Author’s response to reviews

**Title:** Do Choosing Wisely recommendations about low-value care target income-generating treatments provided by members? A content analysis of 1293 recommendations

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**Author’s response to reviews:**

RESPONSE TO REVIEWERS’ COMMENTS

BHSR-D-19-00935: Are Choosing Wisely recommendations precisely targeted? A content analysis of 1293 recommendations

EDITOR

COMMENTS TO THE AUTHORS’

Dear Dr Zadro,

Your manuscript "Are Choosing Wisely recommendations precisely targeted? A content analysis of 1293 recommendations" (BHSR-D-19-00935) has been assessed by our reviewers. Based on these reports, and my own assessment as Editor, I am pleased to inform you that it is potentially acceptable for publication in BMC Health Services Research, once you have carried out some essential revisions suggested by our reviewers.
You will note that the comments from the 2 reviewers are brief. I advise reviewing the article to take into account the observation from reviewer one that 'some language correction is required'.

AUTHORS’ RESPONSE
We thank the Editor for allowing us to revise the current manuscript. The manuscript has been extensively edited for readability. See highlighted changes in the revised manuscript. Below is a point-by-point response to the reviewers’ comments.

COMMENTS TO THE AUTHORS’
I have additional comments relating to the contextualizing of the topic.
1. The title is not informative to a reader who does not know what 'choosing wisely' is and should include something about 'income generating treatments’

AUTHORS’ RESPONSE
We have revised the title according to the Editor’s suggestion.

(Title)
Do Choosing Wisely recommendations about low-value care target income-generating treatments provided by members? A content analysis of 1293 recommendations

COMMENTS TO THE AUTHORS’
2. There is no context. It needs some foregrounding and the context for 'choosing wisely'. This would include a definition and explanation of Choosing Wisely and other such initiatives it relates to - policy setting and issues pertaining to the country/ies where it exists.

AUTHORS’ RESPONSE
We have now elaborated on the definition and explanation of Choosing Wisely in the introduction. We have also made reference to which countries endorse Choosing Wisely and similar initiatives that exist.
Choosing Wisely is a major public awareness campaign that aims to reduce low-value care through increasing discussions between patients and clinicians about the inappropriate use of medical tests and treatments (1). Low-value care is care that provides little-to-no benefit or causes harm, provides a benefit too small given its cost, and is unlikely be desired by an adequately informed patient (2). Choosing Wisely began in April 2012 as an initiative of the American Board of Internal Medicine (ABIM) Foundation, drawing inspiration from earlier initiatives, such as “Medicine’s Ethical Responsibility for Health Care Reform – The Top Five List” (3). Today, Choosing Wisely is a global campaign with active campaigns in more than 15 countries (e.g. United States, Canada, United Kingdom, Australia, Italy, Netherlands). Choosing Wisely continues to expand and inspire the development of similar initiatives, such as EVOLVE (4) and the Value Based Insurance Design (VBID) Health’s Task Force on Low-value Care (5).

REVIEWER #1

COMMENTS TO THE AUTHORS’

Please indicate the quality of language in the manuscript: Needs some language corrections before being published

AUTHORS’ RESPONSE

The manuscript has been extensively edited for readability. See highlighted changes in the revised manuscript.

REVIEWER #2

COMMENTS TO THE AUTHORS’

The authors tries to determine the proportion of Choosing Wisely recommendations targeting income-generating treatments, and whether society recommendations on income-generating treatments are more likely to target members or non member; as well as the prevalence of qualified statements, and if qualified statements are more likely to appear in recommendations targeting income or non-income-generating treatments that apply to members. The authors have been quite successful in achieving their objectives. In fact, I only have one minor comment.
All the inference made by the authors is bivariate. I wonder if they could make some multivariate inference or, in any case, stratify the inference made. The authors should try it or, if they can not do it, explain it in the discussion.

AUTHORS’ RESPONSE

We thank the reviewer for their positive comments. We performed several stratified analyses to investigate whether our main findings differ across society (see Figure 1 and Additional File 4) and discussed these findings. The sections below show some of these stratified analyses and the modified discussion. We have also revised the analysis section (last excerpt) to clarify this process.

(Page 13, 1st paragraph)

Recommendations targeting income-generating treatments were most common across surgical societies (45.5%) and least common across medical (12.9%) and allied health societies (4.0%). Moreover, recommendations regarding income-generating treatments were only less likely to target members compared to non-members across medical (9.3% vs. 92.3%, p<0.001) and diagnostic societies (13.6% vs. 50.0%, p=0.03) (Figure 1).

(Page 13, 2nd paragraph)

Five-hundred and forty-two (41.9%) recommendations were qualified and 751 (58.1%) were unqualified (Table 1), with medical (46.6%) and surgical societies (42.0%) displaying the highest proportion of ‘qualified’ recommendations (Additional file 4).

(Page 16, 2nd paragraph)

A few studies suggest some societies are averse to targeting income-generating treatments provided by their members (4, 19, 20), and instead “pick the low hanging fruit that was so low it was lying on the ground” (Vikas Saini – cardiologist and president of the Lown Institute) (4). Although this behaviour is understandable, research exploring the drivers of this behaviour is essential if Choosing Wisely hopes to realise its goal of reducing low-value care and healthcare waste. A recent editorial (21) on ‘Why do surgeons continue to perform unnecessary surgery?’ provided some insight on these barriers from a surgeon’s perspective. The authors suggest that surgeons continue to provide low-value surgery because of incentives – either from income, status, or both – and because they are trained to do surgery. Further, selective anecdotes of successful cases and years of education and training might foster a strong attachment to surgery, making de-implementation even more difficult (22). With this in mind, surgical societies might be the most averse to targeting income-generating
treatments provided by members. However, we found this was not the case. The proportion of recommendations targeting income-generating treatments provided by members was highest across surgical societies (45.5%), and much lower across medical (12.9%) and diagnostic societies (18.0%). In addition, society recommendations on income-generating treatments were significantly less likely to target members compared to non-members across medical and diagnostic societies, but not across surgical societies. These findings are likely explained by many recommendations from medical societies targeting surgical procedures and many recommendations from diagnostic societies targeting treatments. Medical and diagnostic societies should therefore consider how their Choosing Wisely lists could better target unnecessary and high-cost care provided by their members.

Page 9, 2nd paragraph

A Chi-squared test evaluated whether society recommendations on income-generating treatments are more likely to target members or non-members; and whether qualified statements were more likely to appear in recommendations targeting income-generating or non-income-generating treatments that apply to members. We then stratified our main analyses by society (categorised as medical, surgical, diagnostic, allied health – including nursing, pharmacy and dentistry – and other). All analyses were performed in STATA statistical software (version 13.1).