl&r=R6bCk8b3v7H7TvFo05md_jiFY5sOiGHLxJXI4OT74nA&m=ai9_OsN8y74cB4INOxGNPcDumQ_vp910IzhESTwOMI0&s=EPEbbFedl3brvNAM2xT3F-CVOq_OrQx81YxWywdKjh0&e=)

With data specifically on RSV by PI here in the supplementary information <https://urldefense.proofpoint.com/v2/url?u=http->

3A\_\_bmjopen.bmj.com\_content\_suppl\_2013\_11\_20\_bmjopen-2D2013-2D003362.DC1\_bmjopen-2D2013-2D003362supp-5Ftable1b.pdf&d=DQIFaQ&c=cIK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc\_gl&r=R6bCk8b3v7H7TvFo05md\_jiFY5sOiGHLxJXI4OT74nA&m=ai9\_OsN8y74cB4INOxGNPcDumQ\_vp910IZhESTwOMI0&s=gPLx\_RQJtbxNNWpUuvbsyY7GWB2BU0zzP3dfHnR5TyQ&e=

We thank the reviewer for these valuable suggestions and included the resources in our discussion. Please refer to the following line 683: "This corresponds to the study of Head et al who documented the preferential funding of male researchers by UK institutions in the area of global infectious disease research. Between 1997-2010, funding agencies supported fewer studies of female PIs and awarded less monetary support to research supervised by women....."

- Discussion, 395. 'prove' is too strong a word; revise to something like 'suggests that Brazil may be'

We agree and revised the wording accordingly.

- Discussion, 423-424. Ethical responsibility etc. Among the programs looking at this are the Research Fairness Initiative, led by Cohred . [https://urldefense.proofpoint.com/v2/url?u=http-3A\\_\\_rfi.cohred.org\\_&d=DQIFaQ&c=cIK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc\\_gl&r=R6bCk8b3v7H7TvFo05md\\_jiFY5sOiGHLxJXI4OT74nA&m=ai9\\_OsN8y74cB4INOxGNPcDumQ\\_vp910IZhESTwOMI0&s=mzekTOVe\\_D9kEKh4FwnaFCpPwmj-qiq7M4QmOZo6X4w&e=](https://urldefense.proofpoint.com/v2/url?u=http-3A__rfi.cohred.org_&d=DQIFaQ&c=cIK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc_gl&r=R6bCk8b3v7H7TvFo05md_jiFY5sOiGHLxJXI4OT74nA&m=ai9_OsN8y74cB4INOxGNPcDumQ_vp910IZhESTwOMI0&s=mzekTOVe_D9kEKh4FwnaFCpPwmj-qiq7M4QmOZo6X4w&e=)

We appreciate this suggestion and added the following to the text (line 804): "Also, global investment surveillance systems need to be established such as the "Research Fairness Initiative" led by Cohred to guide and monitor sustainable, transparent and effective partnerships in research (<http://rfi.cohred.org/origin-of-the-rfi/>)."

- Discussion line 436. Suggest stick to high and middle/low income rather than introducing different terms like 'industrialized' etc at this stage.

We apologize for the change in terms and improved them accordingly.

Reviewer: 2

Reviewer Name: Tim Kinyanjui

Institution and Country: University of Manchester, United Kingdom

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

Please leave your comments for the authors below

Comments:

1) Please check that there are no typographical errors. In a lot of instances, author uses colon (:) instead of a full stop (.). There are also a few other grammatical errors.

We apologize for the typographical and grammatical errors and corrected them. Also, Dr. Jenny Jaque, MD (University of Southern California, Los Angeles) is a native speaker of the English language. She edited the paper and is mentioned in the acknowledgments.

2) Assertions about the pattern of RSV on page 9 line 88-91 is not necessarily true. More recent publications suggest alternative patterns for some geographic locations and introduction of a new B sub-group also has an influence on the A/B pattern observed.

