Author's response to reviews

Title: Potential for Patient-Physician Language Discordance in Ontario.

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Author's response to reviews: see over
Dear Editor,

Thank-you again for considering our manuscript now titled “POTENTIAL FOR PATIENT-PHYSICIAN LANGUAGE DISCORDANCE IN ONTARIO” for publication in the BMC Health Services Research journal. In response to the referees’ comments we have made a number of changes to the manuscript. A revised version of the manuscript has been included. Below are our responses to the referees’ comments.

Referee 1:

**Comment 1:** The authors rightly note and clearly present the potential health concerns associated with an NENF overlap. However, they do not explore if this actually bears out in Ontario, and thus is a problem that needs addressing. Thus it is difficult for readers to assess whether this results presented have a bearing on public health and are thus worth delving into or simply show aspects of population distributions. There is no mention as to whether concerns regarding language barriers in the province have been brought up by patient groups, clinicians, or foreign-born communities in any of the CDs or the province as a whole. The use of widely available data from a source such as the Canadian Community Health Survey (CCHS), which includes questions on healthcare use and language mismatch, would allow the authors to make a statement either at a provincial or CD level as to the importance of their findings.

**Response:** Thank-you for this suggestion. While the CCHS is a great resource, we did not have access to this data at the time of the study. The objective of this study was to quantify and describe the spatial distribution of Ontario’s non-English/non-French population and Ontario’s physicians proficient in non-official languages. The results of the study indicate that there may be census divisions with an NENF population potentially at risk for patient-physician language discordant clinical encounters. We did add a sentence to the background that highlighting previous studies, performed in Ontario, which reported worse clinical outcomes for patients with limited English proficiency.

**Comment 2:** The first introduction of the term NENF uses the phrase ‘not proficient in English or French (NENF).’ In the article proper NENF is first introduced as “non-English and/or non-French.” There should be consistency between the two and it is suggested that the abstract definition be changed to reflect the article.

**Response:** Thank-you for this correction. It has been updated in the manuscript.
Comment 3: The sentence beginning “The size of NENF populations within these census divisions” is a direct repetition of a sentence in the results from the page above.

Response: The wording has been revised in the manuscript.

Comment 4: It is not apparent that the findings, “support the notion that physicians with proficiency in non-official languages do indeed practice in census divisions that have the largest NENF populations.” Correlation is not causation and it is quickly noted that more physicians tend to practice in cities and foreign-born populations tend to cluster in these cities as well.

Response: Thank-you for your comment. We do agree that we cannot say that the finding supports this notion. We have updated the manuscript to say the following: “Further research would be required to determine if this finding supports the notion that physicians with proficiency in non-official languages do indeed practice in census divisions that have the largest NENF population or if it is simply a correlation.”

Comment 5: In the second paragraph the use of the ampersand (&) should be changed to spell out the actual word.

Response: This has been corrected in the manuscript.

Comment 6: The suggestions for addressing the language mismatches between patients and clinicians are well throughout especially with regards to the reworking of regulations for foreign medical graduates to allow them to practice in communities that share similar cultures and languages. However, the suggestion that an intermediate step would be to increase interpretive services is not supported by their findings. As noted in the conceptual concerns, the authors have neither made a case that current NENF mismatches are a problem for patients in the province, nor does their data mapping provide any information on the current provision of interpretive services. It is quite possible that in CDs with mismatches that interpretive services are widely offered by the province already. Thus it is suggested that if this proposition remain, that it be backed by evidence as to a failing of current services.

Response: Thank-you for this insight. We have expanded the discussion to emphasize more on the benefits of professional interpreter use. This is the first study to describe the distribution of non-English/non-French populations as well as the distribution of physicians proficient in non-official languages. As previously stated, we have added a few references to previous studies, performed in Ontario, which reported worse clinical outcomes for patients with limited English proficiency. Unfortunately, we did not have access to data on the use of interpretation services in Ontario at the time of this study. Now that we have identified that there may be a potential risk for patient-physician language discordance in some of Ontario’s census divisions, a next step might be to investigate the availability and use of interpretation services.
Referee 2:

Comment 1: While the study question is adequately formulated, it is not what is announced in the title.

Response: Thank-you for your comment. The title of the study has been updated to “POTENTIAL FOR PATIENT-PHYSICIAN LANGUAGE DISCORDANCE IN ONTARIO”. We feel this better reflects the objective of our study.

Comment 2: There are concerns with the methods sections: the definition of language discordance is inadequate or outright discriminating, because it sounds as if the patient was the blame that there was discordance.

