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Title	Proximity to specialty care affects outcomes for biliary cancers: a population-based retrospective cohort study
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Reviewer 1	Jeffrey Bakal
Institution	University of Alberta, Canadian VIGOUR Centre
General comments (author response in bold)	<p>1. The authors have the basis for a good study of the effect of patient distance to hospital. A few of my main comments are that some description of the population density in the province should be added for the non-resident reader.</p> <p>We have added some description in the Methods section (Data and Study Population, last paragraph).</p> <p>2. In the results section there is a lot of mention of "significant differences" with no notion of effect size. leaving the reader to have to go through the tables.</p> <p>We thank the Dr. Bakal for pointing this out. We have added the effect size (odds ratio or hazard ratio) where needed in the revised manuscript.</p> <p>3. There is a mention of average times given with no mention of variability. Additionally, "resource utilization" is given in such a way that a " hospital visit " (which can vary vastly) is compared with a physician's office visit, and ED visits. There are many methods to compare these such as via RIW etc.</p> <p>We appreciate the reviewer's suggestion. As the Editor has suggested (Editor's Comment #1), we have removed the cost analysis based on miles driven.</p> <p>4. Also recommend sensible rounding of p-values and editing.</p> <p>We have now rounded all the p-values to 0.000.</p>
Reviewer 2	Ali Elbeddini, Doctor of Pharmacy
Institution	University of Colorado at Denver - Anschutz Medical Campus,
General comments (author response in bold)	<p>See attached PDF for minor comments [available as appendix].</p> <p>We appreciate the detailed editing by Dr. We have incorporated the edits and comments in the revised manuscript.</p>
Reviewer 2	Charles Bernstein
Institution	University of Manitoba, Internal Medicine; Section of Gastroenterology
General comments (author response in bold)	<p>1. The authors adjusted for type of treatment of chemotherapy or surgery but did not include other approaches like best supportive care in the model showing that driving time was a predictor of survival. I wonder if all approaches including best supportive care were included in the multivariate analysis if the driving time would not be significant.</p> <p>We agree with Dr. Bernstein that the treatment types are integral to survival. We did not include best supportive care in the initial model because patients who received best supportive care (BSC) were essentially patients who did not undergo surgery or chemotherapy. (That is, there was a collinearity issue to include best supportive care in the model where surgery and chemo were already included.) Surgery, chemotherapy and the number of biliary drainage procedures were already included in the multivariate analyses.</p> <p>The subgroup analysis illustrated in Figure 2 does actually explore the role of BSC. In the subgroup of patients who received BSC, the driving time was significantly associated with survival.</p>

2. Is it a matter that rural patients are more likely to get best supportive care more often because their disease is more aggressive (tumor stage does not suggest this), because of the patients' choices or because of physician biases in treating rural patients. These possibilities should be explored equally to what the authors are proposing that it is related to an inequity of care by being remote. There were some aspects of the results that seemed dramatic but are completely expected. People living >120 minutes from major centre will have less visits to HPB surgeon, will use ERs more because ERs provide considerable amount of local rural care and they spend much more time driving in the last weeks of life. Quite frankly if one has a fatal illness and lives >120 minutes from advanced care it is not surprising that survival may be worse since there is less access to palliation that might prolong life (even if just for days or weeks). Rather than considering these results a flaw of health care delivery these results may be somewhat expected. In fact, persons who live >120 from a major urban centre do so by choice and they may have different views about aggressiveness of treatment or approach to palliation with poor prognosis diseases. These types of data require a prospective study to determine exactly why persons living farther from urban centres of care have less chemotherapy and more biliary drains

As Dr. Bernstein suggests, it is unlikely that tumour biology contributes to differences in outcomes in rural patients. It is impossible to determine the drivers of any inequities of care in patients living remotely, and we have commented on the potential contributions of patient choices and physician biases. We agree that the increased use of ERs in rural patients is to be expected. We have not intended any judgement related to this ("flaw of health care delivery"). Indeed, as Dr. Bernstein pointed out, patients can push these choices, as I have published in the past. We hope that the flavour of our report does not reflect any judgement.