We value the reviewer's comment and rephrased the following section (line 144): "RSV epidemics occur during rainy seasons in tropical climates and during the winter months in temperate zones. The

two main virus strains, RSV-A and -B, and their numerous genotypes co-circulate during outbreaks in any given year. The A subtype is typically associated with more severe disease...”

3) Page 13 line 196 reports the number of authors per article. For completeness, the authors should make an effort to report what the distribution of the number of authors is and if the tails are long, then reporting median rather than mean might be more useful. Is the value of 3.8 the mean?

Also, for all the other statistical measures reported, a 95% credible interval might be a good measure to report to give a measure of how reliable the point estimates are.

We apologize for the lack of clarity and added additional data about the authors, the related mean and median in this section, e.g. line 348 “The number of authors per article increased by 100% in the investigated timeframe. We identified a mean of 3.8 and a median of 3 authors in 1978, which was the first analyzed...”

Since our study is presenting mainly descriptive data, we refrained from displaying them by other statistical measures than numbers and percentages.

4) A clarification about the determination of an author country of affiliation should be done. E.g. if an author was both affiliated to the UK and Japan, how would they be categorized?

We agree that further clarification is necessary about this particular step of our analysis. We added the following in line 304: “Publications with two or more authors affiliated to the same country were counted....”

5) I think the limitations of the study can be discussed in more depth. E.g. in Table 1, the most cited paper has both influenza and RSV in the study. What proportion of citations are in influenza papers and what are in RSV papers? The ordering might change if this is accounted for. Authors can discuss this or try to determine the proportions.

We restructures the Discussion and an extended section dedicated to the limitations of this study was added to the paper (line 810). Among other shortcomings, we mentioned the most cited article in the field (issued by Thompson et al) since it covered both topics, “influenza” AND “RSV”. As suggested by the reviewer, we determined how many times it was cited in papers regarding “influenza” and “RSV” and discussed the result critically. Please see line 898: “Further, we identified “Mortality associated with influenza and respiratory syncytial virus in the United States” by Thompson et al. as the most cited journal article in the field of RSV.....”

#### VERSION 2 – REVIEW

<b>REVIEWER</b>	Michael Head University of Southampton, UK
<b>REVIEW RETURNED</b>	24-Nov-2016

<b>GENERAL COMMENTS</b>	This is a much improved paper, and I would recommend the journal accepts this. I've suggested below some further very minor revisions that can further improve the article, but they are purely optional.  Abstract – “We identified 4600 RSV-related article”. With a total of how many citations, and mean citations per article?
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	<p>“American authors published 2,139 articles (46.5% % of all identified articles), which 39 have been cited 83,000 times.” Add in mean citation per publication here too.</p> <p>Results section– “We identified a mean of 3.8 and a median of 3 authors in 1978...” Suggest also include the standard deviation for the mean and the inter-quartile range for the median, and same for 2013 data. And for the rest of that paragraph, the detail is probably a little too much, maybe condense to something like - “We identified a mean of 3.8 and a median of 3 authors in 1978, with consistent temporal increases observed up to 2013, where there was a mean of 7.6 and a median of 6 authors ...” If you wish, the more detailed data can be added to supplementary information, though probably not necessary.</p> <p>Results, line 266, the publications per population parameter. I still do not think it needs to be included, but given the additions below it with further OECD data, I'll not pursue this particular point any further. However, it's probably not the most relevant or most interesting of your results, so I would reorder the results section a little and present some of the other findings first.</p> <p>Results, table 2a – assume the heading related to annual ‘R&amp;D Expenditure in billion USD’? If so, then add that in.</p> <p>Line 375 – minor typo, correct to “papers in the field.”</p>
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## VERSION 2 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name: Michael G Head

Institution and Country: University of Southampton, UK

This is a perfectly worthy and interesting paper, that addresses outputs and resource issues surrounding an important and curiously low-profile infection. However, in my view, there are several issues that would need to be remedied before publication.

Overall:

- The language is often unclear or ambiguous. I would recommend the authors read through it carefully or ask a native English speaker to thoroughly proof-read the paper. I have highlighted some (but not all) examples of unclear language further below.