Response: This is a helpful observation. The definition of language discordance has been changed in the manuscript to “Language discordance occurs when the patient and the health care professional lack proficiency in the same language(s).”

Comment 3: Choropleth maps: I don’t know what this is.

Response: Choropleth maps use graded differences in color inside defined areas to indicate quantity in those areas. We have added more detail in the methods to aid the reader in understanding these maps.

Comment 4: What does the range of CDs mean? This was not clear to me.

Response: We reported a range in order to summarize the number of census divisions that had a non-English/non-French population but did not have any primary care physicians proficient in those languages. When we looked at each non-official language separately we found that 11 census divisions with a NENF Chinese speaking population 6 census divisions with a NENF Italian speaking population 9 census divisions with a NENF Punjabi speaking population, 14 census divisions with a NENF Portuguese speaking population and 5 census divisions with a NENF Spanish speaking population. We summarized this to say there was a range of 5 to 14 census divisions that had an NENF population speaking one of the top five non-official languages without any physicians proficient in that same non-official language.

Comment 5: No information is provided of how the different data sets are combined.

Response: The different datasets were combined using the census division variable that existed in both datasets. We have added this statement to the methods section.

Comment 6: However, I am afraid that too many assumptions are made when it comes to interpreting the links between the physicians’ language proficiencies and the behavior and communication patterns between them and the NENF populations.

Response: Thank-you for the comment. The objective of this study was to quantify and describe the spatial distribution of Ontario’s non-English/non-French population and Ontario’s physicians proficient in non-official languages. We have added a sentence in the limitations section
indicating that a limitation to our study is that we have assumed that NENF individuals located the census divisions with physicians proficient in non-official languages are actually using those physicians, or are aware of their existence should they require medical attention, where this might not be the case.

**Comment 7:** The figures can and should be commented in more detail. (By the way the numbering of the figures in the text does not correspond to the numbers of figures in the annex)

**Response:** Thank-you for this observation. The figures have been described in greater detail in the results section and the numbering has been updated.

**Comment 8:** While the main results are well summarized in the discussion, there is no discussion at all about the role that interpretation can play? This is disappointing because in the catchy title of “Lost without Translation” (by the way all to often quoted and wearing off by now), the reader expects to see at least some allusion or comments about translation/interpreting (for which Canada has a rather impressive track record). No discussion regarding risks (as stated in the title) is provided.

**Response:** We agree that professional interpretation does have a role in bridging the linguistic gap between patients and physicians. While most literature still indicates that it is most ideal for the patient and physician to be proficient in the same language, the use of professional interpreters is associated with better clinical outcomes compared to language discordant clinical encounters that do not use interpreters. We have included more detail on interpreters in the discussion section as well as added the following reference: Karliner LS, Jacobs EA, Hm Chen A, Mutha S. Do Professional Interpreters Improve Clinical Care for Patients with Limited English Proficiency? A Systematic Review of the Literature. *Health Services Research* 2006; 42(2):727-754. Also, as previously stated we have updated the title of the manuscript to better reflect the objective of the study.

**Comment 9:** Remark on: “This is also in line with previous studies that found that new immigrants as well as physicians tend to settle in larger cities.15,17”: References 15 and 17 are not studies, but information from Statistics Canada, and 17 is incomplete.

**Response:** Thank-you for this observation. The wording has been updated to reflect that these references are reports and not studies. Reference 17 has been revised.

**Comment 9:** Recommendations are rather vague, and most of them deal with further research, but there is little information on how the ‘discordance’ issue can be improved, a discordance which is painful for both providers and patients.

**Response:** We appreciate this comment. As previous stated, the objective of this study was to quantify and describe the spatial distribution of Ontario’s non-English/non-French population and Ontario’s physicians proficient in non-official languages. This is the first study to describe the distribution of non-English/non-French populations as well as the distribution of physicians proficient in non-official languages. We believe that further research is required to better
understand how NENF populations access health care when they do not have a provider proficient in their language. The use of interpretation services is one of our main suggestions, along with increasing the availability of English language courses to those who are not proficient in English or French and to try and encourage physicians proficient in non-official languages to practice in census divisions with a NENF population in need of their linguistic capabilities.

Comment 9: Quite a number of limitations are stated, but, in my view, there appear to be even more, namely the equation or rather the inferences from to data to actual health care utilization.

Response: Thank-you for this comment. As stated above, we have added a sentence to the limitation section indicating that a limitation to our study is that we have assumed that NENF individuals located the census divisions with physicians proficient in non-official languages are actually using those physicians, or are aware of their existence should they require medical attention, where this might not be the case.

