Author's response to reviews

Title: [More] evidence to support oral health promotion services targeted to smokers calling tobacco quitlines in the United States

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Version: 2 Date: 1 March 2013

Author's response to reviews: see over
Prof Avrharm Zini  
Mr. Victorino Silvestre  
BMC Public Health  

RE: MS 7376712058225246, [More] evidence to support oral health promotion services targeted to smokers calling tobacco quitlines in North America  

February 28, 2013  

Dear Sirs:  

We are pleased that the reviewers agreed the paper referenced above was of importance to the field and were supportive of publication. Below we list each of the reviewers’ comments and how each has been addressed.  

We trust the paper is now suitable for publication. However, please let me know if additional revisions appear necessary.  

Jennifer B. McClure, PhD  
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Editor:  

Please remove the authors’ qualifications (e.g., PhD) or job titles from the manuscript file. Done.  

Please check the instructions on the journal website for the correct format to use for Author’s Contributions.  
We have revised this section in accordance with the guidelines.  

Please re-allocate the Tables after the References.  
Done.
Reviewer 1:

“How were callers to the commercial quitline recruited?”
Our methods for recruiting participants from the commercially-funded quitline is described under Participants in the Methods section (page 6), as such:

Callers were surveyed from a commercially-funded quitline offered to members of a regional U.S. health plan through their medical insurance (n= 455). All participants lived in Washington state and were insured by Group Health Cooperative. Tobacco users who consecutively enrolled in the quitline program between July and September 2011 were identified using health plan enrollment files and quitline intake data. Enrollees who were adult smokers at the time of intake and had reported that they could read and write in English (n = 829) were each mailed a written survey and a $2 pre-incentive in February 2012. Invitees who failed to return their survey within several weeks after the first mailing received a second reminder mailing. Fifty-five percent of those invited returned surveys and received $20 as a thank you.

Page 5, “Explain “other means”- e.g., Medicaid, no insurance?”
We now clarify on page 5 that persons are typically eligible for the Washington State Quitline services if they “do not have access to nicotine dependence treatment through other means (e.g., coverage provided by an employer or through private health insurance)…”

Page 6, “Is this 21.6% and 20.4% of the 52% who indicated they had a dental visit?”
No. These proportions are out of the total sample (n = 855) of callers to the Washington State Quitline. We now make this more clear by stating, “Relatively few people in this sample self-reported a diagnosis with gum disease (21.6%) or dental bone loss (20.4%)…”

Page 6, “Why does only one fifth of the sample being diagnosed with periodontal disease reflect increased opportunities for counseling? These numbers are actually low. In the general US population about half of adults over age 30 have some form of periodontal disease. In smokers there is a [dose] response relationship for periodontal disease, however it would be expected that the prevalence of periodontal disease would be higher than in the overall population. The 20% self-reported finding either reflects: 1) an unusually periodontally healthy population, 2) or that the disease state has not been diagnosed by the treating clinician or 3) the periodontal status has not been adequately communicated to the patient. I see this as an opportunity, as your approach can serve to educate consumers/patients about the association between smoking and periodontal disease.”
We agree with the reviewer’s comment that the self-reported level of periodontal disease was lower than expected among smokers. We now make it more clear that the proportion of people indicating periodontal disease is based on self-report (see #3 above) so readers can draw their own conclusions about the accuracy of this information.

We also now state on page 6, “…relatively few people in this sample self-reported a diagnosis of gum disease (21.6%) or dental bone loss (20.4%). If these reports are accurate, it underscores the opportunity for preventative care, to reduce the risk of future disease. If, however, these rates are an underestimation of oral disease in this population, it speaks to the opportunity to better
educate smokers about the signs of oral disease and need for regular professional dental screenings.”

From the reviewer’s comments it appears that he is in agreement that there is an important opportunity here for intervention with smokers.

Page 6, “Explain who the target audience is for commercially funded quit lines? Insured individuals, employees?”
We have revised our description of the commercially funded quitlines to state, “These data are encouraging, but it is unclear whether the results generalize to smokers recruited through commercially-funded quitlines. In contrast to state-funded quitlines, which reach smokers of lower socio-economic status and are often limited to persons with no private health insurance, commercial quitlines are typically funded by health plans or employers. As such, they reach tobacco users who are of higher socioeconomic status and, therefore, may have different oral health needs, interests and intervention opportunities.”

Page 6, “What type of commercial insurance? HMO, PPO, HSA?”
The reviewer’s question was in reference to what type of medical insurance smokers who were recruited from the commercially-funded quitline had. We now state that all participants were insured by Group Health Cooperative (page 7).

“Callers were surveyed from a commercially-funded quitline offered to members of a regional U.S. health plan through their medical insurance (n= 455). All participants lived in Washington state and were insured by Group Health Cooperative.”