We apologize for the unclear wording. Dr. Jenny Jaque, MD (University of Southern California, Los Angeles) is a native speaker of the English language. She edited the paper thoroughly and is mentioned in the acknowledgments.

- The articles/publication index is not a particularly appropriate metric (the GDP one is interesting and innovative). The OECD have metrics showing e.g. numbers of employees in R&D etc, these would be more appropriate than simply comparing to whole populations (for example, Bangladesh has a population almost half that of the US, but a GDP far smaller, or a population more than double that of the UK but certainly not double the GDP or other economic measures). See [https://urldefense.proofpoint.com/v2/url?u=https-3A\\_\\_data.oecd.org\\_searchresults\\_-3Fq-3DR-2526D&d=DQIFaQ&c=cIK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc\\_gl&r=R6bCk8b3v7H7Tv](https://urldefense.proofpoint.com/v2/url?u=https-3A__data.oecd.org_searchresults_-3Fq-3DR-2526D&d=DQIFaQ&c=cIK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc_gl&r=R6bCk8b3v7H7Tv)

Fo05md\_jiFY5sOiGHLxJXI4OT74nA&m=ai9\_OsN8y74cB4INoxGNPcDumQ\_vp910IZhESTwOMI0&s=ZZTHRSpj7tnq5OFbNrJWfHYBuZfRWZolcJCqUoTECyg&e=

We were happy to add two new analyses to our study. Here, we related the country-specific article count to the Research and Development expenditures and to the number of researchers of a particular country (per billion inhabitants). Data were based on the resources published by the OECD. Please see the appropriate sections in methods, results and discussion.

Also, I think this discussion provides a great opportunity to more fully answer the 'so what?' question. i.e. "there are this many publications on RSV. So what? Why does that matter, and what next?" Perhaps a fuller comment on the benefits of incorporating this work alongside measurements of other research outputs (patents, policy documents, tools and products). Plus, what other analyses can inform the bigger picture of RSV burden and how best to address that e.g. analyses of research investments, and consideration of aid funding/development assistance for health funding in the countries with highest RSV burden etc. There are lots of ways to get that bit more out of this paper and to provide a stronger more compelling message for policymakers, funders, researchers.

We thank the referee for raising these important points. However, due to the extensive restructuring of the manuscript and addition of new data, we already extended the text to over 6,000 words. Comments or news may now use and cover the presented data and approach policymakers or funders.

#### Specific points

Add a study design to the title e.g. a systematic analysis, content analysis, mixed-methods... etc  
Title: We changed the title to „Respiratory Syncytial Virus: Systematic scientometric analysis of the global publication output and the gender distribution of publishing authors”.

Abstract, line 27. 'Decoded' indicates something has been encoded. Maybe 'described'?  
Abstract, line 31: We agree and changed the wording to 'described'.

Abstract, line 27/28. Reference to scientific architecture and gender parameters are not clear at this stage, the reader rather needs to scan the full paper to get an idea of what that means (and bear in mind most people will only look at the abstract and if they can't understand the abstract, they won't read on)

Abstract, line 31. We apologize for this imprecision. Hence, we changed the wording to: „Hence, we assessed the associated scientific output (represented by research articles) by geographical, chronological and socio-economic criteria and analyzed the authors publishing in the field by gender.”

Abstract, line 32. Sentence beginning 'items were analysed...'. This is also unclear to me.  
Abstract, line 38: We improved the wording to „We performed a numerical analysis of all articles and examined citation-based aspects (e.g. citation rates).....”

Abstract, purely for the first mention of 'Articles from 1900'. This is a long time ago, and surely irrelevant to 'tackling existing healthcare disparities' (One of the aims you state in the introduction). I see from further in the paper that there are some interesting landmark papers that explain citation peaks etc, that's useful information. But numerical analyses of author's gender and country etc from the 1900s is not relevant. A cut-off point will be somewhat subjective, but surely 30 years, maybe less, is more than adequate?

