

# Do we need journal peer review?

## Changes between 121 epidemiology preprints and their subsequent journal publications

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### Project details:

<https://data.mendeley.com/datasets/zrtfry5fsd/4>

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## Objective

To identify changes between epidemiology preprints posted on bioRxiv and their subsequent journal publications.

## Methods

Till 31 December 2019 there were 1,538 epidemiology preprints posted on bioRxiv. On 5 January 2021, 844 (55%) of those were subsequently published as journal articles, of which 622 (74%) had only one preprint version. Based on our sample size calculation for representative sampling with 8% margin of error estimates, we randomly sampled 121 of those 622 preprints and compared them to their journal versions of record using quantitative and qualitative analyses. Statistical analyses were performed using MedCalc version 19.6.4. [Preliminary results](#) (study is ongoing) [are presented below](#).



Median time from preprint to publication: 204 days (IQR 131 to 243, range 34 to 662).

## Results

121 Preprints → 121 Publications

Section (Md words, Md difference)	How many changed?	But...what changed?	One (biased) example (additions in red)
<b>Title</b> (15, 0)	<b>31 (26%)</b>	26 titles changed less than 3 words	toward to towards
<i>Authors (Md n=6, 0)</i>	8 (7%)	5 removed, 2 added, and 1 reordered authors	Consortium name removed
<b>Abstract</b> (250, +2)	<b>107 (88%)</b>	53 add. or rem. results, 23 copyedited only	'the' added before Congo
<b>Introduction</b> (505, +31)	<b>106 (88%)</b>	67 expanded literature, 37 altered objectives	which exhibits sensitive population dynamics to the water level, e.g., rainfall, flooded agricultural activities
<b>Methods</b> (941, +135)	<b>120 (99%)</b>	37 listed additional analyses, 9 ↑or↓ sample size	added <b>data availability statement</b>
<b>Results</b> (804, +79)	<b>115 (95%)</b>	82 ↑or↓ no. of reported results, 19 copied. only	<i>To estimate the clinical relevance of our findings, the ORs for being diagnosed with pancreatic cancer within the follow-up time was calculated</i>
<b>Discussion</b> (1,119, +180)	<b>116 (96%)</b>	37 changed first (outcome) sentence of discussion, 65 added limitations	<b>clinical implications</b> section added
<i>References (Md n=36, +6)</i>			

**Questions (instead of conclusions) to those looking at the poster:** What changes do you feel prove the value or need for peer review? Would the lack of any (significant) change imply that the review provided a seal of approval for a study well done? How do we measure the effect of introduced changes on the scientific community? Or that those changes were indeed needed? Or that without them these studies would've been perceived to have lower quality or impact?

**Recommendations:** To increase transparency and provide evidence for the value and need of peer review, journals and review platforms should describe changes that occurred to manuscripts due to peer review. And they should list all (quality) checks that were conducted during manuscript evaluation.