Group Health is a large regional health plan which serves the residents of Washington State. In some parts of the state, Group Health acts as an integrated delivery system which both provides insurance coverage and care delivery. In other parts of the state it acts simply as an insurance provider. Depending on each member’s contract, their insurance coverage and access to care may be more like that of a typical health maintenance organization (HMO) or a preferred provider organization (PPO). Similarly, some people’s coverage may be funded through a health savings account (HSA), but others may be self-funded by a particular employer group or even funded through Medicaid or Medicare. However, the nature of Group Health’s organization and range of funding options is less relevant to the current paper than the fact that all participants from the commercial quitline had medical insurance from a single source which provided coverage for their quitline treatment. Thus, we have not included this additional discussion in the Methods section.

Page 11, “All patients [dentate and edentulous] would be appropriate for oral health counseling via the quitline… Did you find lower interest in receiving coached counseling in edentulous patients?”
Yes, edentulate smokers did differ from dentate smokers. We have added this to page 11, as follows:

“Interest in oral health promotion differed between dentate and edentulate smokers. More dentate smokers were interested in learning how to improve their oral health (47.0% vs. 28.8%, p
= .006) and interested in receiving materials by Internet (51.6% vs. 38.8%, p = .054), but fewer
dentate respondents were interested in receiving oral health materials by mail (45.2% vs. 59.7%,
p = .029). There was no difference in respondents’ interest in talking with a quit coach about
their oral health (29.4% [dentate] vs. 29.9% [edentulate], p = .94)."

Page 12, “Who were the callers to the State quitline? Commercial, Medicaid…?”
State quitline callers were recruited from the Washington State Quitline (page 5). As described
in the paper, people are eligible for this service if they do not have other means to pays for
nicotine dependence treatment (e.g., coverage through insurance or an employer) or if they are in
a high risk priority group for services, such as pregnant smokers (see page 5). We also now state
on page 6 that the state-funded quitlines, in general, typically serve smokers with no private
medical insurance. The criteria for service eligibility changes periodically in responses to state
funding cuts, so it is difficult to state the criteria more precisely than this. However, the key
detail is that most of these individuals do not have other access to this care.

Page 12, “The emphasis on ADA standards for oral hygiene is somewhat misplaced.
Smoking and dental caries are not clearly associated. In addition, daily brushing and
flossing are not predictive of reducing dental caries incidence. The importance of the
reduction in alcohol use and improvement in periodontal health with smoking cessation are
supported by the literature.”
Our read of the literature is a little different from the reviewer’s. A number of published studies
support an association between smoking and caries risk. Several of these are listed below.
Warnakulasuriya et al. (2010) includes a nice review and summary of this literature, in
particular.

Warnakulasuriya S, Dietrich T, Bornstein MM, Casals Peidro E, Preshaw PM, Walter C,
et al. Oral health risks of tobacco use and effects of cessation. Int Dent J. 2010;60(1):7-
30.

Voelker MA, Simmer-Beck M, Cole M, Keeven E, Tira D. Preliminary Findings on the
Correlation of Saliva pH, Buffering Capacity, Flow, Consistency and Streptococcus

Axelsson P, Paulander J, Lindhe J. Relationship between smoking and dental status in 35-

Jette AM, Feldman HA, Tennstedt SL. Tobacco use: a modifiable risk factor for dental

Ravald N, Birkhed D, Hamp SE. Root caries susceptibility in periodontally treated

We agree that the evidence supporting brushing and flossing as preventing dental caries is
limited, but the evidence does support the effects of these behaviors on reducing gingivitis
(Sambunjak et al., 2012).
Similarly, daily tooth brushing with fluoride toothpaste is considered effective for the reduction of caries (Attin & Hornecker, 2005).


On the basis of this evidence, we stand by our statement on page 13 that, “Each of these behaviors [brushing, flossing, and alcohol consumption among smokers] places them at elevated risk for future periodontal disease, cavities, and oral cancer” and our conclusion that smokers should be counseled about the importance of proper daily oral hygiene, use of fluoride, and the synergistic effects of tobacco and alcohol on oral cancer risk.

Page 13, “Xylitol gum has been shown in a recent RCT (Bader et al., 2013) to have no caries reducing benefit for adults.”
The study referenced by Bader et al. tested the effects of daily xylitol lozenges on dental caries and found a 10% reduction after 33 months, although this was not statistically significant. They did not test the effects of xylitol gum. However, there is literature supporting the effectiveness of both xylitol gum and sugar-free gum in reducing plaque scores and caries risk (e.g., Aloumdo et al., 2012; Keukenmeester et al., 2012; Lynch & Milgrom, 2003; Mickenautsch et al., 2007), although the benefits are considered to be due to the effects of chewing a sugar-free gum more than the effects of the xylitol, specifically.

To prevent readers’ confusion, we now simply recommend that smokers be advised to chew sugar-free gum, as opposed to xylitol gum, specifically.