We agree with the reviewer. Although we investigated the worldwide publication output on RSV since 1900, we know that most of the articles that are useful for funding allotment and guidance of research

planning were published in the last 30 years. Hence, we acknowledge that our search could be limited to this time period but we chose to conduct our analysis from 1900 to 2013 to encompass the whole time span covered by the WoS for maximal completeness.

Abstract, line 33: We added the identification of landmark publications in line 33. Please refer to the following: "Also, the 15 most cited articles and the most prolific journals were identified for RSV research."

Abstract, results. Add numbers/proportions of the total to the statements of 'USA leading the field' etc  
Abstract, line 41: We apologize for the missing information and changed the wording to „US-American authors published 2,139 articles (46.5% % of all identified articles), which have been cited 83,000 times.”

Abstract, line 35. Reference to 'economic benchmarks' is not clear, specify one or two.  
Abstract, line 44. We specified two economic benchmarks' by mentioning "GDP and R&D expenditures".

Abstract, line 36, 'RSV research benefited from collaborative networks'. What result or metric shows this benefit or collaborative networks, how was it measured?  
Apologizing for the fact that we did not measure outcomes assessing benefits of collaborative networks, we deleted this sentence.

Abstract, line 40, conclusions. when you say 'research output', say 'RSV-related publications' as there are many other measures of research output that is not included here (Also, throughout the paper, refer to publications e.g. also the first bullet point of strengths/weaknesses where it refers to 'the research landscape'.  
We agree and modified imprecise wording such as 'research output' or 'the research landscape' throughout the paper. We changed research output to 'RSV-related publications' or 'publication output'.

Abstract, conclusions, line 42. This last sentence doesn't read terribly clearly and overstates what can be inferred from the results. Suggest something like - 'research capacity in this nations should be increased in order to assist in addressing inequities in resource allocation and the clinical burdens of RSV'  
Abstract, conclusions, line 51. We thank the reviewer for his suggestion and added the sentence as suggested.

Introduction, line 66. 'Mostly transmitted'. Revise to 'It is mostly transmitted...'  
Introduction, line 106. We changed the wording to „single-stranded RNA virus, which is mostly transmitted by droplets “

- Intro, line 69. Sentence referring to vaccines needs a citation e.g.  
[https://urldefense.proofpoint.com/v2/url?u=http-3A\\_\\_www.ncbi.nlm.nih.gov\\_pubmed\\_27182820&d=DQIFaQ&c=clK7kQUTWtAVEOVlgvi0NU5BOUHhpN0H8p7CSfnc\\_gl&r=R6bCk8b3v7H7TvFo05md\\_jiFY5sOiGHLxJXI4OT74nA&m=ai9\\_OsN8y74cB4lNOxGNPcDumQ\\_vp910IZhESTwOMI0&s=jhbTALjeSiEKzmfntbpKs\\_bC1wC1rMVOSQiVQkRM0Qg&e=](https://urldefense.proofpoint.com/v2/url?u=http-3A__www.ncbi.nlm.nih.gov_pubmed_27182820&d=DQIFaQ&c=clK7kQUTWtAVEOVlgvi0NU5BOUHhpN0H8p7CSfnc_gl&r=R6bCk8b3v7H7TvFo05md_jiFY5sOiGHLxJXI4OT74nA&m=ai9_OsN8y74cB4lNOxGNPcDumQ_vp910IZhESTwOMI0&s=jhbTALjeSiEKzmfntbpKs_bC1wC1rMVOSQiVQkRM0Qg&e=)  
Introduction, line 110. We agree and thank the reviewer for his suggestion and added the valuable citation.

- Intro, line 78. 'Deduce' isn't quite the right word. 'consider' would be a better word.

Introduction, line 157. We thank the reviewer for his suggestion and changed the wording to 'consider'

- Intro, line 102. 'research output'. Replace to 'publication outputs' or similar.

Intro, line 163. We changed the wording to the more precise 'publication outputs'

- Intro, line 105. 'To guide individual scholarship and publication of own research dedicated to the area'. Unsure what this means.

