Author's response to reviews

Title: Surgical Frailty Assessment: A Missed Opportunity

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Author’s response to reviews:

Dear Dr. Faraoni

We would like to thank the editors and reviewers for their valuable feedback and constructive criticism. We have prepared responses to the comments from each reviewer below and revised our manuscript to address their concerns. We hope these improvements are well received and look forward to your response.

Gil Eamer, MD

Reviewer 1:

1. I can't find "HCP" spelled out.

Response: We have added a definition to the main body of the text (page 3, paragraph 3). HCP refers to healthcare professionals and is also defined in the abbreviations section.

2. The sample size - both of surgeons and allied health staff is small, and a single centre. However, it may actually reflect more positively than a wider survey given this centre is undertaking a study on frailty.
Response: Thank you for the critique recognizing that the study findings might be more positive considering that the single-site study sample was apart of a broader frailty initiative (i.e. the larger, on-going Elder-friendly Approaches to the Surgical Environment (EASE) Project). We hope that the findings here will inform and add to the interpretation of the results from that analysis.

We have used this critique to edit the discussion section significantly to better articulate how the findings were appreciated in relation to the larger study. We have added to our limitations section discussing the single centre nature of our survey and its effect on generalizability. We expect that our findings may actually reflect more positively than these other centers.

3. This work reflects much of what is already know about frailty - i.e. its importance, but its lack of incorporation into routine operative planning. Thus, I would be more interested in any results that looked at 1. What were the "unique" challenges of the surgical setting.

2. How identifying a frail patient changed pathways/planning for each of the health professional groups. 3. And trying to re-frame the article around these. These barriers are the most interesting component of the study.

Response: Thank you for this suggestion. While we are aware that this “knowledge-do” gap has been previously documented, we believe our study results offer new insights – that even when frailty assessments are incorporated into routine care planning, there remains significant barriers to consider. Our finding also further support what is already known – i.e., while there was a positive correlation between the belief that “frailty assessment should be done for all surgical patients” (as a proxy measure for the importance of identifying frail patients) and the likelihood of incorporating frailty in their own practice/care planning for patients. This finding was consistent for all health professional groups. We have added this perspective to our discussion.

The authors agree that discussion of the study findings with particular explanation about barriers are of interest to readers. We have expanded on our qualitative analysis to provide quotations from respondents that provide examples of the barriers to care of the frail that we identified that were specific to the surgical setting in the results subsection titled ‘Barriers to frailty assessment’ (Pages 8-9, all paragraphs). Given that nature of the research (survey) design, we are unable to comment on how respondents changed their care practices.

Reviewer 2:

In this single-centre, observational study, the authors surveyed health care professionals (HCP) caring for patients enrolled in the Elder-friendly Approaches to the Surgical Environment (EASE) study in an effort to assess perceptions and attitudes towards perioperative frailty assessment. Responses to an author-developed survey were obtained from 49 of 117 (42%) HCP from three main subgroups: nurses, surgeons, and other allied health professionals. The authors report significant intergroup differences in responses. Lack of knowledge about frailty issues was a prominent barrier to the use of frailty assessment in practice across all subgroups of HCPs.
For the most part, the manuscript is well-written. I do have a couple of comments about the survey development and analysis:

Response: Thank you

1) During survey development, there appears to be an attempt to ascertain content validity. How did the authors assess reliability? This should be described in the methodology section.

Response: During survey development, we assessed content validity by seeking feedback from other experts in the field and by using a cognitive interviewing approach. The initial draft of the survey was pilot tested with 2 physicians, 2 RNs and 2 allied health professionals to determine the survey’s construct validity, interpretability, redundancy and ease of administration. Reliability was assessed using Cronbach’s alpha. We have now added this to the manuscript in the methods section (Page 5, paragraph 1), and results section (Page 6, paragraph 1).

2) It would be interesting to see all of the final 26 survey items included. These are supposed to be present in Figure 1 (page 5) but I am unable to see a Figure 1 with the submission.

Response: It is now included in Appendix 1 as a separate attachment

3) Mean response scores as a function of HCP subgroup to a subset of survey items are presented in Table 2. The authors further describe results of t-tests reflecting pairwise comparisons of two of the three subgroups (i.e. page 6 - nurses vs. surgeons, allied health vs. surgeons). Was there an attempt to control for multiple comparisons during the analysis (eg. ANOVA, followed by post-hoc tests?) If so, the details of this should be described in the analysis section.

Response: During our analysis, we had considered performing multiple comparison using ANOVA. However, given the small sample size, there were concerns about non-normality and inequality of variances. In fact, most responses did appear to have a non-normal distribution (overall and by HCP subgroups). As a result, we suspected that calculated F statistic may be dominated by the sample variances for the larger samples and the test will not correctly identify significant differences in the means. Therefore, we chose to conduct t-tests and report these results in the paper. We did compare nursing and allied health using t-tests as well and did not find a significant difference. We have added a sentence (Page 7, paragraph 1) to reflect this.

4) Interpretation of Table 2 is confusing. For instance, 16 nurses were surveyed but it appears that only 9/13 answered the first item? How should the '9' and '13' be interpreted? Some explanatory table footnotes would be helpful.

Response: Not all respondents answered all questions. Each ratio represents all people who strongly agreed or agreed (numerator) divided by the number of responses to that question (denominator). The mean score (1=“Strongly disagree”, 3=“Neither agree nor disagree”, and 5=“Strongly agree”) is then reported below. A new footnote has now been added to all three tables to explain this.
5) The authors report selected Spearman's rank-order correlations between various survey items. Was there ever consideration given to examining these correlations as a function of HCP subgroup which can be accomplished with a linear regression framework?

Response: We have considered taking a regression approach to examine the relationship between various provider characteristics (i.e., age, sex, HCP subgroup, years of experience in profession, and years of experiences in a surgical setting) and the observed differences in the responses (i.e., the perceived importance of frailty assessment and the perceived usefulness of the CFS score). However, the models demonstrated poor fit (R-sq value < .1) and the model F-tests suggested these characteristics were not significantly associated with the reported differences in the outcomes. However, we suspect that the lack of significant differences in our multivariate models was a result of the small sample size and insufficient power. Therefore, we chose to examine the data using bivariate correlation analysis.

6) On page 7, the authors state 'Four survey questions captured interdisciplinary HCPs perceptions of the usefulness of frailty assessment scores in clinical practices (Table 3)'. I only see 3 questions with their mean responses in Table 3. Should the fourth be one relating to awareness of the CSF?

Response: Three questions were Likert scale questions (Table 3) and one was open-ended. This has been clarified in the text (‘Survey results’ subsection, page 7, paragraph 3, line 1). The open-ended responses are discussed in the next paragraph.

7) On page 6, what do the authors mean by 'we conducted tests of independence in the pooled surgeon subgroup'?

Response: We wanted to ensure that pooling resident physicians with experienced surgeons was not inappropriate (maybe additional experience led to differing practices with respect to frailty). We tested to ensure each subpopulation didn’t differ from each other in terms of response patterns. This has been clarified in the results section (‘overall’ subsection, page 6, paragraph 1).