Comment 10: Missing in the limitations paragraph is also the lack of information on the number of years of the NENFs’ integration in the host society and its relation to language proficiency and language concordance/discordance. (It is referred to in another paragraph of the discussion, though)

Response: Thank-you for this comment. We agree that the number of years of the NENFs’ integration in the host society and its relation to language proficiency and language concordance/discordance is important in assessing the risk of language discordance. We did not have this data available at the time of the study. We did acknowledge this concept in the manuscript, but we did not include it in the limitation section. We felt that, since our study was a descriptive study quantified the size and location of NENF populations, investigating the characteristics of these populations would be a suggestion for future research.

Comment 11: Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? While some of the relevant publications are referenced, recent ones are missing, and the international literature does not seem to have made it into the bibliography. Also, many of the references are dealing with overall communication and literacy, but are not specific to foreign-language communication and language discordant medical interviews.

Response: Thank-you for the suggestions. A comprehensive literature review was performed and we felt that the references selected best supported the statements in the manuscript.

Comment 12: Do the title and abstract accurately convey what has been found? a. This is my most important concern. The title does not address of what this article is about. At the same time, it provides keywords (important and relevant ones, for sure) that cannot be dealt with in this research. Translation? Risks? Actual patient-physician encounters (and not just potential ones) 
 b. I wouldn’t have accepted to review this paper, if I had seen what the research findings are about. As a recommendation for the revision, I would suggest a title
along the line of: Quantifying linguistic and spatial mismatch between Ontario’s non-English and/or non-French (I used the study objective: “The objective of this study is to quantify and visualize the linguistic and spatial mismatch between Ontario’s non-English and/or non-Frenchspeaking (NENF) population...”
c. I would still think the paper could be transformed into an important contribution by: (i) sticking to the objective, (ii) aim at more descriptive and (iii) exploratory character of such a paper, (iv) so as to alert health decision makers to sensitive areas of health care provision in a context of diversity. For that to be written in a convincing manner, more detailed information on the methodology should be included.

Response: Thank-you for your comment. The title of the study has been updated to “POTENTIAL FOR PATIENT-PHYSICIAN LANGUAGE DISCORDANCE IN ONTARIO”. We feel this better reflects the objective of our study. We understand how the original title would have misled reviewers. This study descriptive and exploratory, we did not assess the risk of language discordance, rather we quantified and described the locations of NENF individuals who reside in census divisions that do not have a primary care physician proficient in the same non-official language. We hope that this paper will alert health decision makers in Ontario to the potential of language discordant clinical encounters for individuals proficient in the top five non-official languages.

Referee #3
Comment 1: The authors assume that ‘given the increase in immigration… patient-physician language encounters will become increasingly common in Canada’. This assumption needs to be supported since parallel to an increase in immigration will be a higher proportion of physicians who speak other languages.

Response: Thank-you for this comment. The wording of this sentence has been changed to reflect a less conclusive statement. “Given the increase in immigration rates, it is reasonable to assume that patient-physician language discordant encounters may become increasingly common in Canada”

Comment 2: The authors do not indicate whether they excluded people who spoke Aboriginal languages exclusively in the NENF population. This group should be excluded as it skews the results since this group is largely comprised of elders living in remote First Nations communities in the north with limited access to physicians in general and a very limited professional pool to service them.

Response: We did include Aboriginal languages in the reported overall percentage of the Ontario NENF population however, when describing the spatial distribution of NENF populations and physicians; we just focused on the NENF individuals who spoke the top five non-official languages: Chinese, Italian, Punjabi, Portuguese and Spanish.

Comment 3: There needs to be a discussion about increasing access to professionally trained interpreters as another approach to addressing the patient-physician discordance. There is a lot of research in this area.
Response: We agree that professional interpretation does have a role in bridging the linguistic gap between patients and physicians. We have included more detail on interpreters in the discussion section as well as added the following reference: Karliner LS, Jacobs EA, Hm Chen A, Mutha S. Do Professional Interpreters Improve Clinical Care for Patients with Limited English Proficiency? A Systematic Review of the Literature. *Health Services Research* 2006; 42(2):727-754. Also, as previously stated we have updated the title of the manuscript to better reflect the objective of the study.