Intro, line 166. We apologize for the cryptic wording and deleted the part of the sentence.

- Intro, line 107. 'Proliferative'. Not quite the right word, 'prolific' maybe? (See other uses of proliferative elsewhere in the paper too)

Intro, line 167. Yes, we meant 'prolific' and changed the wording in the manuscript accordingly.

- Methods line 129. 'We acknowledge that...'. This sentence prob better off in the limitations paragraph in the discussion section. Keep the methods to actually want you did, rather than the limitations of what you did. Similarly with line 133, the sentence starting 'no additional platforms...'. We agree and placed the two paragraphs in a dedicated „Study limitation“ section. Please see lines 769 and following.

- Methods, line 143. 'countries of origin'. Does this mean 'country of the institution each author is affiliated to'? Needs clarifying.

Methods, line 263. Yes, it does need clarifying. Hence, we added the following: „defined as the 'country where the institution is located each author, who worked on publishing the article, is affiliated')...”

- Line 144. Given you've said you only included original articles, what does 'document type' mean here?

Yes, we did include only original research articles. We apologize for this lack of clarity and deleted 'document type'.

- Lines 144-148, mentions of 'semi-qualitative' and also reference to 'truly measure quality'. Which variables truly measure quality? I haven't seen any that obviously do (especially if you consider that a citation rate does not measure the actual quality of a publication)

I think that statement confuses things a little, and would suggest removing reference to semi-qualitative etc.

Lines 644. We agree and toned down the statement to the following: “Furthermore, all citation-based variables have limitations in assessing the quality of the identified articles because they rather reflect the recognition of the research in the scientific community than measure quality.”

- Methods, line 160, gender analysis. You briefly mention in the results about first author and senior author genders. Add a line into the methods in this paragraph about this.

Methods, line 280. We restructured our gender analysis section. In the light of the paper by Filardo et al., who analyzed chances of female first authors rather than the just the proportional percentage, we omitted this section of the paper. We are currently adapting our platform to the new approach published by Filardo et al for future studies.

Filardo G, da Graca B, Sass DM, Pollock BD, Smith EB, Martinez MA.

Trends and comparison of female first authorship in high impact medical journals: observational study (1994-2014). *BMJ*. 2016 Mar 2;352:i847. doi: 10.1136/bmj.i847.

- Methods, line 160-164, gender analysis. These boundaries are fine, I think, but was there a

particular reason for 50% and 60 authors (e.g. why not 60% and 50 authors?). Brief justification would be useful.

Methods, line 288. These thresholds were chosen arbitrarily based on our experience with studies we conducted in the past.

- Results, general comment. Where possible, mention both numbers and percentages. Both measures are typically useful to see.

We apologize for the missing data and added numbers and percentages in the methods section. For an example, please see line 367 (“the majority of the articles were written in English (4444 articles, 96.6 % of all published RSV articles”).

- Methods, line 187. What year(s) are you taking GDP measures from? And what was the data source?

Methods, line 332. The data covered the GDP of 2012 and were collected from the CIA World Factbook.

- Results, line 195/6. Revise to something like “increased by 100% from 3.8 in 1976 to...”

Methods, line 348. We agree and added the suggested wording to the sentence.

- Table 1. ‘Country of origin’... of the corresponding author? or the country where most authors were affiliated? Or something else? Briefly clarify.

We clarified the expression ‘Country of origin’ and added the following description: “defined as the countries where first, senior- and co-authors are affiliated”

- Gender analyses line 264. This paragraph generally needs the wording to be clearer and in particular phrases like ‘over-representation of female scientists’. This makes it sound like there are ‘too many’ female researchers. So be careful with how you phrase this paragraph!

We apologize for the unclear wording, and restructured and rephrased our section on country-specific gender distribution of publishing authors. Please see line 478 and following.

- Results, line 270. ‘since 1973’. Why did you restrict this bit of the analysis from 1973 onwards?

