Author’s response to reviews

Title: Cigar Package Quantity and Smoking Behavior

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Author’s response to reviews:

May 20, 2019

Jennifer A Emond, PhD
BMC Public Health

Dear Dr. Emond,

Thank you for the opportunity to revise and resubmit our manuscript, “Cigar Package Quantity and Smoking Behavior,” to BMC Public Health.

We appreciate the reviewer comments. Below, we list the comments and describe how we revised the manuscript in response to each one.
Thank you, and we look forward to your decision.

Sincerely,

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Lisa Henriksen (Reviewer 1): This paper makes an important contribution to tobacco regulatory science concerning cigar packaging and price, which are the current focus of many local sales restrictions on tobacco products. This paper is important to inform more comprehensive federal regulation. Strengths of the study are the novel use of longitudinal data from PATH, the thoughtful consideration of cigar product categories and multiple behavioral outcomes. The point that larger pack sizes result in cheaper per stick prices is particularly important evidence for the need to establish a minimum per stick price. Addressing minor concerns would improve an already strong paper.

Author Response: We thank the reviewer.

1. Recognizing that adults are the focus of this paper, it is still an important limitation that the analysis does not consider flavor. Suggest to add or provide a compelling rationale to omit flavor (particularly menthol).

Author Response: As suggested, we have added a limitation to the manuscript noting that our analyses do not consider flavors. We now include the following text (Line 323): “Our analyses only considered one aspect of cigars – package quantity – and did not consider other characteristics that may affect appeal, such as flavors. If flavors are associated with package
quantity (e.g., if cigars sold in smaller packages are more likely to have characterizing flavors), this could have potentially confounded the associations we observed between filtered cigar package quantity and smoking behavior. However, we did not have a reason to expect an association between filtered cigar package quantity and flavors, and such associations would not explain our null findings for the other cigar types.” Also, regarding menthol specifically, the menthol market share in the cigar market appears to be quite small, though higher for little cigars than for the other cigar types (Kuiper, Gammon, Loomis, Falvey, Wang, King, & Rogers, 2018; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5711620/).

2. Regarding larger pack sizes and subsequent cigar use, the results were not significant for cigarillos and large cigars, but the conclusion - that cigar smokers with certain sociodemographic characteristics may be more likely to continue using cigars and more likely to purchase larger pack quantities -- sounds like a statement that industry would exploit to defeat local policies to increase minimum pack size. Why not mention evidence that the combination of larger pack sizes and a minimum price per stick reduces cigar consumption from Chicago, New York City or elsewhere?

Author Response: In response to the reviewer’s suggestion to mention evidence on the effects of minimum pack size and price laws, we have added a description of studies evaluating the effects of laws in Boston and Minnesota (Line 84). We note that these laws reduced the availability and increased the prices of small packages of cigars at local tobacco retailers. We also added an update on changes to New York City’s law based on their local surveillance of cigar product availability and prices (Line 88). Also, in the Discussion, we highlighted that socioeconomic disparities in the availability of single cigars appeared to remain after Boston implemented its price and quantity regulations (Line 307).

Regarding the conclusion that “cigar smokers with certain sociodemographic characteristics may be more likely to continue using cigars and more likely to purchase larger pack quantities,” we do not believe that this conclusion provides an argument against implementing minimum package quantity laws. If studies had found that large package quantities cause consumers to smoke more cigars or to continue smoking cigars (e.g., because, rather than buying and smoking a single cigar, they buy 3 cigars and don’t want to waste them), such findings would be evidence of public health harm of minimum package quantity laws. However, we did not reach such conclusions in our analyses. Rather, our above conclusion (“cigar smokers with certain characteristics…”) implies that our study did not provide evidence that increasing package quantity (such as through a minimum package quantity law) would cause people to continue smoking cigars.
3. Consider a handful of minor edits below:

Line 56: Shouldn't tobacco weight be mentioned here?

Author Response: As suggested, we added “weight” to the list of example attributes that cigars vary on (Line 56).

Line 60: changed between 2008 and 2015. Little filtered…

Author Response: We made this suggested change (Line 61).

Line 61: insert "federal" tax increase

Author Response: We made this suggested change (Line 62).

Line 64: This point would be clearer if it were evident that 2- and 3-packs displaced single cigars at similarly cheap prices (i.e. less than $1)

Author Response: As suggested, we have clarified this point in the manuscript (Line 65). Based on Table 1 in Delnevo, Giovenco, and Miller Lo (2017; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5351883/) , we believe that the 2- and 3-packs partially displaced not only single cigars but also larger package quantities. We have revised the text to note that, while the proportion of sales accounted for by 2- and 3-packs increased from 1% to 40%, the proportions of sales made up by 5-packs and single sticks decreased from 43% to 22% and from 33% to 26%, respectively.

Line 97: Suggest to mention PATH from the start rather than wait until the Methods section
Author Response: We made this suggested change (Line 109).

Line 122: Please provide a rationale for excluding blunt-exclusive users (esp. with concern that they are predominately African American). What about using cigar/blunt wraps? If those are not mentioned in PATH, suggest to add as a limitation. Also, it is a little hard to imagine how filtered cigar users are making blunts…?

Author Response: As suggested, we have added an explanation for why we excluded blunt-only users from our analyses (Line 163). Even though blunts contain tobacco, they do not meet our paper’s definition of cigars (Line 50) because the tobacco roll has been removed. Also, we were concerned that blunts are likely used differently than cigars (for example, given differences in access to and legality of marijuana).

