

# **Peer Review: Biases and barriers in rat reporting: Insights from Chicago's 311 Data**

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*Collaborators: Tyler Brasington, Jeff Herod, Grace Kahler + 1 other reviewers*

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Accepted by 3 of 4 reviewers

## **Conflicts of Interest**

The authors declare no conflicts of interest.

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# Reviewer Summaries

## Tyler Brasington

### Initial Submission

**Do you have any conflicts of interest that could bias your ability to provide an independent review?**

No

**What did the authors do a good job with?**

The authors did an excellent job with this entire manuscript. It is very thorough, with great detail. The authors clearly report their results, and directly tie it to the discussion. It is a well written comprehensive discussion. This manuscript should be accepted with minor revisions.

**How do you think this research will contribute to the field?**

This has direct implications for municipalities and how they manage pest control. Results from this study indicate that the spatial distribution of resident demographics, housing, and socioeconomics may lead to under-reporting of rats in certain areas. Managers and professionals can take these factors into account interpreting rat data, which could help improve the accuracy of identifying communities at greater risk of rat infestations; this allows municipalities to target mitigation efforts to specific areas more efficiently.

**Regarding the study design and methods, what do the authors need to fix or improve upon to be fit for publication?**

Study design and methods are complete and thorough. However, the authors should call out how many invitations were sent out for the survey. Moreover, the CES-D scale that is mentioned in the methods is absent from the results; that should be included.

**Regarding the analysis and interpretation of their findings, what do the authors need to fix or improve upon to be fit for publication?**

One suggestion with surveys would be to create a map to spatially depict where surveys were sent vs. what surveys were received back. Otherwise, statistics are appropriate for this study. On one occasion a p-value is reported (make sure to identify what statistical test you are reporting p-values for). The tables and graphs are visually helpful reporting your results. In the discussion, I think you could strengthen it by providing recommendations or insight into policy and reporting requirements.

**Is there anything else you think the authors need to fix in their article to be fit for publication?**

No.

**Do you have any concerns about the ethics of this research?**

No.

**Do you believe the article, in its current form, is fit for publication?**

This paper requires minor revisions but does not need further peer review

**Would you like to be listed as a Collaborator on the final publication?**

Yes, please list me as a Collaborator



## Jeff Herod

### Initial Submission

**Do you have any conflicts of interest that could bias your ability to provide an independent review?**

No

**What did the authors do a good job with?**

The paper clearly discusses the value of this work (i.e., the problems with assumptions that might be made using 311 data without this information), and discusses the results and reasonable interpretations well.

**How do you think this research will contribute to the field?**

"This work provides valuable information to officials in Chicago regarding rat reporting and management. To the field, it provides some context regarding the importance of examining the limitations and biases present in data from public reporting, and an example of how such data can be better understood through further investigation (i.e., structured surveys)."

**Regarding the study design and methods, what do the authors need to fix or improve upon to be fit for publication?**

"Generally sound, but some additional clarity could be provided to ensure results are fully understood, including the limitations of statistical analyses. Results should focus on describing relationships that were statistically significant (not almost significant), and should also clearly address any potential limitations in the analyses performed.

Additionally, consider whether the income categories are representative - I recommend using a category (i.e., range of values) that represents the median income, rather than just categories above and below a single median income value."

**Regarding the analysis and interpretation of their findings, what do the authors need to fix or improve upon to be fit for publication?**

"The interpretation and discussion is generally good, but make sure it is clear, and clarify how this supports or contrasts what was expected. Some of the discussion sounds repetitive to the introduction, so ensure the analysis is contributing further knowledge and not simply speculation. Further understanding could have been obtained through the addition of some open-ended questions, or a short follow-up interview, with qualitative analysis. This could be discussed as potential future area of research. Most problematic was the indecisive discussion of the "'nearly-significant relationship between reporting and the perception that complaints will be taken seriously'". This was not a significant relationship, so what should be discussed is why this was not a significant relationship, rather than what the 'nearly-significant' relationship might signify."

**Is there anything else you think the authors need to fix in their article to be fit for publication?**

Refer to comments from reviewers. Be sure to clarify that these results are not necessarily transferable to other cities. No other major areas of concern.

**Do you have any concerns about the ethics of this research?**

No - ethics approval was obtained from two institutions, and methods appeared to follow standard ethical guidelines.

**Do you believe the article, in its current form, is fit for publication?**

This paper requires minor revisions but does not need further peer review



**Would you like to be listed as a Collaborator on the final publication?**

Yes, please list me as a Collaborator

## Grace Kahler

### Initial Submission

**Do you have any conflicts of interest that could bias your ability to provide an independent review?**

no

**What did the authors do a good job with?**

"The figures were clear and helpful in interpreting the data.

Methods was clear for future researchers looking to replicate in other cities.

The Discussion does a great job highlighting the results and the weaknesses in current approaches to rat management as a public service and how they can potentially reach the people they need."

**How do you think this research will contribute to the field?**

This paper can provide additional context for rat management in public services on how they can have further reach for the residents who need them.

**Regarding the study design and methods, what do the authors need to fix or improve upon to be fit for publication?**

"It is important to include what were the total number of invitations sent out, that was unclear and whether this is statistically significant for the whole of Chicago it is representing.

They note well-being and perceptions of ""other urban wildlife"" but do not bring it up in any other part of the paper. It would be great to clarify what that means or just remove it.

CES-D was mentioned in the methods but not reported in the results other than tables."

**Regarding the analysis and interpretation of their findings, what do the authors need to fix or improve upon to be fit for publication?**

"It was unclear how many invitations were sent out and how the response rate is considered significant.

A map of response vs where invitations were sent would be helpful.

In the discussion they focus on citizens reporting and note private pest professionals are hired for those who can afford it, and so may not be reporting. Worth recommending policy that pest control should also be reporting. Not only to gauge rat abundance, but methods of removal and quantity."

**Is there anything else you think the authors need to fix in their article to be fit for publication?**

Is the graphical abstract highlighting the major findings? Or just part of the questions? If it is highlighting the noteworthy/statistically significant findings it should state that and not just "study questions and results". As this is also missing the CES-D results.

**Do you have any concerns about the ethics of this research?**

*Not answered*

**Do you believe the article, in its current form, is fit for publication?**

This paper requires minor revisions but does not need further peer review

**Would you like to be listed as a Collaborator on the final publication?**

Yes, please list me as a Collaborator



## Daniel Ludwig

### Initial Submission

**Do you have any conflicts of interest that could bias your ability to provide an independent review?**

No

**What did the authors do a good job with?**

Presenting the responses to the study's 2 questions.

**How do you think this research will contribute to the field?**

Public Health workers will have a better idea of the barriers to/likelihood of rats being reported.length??  
Shorten some Figure and Table titles.

**Regarding the study design and methods, what do the authors need to fix or improve upon to be fit for publication?**

OK as they are now.

**Regarding the analysis and interpretation of their findings, what do the authors need to fix or improve upon to be fit for publication?**

No comment.

**Is there anything else you think the authors need to fix in their article to be fit for publication?**

NO.

**Do you have any concerns about the ethics of this research?**

No

**Do you believe the article, in its current form, is fit for publication?**

This paper needs major revisions and another round of peer review