Clarify why in the methods.

We added a statement regarding this issue in the Discussion section. Please refer to the following in line 793: “We identified the first collaborative article on RSV in 1973, which would indicate that researchers from different countries did not work together on RSV before then. This assumption is not necessarily true. In 1972, the WoS indexed author affiliations for the first time, which indicates that articles published in a joint effort before 1972 would not have been detected by our methodological approach.”

- Discussion lines 207-311. Other reasons also include new journals being launched, and greater investments in research?

We thank the reviewer for the excellent suggestions and added the following:

Line 573: “The continuous increase since the beginning of the 1990s may be attributed to the launch of a growing number of scientific journals providing a platform...”

Line 584: Also, it is noticeable that the increasing publication output since the 1960s was paralleled by a globally growing funding volume allocated to the R&D sector. In the USA alone, a total of 13,711 million US-Dollars (USD) was allocated to R&D in 1960 as.....“

- Discussion line 330. Yes, NIH is by far the biggest biomedical funder in the world. Other US agencies in the (current) top 10 R&D agencies, see <https://urldefense.proofpoint.com/v2/url?u=http->

3A\_\_health-2Dpolicy-2Dsystems.biomedcentral.com\_articles\_10.1186\_s12961-2D015-2D0074-2Dz&d=DQIFaQ&c=cIK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc\_gl&r=R6bCk8b3v7H7TvFo05md\_jiFY5sOiGHLxJXI4OT74nA&m=ai9\_OsN8y74cB4INOxGNPcDumQ\_vp910IZhESTwOMI0&s=MEyx-yvLD\_OTd07KeH85JRhy1rneK6SBvK\_LG5LV0Cw&e=

Discussion, line 634: We appreciate this resource and added the following wording to this section: "The US-American National Institutes of Health (NIH) are by far the biggest biomedical funder in the world (e.g. with a funding volume of 26.08 billion USD in 2013 compared to the biggest..."

- Discussion 349, briefly explain here what the Matthew effect is, many readers won't know. We added the following explanation for the Matthew effect in line 673: "Also, the Matthew effect might influence citation-based variables. Here, scientists prefer to cite articles issued by well-known researchers to papers by junior scientists leading to a disproportional increase of the related citation counts".

Also if this is your limitations para, highlight also that this is only one type of research output, doesn't include case reports or editorials/commentaries etc

Yes, we added this problem to the discussion of the weak points of our study. Please see line 880, "We acknowledge that this strategy narrowed down the focus on the topic since other publication types such as commentaries, reviews, case reports, or meeting reports were not included."

- Discussion, 362-365. Add a citation for this statement (I'm sure he has, but didn't know Prof Greenwood did RSV, know of his malaria work as being more famous than RSV!) We are happy to add some citations about Prof. Greenwood's work on RSV (Line 714)

- Discussion, line 376. Evidence of significant funds going from UK to Kenya in this paper (conflict of interest - it's one of mine...) [https://urldefense.proofpoint.com/v2/url?u=http-3A\\_\\_inthehealth.oxfordjournals.org\\_content\\_6\\_1\\_74&d=DQIFaQ&c=cIK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc\\_gl&r=R6bCk8b3v7H7TvFo05md\\_jiFY5sOiGHLxJXI4OT74nA&m=ai9\\_OsN8y74cB4INOxGNPcDumQ\\_vp910IZhESTwOMI0&s=7NSJkjUQ41ZwyF5M\\_hIQATpwFBpams9x73wzlx6eOhQ&e=](https://urldefense.proofpoint.com/v2/url?u=http-3A__inthehealth.oxfordjournals.org_content_6_1_74&d=DQIFaQ&c=cIK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc_gl&r=R6bCk8b3v7H7TvFo05md_jiFY5sOiGHLxJXI4OT74nA&m=ai9_OsN8y74cB4INOxGNPcDumQ_vp910IZhESTwOMI0&s=7NSJkjUQ41ZwyF5M_hIQATpwFBpams9x73wzlx6eOhQ&e=)

We appreciate this resource since it fits perfectly in the context, and added value information to this paragraph (line 758) as "As revealed by Fitchett et al., a substantial funding volume goes to infectious disease research in countries with colonial ties to the UK such as Kenya and The Gambia. From 1997 – 2010, these countries received 13.13 million £ (The Gambia) and 12.92 million £ (Kenya) of biomedical funding by UK based institutions" and to the following paragraph (line 797) as "Also, existing collaborations and funding streams need to be viewed critically since they should rather reflect local disease burden....".