“Please clarify the difference between commercial and public quit lines.”
State-funded (public) quitlines are those which are funded through state funds and offer services free of charge to state residents. Commercial quitlines are those funded through commercial entities, most often health insurers, health care providers, or employers. Thus, the distinction is based on who pays for the services and who is eligible to receive the services.

Reviewer 2
“The title, More evidence to support oral health promotion services targeted to smokers calling tobacco quitlines should include “to support the strategy of oral…” and should refer to the place (either “in Washington” or “in North America”).”
Thank you for this suggestion. After thoughtful consideration and discussion with our peers, we believe that the purpose of promoting oral health among smokers is self-evident enough to not need to be called out in the title; however, our results and proposed intervention strategy may not generalize to other regions, so we have changed our title as requested to: “More evidence to support oral health promotion services targeted to smokers calling tobacco quitlines in the United States.”
Page 7, "and had reported that they could read and write in English - should be stated how many didn't answer the criteria"
This data is not available to us under the terms of our IRB approval. English proficiency was assessed by the quitline provider (Alere Wellbeing, Inc) as part of their normal treatment intake interview. These data were used to identify the callers who enrolled in the commercial quitline services during our target window (July – September 2011) and were eligible to receive a mailed oral health survey from us; however, we do not have permission to access data on those people who were not eligible to be contacted by us (e.g., reported they were not able to read and speak in English). Anecdotally, we can say that this represents a very small proportion of callers in this commercial population, but we cannot comment on the precise number who were excluded based on this criterion.

“The [authors] should show calculation of sample size”
The commercial quitline sample included 455 participants (see pages 7 and Tables 1 and 2). Data was collected from a sequential convenience sample of persons who enrolled in the quitline from July to September 2011. All persons who enrolled in the quitline during this period and met minimal eligibility criteria (i.e., were ready to quit smoking and could read and write in English), were invited to participate. The final sample size was determined by the number of invitees who consented to participate and returned a mailed survey. These recruitment methods are discussed in the Methods section. Because the study was intended to be observational (as opposed to an RCT, for example), the final sample size was not determined based on a priori power analyses.

Page 9, paragraph 2: “Eighty-five percent of respondents had some or all of their natural teeth, but nearly half of dentate respondents had lost one or more teeth due to disease and approximately 15% had lost all of their natural teeth." should be rephrased: the writing is confusing.”
We have rephrased this to now read, “Eighty-five percent of respondents had some or all of their natural teeth (i.e., dentate). Nearly half of these had lost one or more teeth due to disease. Approximately 15% of the total sample had lost all of their natural teeth.”

Page 9, paragraph 3 “Oral Health Self-care” should state that it only refers to dentate respondents.”
We have revised this section to now read, “Self-reported oral health self-care behaviors among dentate respondents are presented in Table 3.”

Page 10, paragraph 2: "were similar across participants" - should show a statistical analysis”
The intent of this statement was to reflect the fact that the mean motivation levels for each of the oral health behaviors of interest in Table 4 (taking good care of one’s teeth and gums, flossing daily, brushing daily, brushing their tongue daily, and seeing a dentist in the next 6 months) were similar across the three samples depicted in this table (all respondents, dentate respondents only, dentate respondents who did not meet ADA recommendations for oral hygiene behaviors). The statement is not meant to imply a statistical comparison as this is not possible due to the overlap in group membership between these three groups of people. For example, ‘all participants’
includes ‘dentate respondents’, so it would be statistically inappropriate to compare these groups. The same holds true for ‘all respondents’ and ‘dentate respondents not meeting ADA recommendations’.

To prevent future confusion, we have removed this statement altogether.

[The results found that commercial quitline participants were less interested in oral health promotion services than callers to the state-funded quitline.] There is no reference to [these] findings in the discussion. Correct. We do not go into a detailed discussion of the differences in interest for oral health promotion services between callers to the state and commercial quitlines in the Discussion. For one, it is difficult to interpret this difference since more commercial callers had dental insurance, had visited a dentist in the past year (the proportion of people in each group is included in the Discussion on page 12), and reported symptoms of gum disease. Thus, one might expect commercial quitline callers to have less interest in these services. Additionally, this discussion is not needed to support our central thesis, which is that efforts to promote oral health among tobacco quitline callers should include callers to both commercially-funded and state-funded quitlines. Smokers from both samples demonstrated a need for intervention and a large proportion of callers to both quitline programs expressed interest in learning more about how to improve their oral health (which is included in the Discussion).

“TABLE 2 - calculation is problematic - total 455, dentate participants 384 - should be edentulous 71 - but in the table = 68”  
Table 2 is correct. There were 68 people who reported being edentulate and 384 who were dentate; however, 3 people chose not to answer this question, so their dentate status is unknown. We have now added this information in a footnote to Table 2.