In response to the reviewer’s concern that some filtered cigar users reported that they used cigars as blunts every time they smoked a cigar in the past 12 months (n=38 at Wave 1), we added text to the Limitations section to discuss the possibility that some people misclassified cigarillos as filtered cigars (Line 312). We previously described this as a limitation of our analyses, but we have now highlighted and expanded on this at the start of the Limitations section. It is indeed possible to replace the tobacco filler in a filtered cigar with marijuana (e.g., people on the cannabis.com discussion board describe doing this [http://web.archive.org/web/20180224120047/boards.cannabis.com/threads/rolling-a-blunt-with-a-prime-cigar.139454/+&cd=4&hl=en&ct=clnk&gl=us], and Youtube videos show the same process with cigarettes [https://www.youtube.com/watch?v=DcaQ2cFQ1EU]). However, we do not believe this is a very common practice among filtered cigar users. Despite the PATH Study’s efforts to clearly differentiate between filtered cigars and cigarillos (including using photos), it is possible that we misclassified some cigarillo users as filtered cigar users. To examine whether this affected our results, we sought to conduct follow-up analyses among the subset of filtered cigar users who reported using a regular brand that makes filtered cigars but not cigarillos. However, we were not able to do this because the most common filtered cigar brands (Swisher Sweets, Cheyenne, Phillies, Prime Time, Djarum; see Corey, Holder-Hayes, Nguyen, Delnevo, Rostron, et al., 2018, Table 3; https://academic.oup.com/ntr/article/20/12/1457/4159211) also appear to make cigarillos.
Line 169: Presenting back-transformed results is controversial - would benefit from a stat review and citation for this practice.

Author Response: As suggested, in the Methods section (Line 186), we have added a citation that describes the logic behind back-transforming results from analyses of log-transformed data. It is our understanding that the reviewer’s concern has to do with the presentation of inferential statistics (e.g., b coefficients) that have been back-transformed, because these statistics are not equal to back-transformed effects on the original scale (e.g., our regression coefficients in Table 3 reflect ratios of geometric means rather than differences). To help readers interpret findings, we have included back-transformed means to allow readers to see estimates separately in each group, which should help them understand the magnitude of differences on the original scale. Also, to avoid confusion about back-transformed inferential statistics, we have replaced the back-transformed b’s in Table 3 with b’s that have not been back-transformed and updated the table footnotes accordingly.

Line 283: The discussion calls for research about targeting small or large pack quantities based on sociodemographic factors, but at least some research addresses this topic. Studies that could cited in the introduction or discussion are: PMID: 29025999; PMID: 28444233; PMID: 23948008.

Author Response: As suggested, we have added information to the Discussion on prior research on sociodemographic targeting of small and large package quantities (Line 302).

Line 288: Suggest to add to limitations a qualification about conclusions regarding price per stick of cigarillos if it is true that tobacco weight varies between and within brands.

Author Response: In response to this comment, we added text in the Limitations section (Line 329) to note that we did not consider whether variation in price-per-stick was associated with the weight of tobacco contained in cigarillos or large cigars, and we did not differentiate among filtered cigars based on their weight, unlike some other studies that separately examine little cigars and large filtered cigars.

Line 294: Suggest to omit "large"
Xinyue (Rory) Chen, Master of Statistics (Reviewer 2): Journal: BMC Public Health
Title: Cigar Package Quantity and Smoking Behavior

Overall: This is an interesting report examining the association among cigar package quantity, cigar price, and cigar smoking in the general U.S. adult population. The report is based on a nationally-representative longitudinal study with a large sample size. Further concerns regarding the reports are listed below:

Author Response: We thank the reviewer.

Abstract:

1. (Page 2 line 32,33) Smaller quantity packages (i.e., packages with fewer cigars) were cheaper per-pack than larger quantity packages but more expensive per-stick for all three cigar types.

Author Response: We have made this suggested change (Line 32).

2. Whether buying larger packages at Wave 1 predicted using any other cigar type and cigarette use at Wave 2 (Table 5) is not reported in abstract.

Author Response: We have added this to the Abstract (Line 38), as suggested.

Background:

3. Including whether buying larger packages at Wave 1 predicted using any other cigar type and cigarette use at Wave 2 (Table 5) in aims Z
Author Response: We have added this information to the aims at the end of the Background (Line 116), as suggested.

Methods:

4. Data Source: please report the number/percentage of smokers and cigar users in study sample

Author Response: For the cigarette use analysis in Table 5, we have added the number of Wave 2 cigarette smokers in each group in the notes. Also, we include the overall numbers of users of each cigar type in Table 1, and we refer to this table in the Analyses subsection of the Methods (Line 169). We also include the n’s for specific analyses in the notes for each table, given that the n’s differ across analyses (i.e., because different criteria are required for each analysis, such as the requirement that people use a cigar type at both waves in order to calculate a change in use frequency).

5. (Page 6 line 124) To my understanding, only participants who reported they typically purchased the cigar in person would report on Package Quantity and Price? Please explain.

Author Response: The reviewer’s understanding is correct. We have added text to the Methods section (Line 137) to clarify that this was built into the PATH Study survey skip logic: Only participants who reported usually buying their cigars in-person (such as at a store or cigar bar, rather than on the internet or by telephone) were asked questions about package quantity and price.

6. Potential interest: users of multiple cigar types (optional)

Author Response: Given that the manuscript already includes analyses of whether package quantity predicts continuing to use each cigar type and any other cigar type (Table 5), we do not believe that an analysis of using multiple cigar types would provide a substantial amount of new information. Thus, we have not added an analysis of users of multiple cigar types.