- Discussion, line 390-395. Also one of my papers (so feel free to ignore), considers male/female PIs across global infectious disease research [https://urldefense.proofpoint.com/v2/url?u=http-3A\\_\\_bmjopen.bmj.com\\_content\\_3\\_12\\_e003362.full&d=DQIFaQ&c=cIK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc\\_gl&r=R6bCk8b3v7H7TvFo05md\\_jiFY5sOiGHLxJXI4OT74nA&m=ai9\\_OsN8y74cB4INOxGNPcDumQ\\_vp910IZhESTwOMI0&s=EPEbbFedl3brvNAM2xT3F-CVOq\\_OrQx81YxWywdKjh0&e=](https://urldefense.proofpoint.com/v2/url?u=http-3A__bmjopen.bmj.com_content_3_12_e003362.full&d=DQIFaQ&c=cIK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc_gl&r=R6bCk8b3v7H7TvFo05md_jiFY5sOiGHLxJXI4OT74nA&m=ai9_OsN8y74cB4INOxGNPcDumQ_vp910IZhESTwOMI0&s=EPEbbFedl3brvNAM2xT3F-CVOq_OrQx81YxWywdKjh0&e=) With data specifically on RSV by PI here in the supplementary information [https://urldefense.proofpoint.com/v2/url?u=http-3A\\_\\_bmjopen.bmj.com\\_content\\_suppl\\_2013\\_11\\_20\\_bmjopen-2D2013-2D003362.DC1\\_bmjopen-](https://urldefense.proofpoint.com/v2/url?u=http-3A__bmjopen.bmj.com_content_suppl_2013_11_20_bmjopen-2D2013-2D003362.DC1_bmjopen-)

2D2013-2D003362supp-5Ftable1b.pdf&d=DQIFaQ&c=clK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc\_gl&r=R6bCk8b3v7H7TvFo05md\_jiFY5sOiGHLxJXI4OT74nA&m=ai9\_OsN8y74cB4INOxGNPcDumQ\_vp910IZhESTwOMI0&s=gPLx\_RQJtbxNNWpUuvbsyY7GWB2BU0zzP3dfHnR5TyQ&e=

We thank the reviewer for these valuable suggestions and included the resources in our discussion. Please refer to the following line 683: “This corresponds to the study of Head et al who documented the preferential funding of male researchers by UK institutions in the area of global infectious disease research. Between 1997-2010, funding agencies supported fewer studies of female PIs and awarded less monetary support to research supervised by women.....”

- Discussion, 395. 'prove' is too strong a word; revise to something like 'suggests that Brazil may be'

We agree and revised the wording accordingly.

- Discussion, 423-424. Ethical responsibility etc. Among the programs looking at this are the Research Fairness Initiative, led by Cohred . [https://urldefense.proofpoint.com/v2/url?u=http-3A\\_\\_rfi.cohred.org\\_&d=DQIFaQ&c=clK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc\\_gl&r=R6bCk8b3v7H7TvFo05md\\_jiFY5sOiGHLxJXI4OT74nA&m=ai9\\_OsN8y74cB4INOxGNPcDumQ\\_vp910IZhESTwOMI0&s=mzekTOVe\\_D9kEKh4FwnaFCpPwmj-qiq7M4QmOZo6X4w&e=](https://urldefense.proofpoint.com/v2/url?u=http-3A__rfi.cohred.org_&d=DQIFaQ&c=clK7kQUTWtAVEOVIgvi0NU5BOUHhpN0H8p7CSfnc_gl&r=R6bCk8b3v7H7TvFo05md_jiFY5sOiGHLxJXI4OT74nA&m=ai9_OsN8y74cB4INOxGNPcDumQ_vp910IZhESTwOMI0&s=mzekTOVe_D9kEKh4FwnaFCpPwmj-qiq7M4QmOZo6X4w&e=)

We appreciate this suggestion and added the following to the text (line 804): “Also, global investment surveillance systems need to be established such as the “Research Fairness Initiative” led by Cohred to guide and monitor sustainable, transparent and effective partnerships in research (<http://rfi.cohred.org/origin-of-the-rfi/>).“

- Discussion line 436. Suggest stick to high and middle/low income rather than introducing different terms like 'industrialized' etc at this stage.

We apologize for the change in terms and improved them accordingly.

Reviewer: 2

Reviewer Name: Tim Kinyanjui

Institution and Country: University of Manchester, United Kingdom

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

Please leave your comments for the authors below

Comments:

1) Please check that there are no typographical errors. In a lot of instances, author uses colon (:) instead of a full stop (.). There are also a few other grammatical errors.

We apologize for the typographical and grammatical errors and corrected them. Also, Dr. Jenny Jaque, MD (University of Southern California, Los Angeles) is a native speaker of the English language. She edited the paper and is mentioned in the acknowledgments.

2) Assertions about the pattern of RSV on page 9 line 88-91 is not necessarily true. More recent publications suggest alternative patterns for some geographic locations and introduction of a new B sub-group also has an influence on the A/B pattern observed.

We value the reviewer's comment and rephrased the following section (line 144): “RSV epidemics occur during rainy seasons in tropical climates and during the winter months in temperate zones. The two main virus strains, RSV-A and -B, and their numerous genotypes co-circulate during outbreaks in

any given year. The A subtype is typically associated with more severe disease...”

3) Page 13 line 196 reports the number of authors per article. For completeness, the authors should make an effort to report what the distribution of the number of authors is and if the tails are long, then reporting median rather than mean might be more useful. Is the value of 3.8 the mean?

Also, for all the other statistical measures reported, a 95% credible interval might be a good measure to report to give a measure of how reliable the point estimates are.

We apologize for the lack of clarity and added additional data about the authors, the related mean and median in this section, e.g. line 348 “The number of authors per article increased by 100% in the investigated timeframe. We identified a mean of 3.8 and a median of 3 authors in 1978, which was the first analyzed...”

Since our study is presenting mainly descriptive data, we refrained from displaying them by other statistical measures than numbers and percentages.

4) A clarification about the determination of an author country of affiliation should be done. E.g. if an author was both affiliated to the UK and Japan, how would they be categorized?

We agree that further clarification is necessary about this particular step of our analysis. We added the following in line 304: “Publications with two or more authors affiliated to the same country were counted....”

5) I think the limitations of the study can be discussed in more depth. E.g. in Table 1, the most cited paper has both influenza and RSV in the study. What proportion of citations are in influenza papers and what are in RSV papers? The ordering might change if this is accounted for. Authors can discuss this or try to determine the proportions.

We restructured the Discussion and an extended section dedicated to the limitations of this study was added to the paper (line 810). Among other shortcomings, we mentioned the most cited article in the field (issued by Thompson et al) since it covered both topics, “influenza” AND “RSV”. As suggested by the reviewer, we determined how many times it was cited in papers regarding “influenza” and “RSV” and discussed the result critically. Please see line 898: “Further, we identified “Mortality associated with influenza and respiratory syncytial virus in the United States“ by Thompson et al. as the most cited journal article in the field of RSV.....”

#### VERSION 3 – REVIEW

<b>REVIEWER</b>	Michael Head University of Southampton, UK
<b>REVIEW RETURNED</b>	05-Mar-2017

<b>GENERAL COMMENTS</b>	I have read through the revised manuscript and this is much improved. I have no further suggestions and recommend the journal accepts this version.
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