Comment 5: Several limitations to the study need to be acknowledged:
a) The availability of a language concordant physician does not guarantee access to care since one of the major barriers to primary care in Ontario is the lack of physicians who are accepting new patients, b) Combining all Chinese languages together is a major limitation that needs more elaboration since this group would include recent immigrants, more likely to be from Mainland China and non-recent immigrants from English and Cantonese speaking Hong Kong. Moreover I would suspect that most of the physicians speak Cantonese because it is challenging for physicians from China to have their credentials recognized, but this group would not be able to communicate with Mainland Chinese patients, c) The reliance on data for census divisions (vs census tracts) may be less appropriate for low density population areas d) Geographic location (i.e. in a census division) is not equivalent to access. In larger centres where transit is available/affordable, patients may be willing to travel outside of a CD to access their physician.

Response: Thank-you for these comments. We have added a sentence to the limitation section indicating that a limitation to our study is that we have assumed that NENF individuals located the census divisions with physicians proficient in non-official languages are actually using those physicians, or are aware of their existence should they require medical attention, where this might not be the case. We have also indicated that combining all Chinese languages together is a major limitation. Unfortunately, due to the restrictions of the data sets, this was our only option. We have indicated that further research needs to be performed to further investigate this group. We also agree census divisions might not be the most appropriate geographic unit for all areas of Ontario however this is the first study to describe the distribution of non-English/non-French populations as well as the distribution of physicians’ proficient in non-official languages. We have indicated that further research within census divisions would be beneficial to understand how NENF populations access health care resources.

Comment 6: Descriptive data on all the languages used by NENF patients and the number of languages spoken by all primary care physicians should be presented, not only data on the top 5 languages since only half of the NENF group speak the top 5 languages. We need to know what other languages physicians’ are proficient in since 18% speak another language.

Response: Thank-you for your comment. We have made revisions to the results section and added a table that describes the top ten non-official languages spoken by Ontario’s NENF population. For this particular study, we only quantified the number of physicians who spoke the top five non-official languages. We are working on a complimentary study that describes the characteristics of Ontario’s physicians proficient in all non-official languages.

Comment 7: Background information on primary physicians’ practice settings e.g. solo,
group, family health teams, CHC’s, institutions, would be helpful. The paper seems to assume that most physicians are in private practice.

**Response:** Thank-you for this comment. While we agree that this information is useful, for the purposes of this study we grouped all primary care providers together. We hope to explore the location of practice in the previously mentioned complimentary study.

**Comment 8:** What does ‘sub-optimal’ mean in the sentence “despite these findings there is still considerable evidence that physicians’ communication skills can be sub-optimal.”

**Response:** Thank-you for the question. We’ve used the term ‘sub-optimal’ to indicate that physicians don’t always communicate well with patients even when they speak the same language. Previous literature states that physicians’ communication can sometimes be below standard.

**Comment 9:** There are findings in the Discussion section that may be better situation in Results. For example, the first two paragraphs on populations and languages.

**Response:** We have revised the wording in the discussion section so it is not repetitive with the results sections.

**Comment 10:** Please provide more information on ‘return of service’ programs available to international medical graduates.

**Response:** Thank-you for your question. The College of Physicians and Surgeons of Ontario regulates the practice of medicine in Ontario to protect and serve the public interest. All doctors who wish to practice in Ontario must be members of the college and successfully be approved for an Independent Practice certificate. Each doctor must have the following criteria in order to be approved: i) a medical degree from an accredited Canadian or US medical school or from an acceptable medical school listed in the World Directory of Medical Schools, ii) successful completion of parts 1 and 2 of the Medical Council of Canada Qualifying Examination, iii) certification by examination by either the Royal College of Physicians and Surgeons of Canada (RCPSC) or the College of Family Physicians of Canada (CFPC), iv) completion in Canada of one year of postgraduate training or active medical practice, or completion of a full clinical clerkship at an accredited Canadian medical school, and v) Canadian Citizenship or permanent resident status. In addition to meeting the above requirements listed for the Independent Practice certificate, International Medical Graduates have to be fluent in English and they have to sign a Return-of-Service Agreement, meaning they have to promise to practice in an underserviced area in Ontario. The Underserviced Area Program of Ontario was designed to provide recruitment and retention of physicians for northern and rural communities in Ontario where there is a shortage of doctors. Areas are determined underserviced based on three factors: population (count and density), travel time to a center offering physician care, and travel time to a center that offers advanced specialty care.

**Comment 11:** The figures did not appear with their titles in the version of the paper that I downloaded. More explanation is required to understand and interpret the figures.
e.g. the explanatory grid is unclear.

**Response:** Thank-you for this observation. The figures have been described in greater detail in the results section and the numbering has been updated. We have included a detailed description on how to interpret the color grid on the choropleth maps.

We want to thank all the reviewers for their excellent insight and constructive comments. We feel that the revised manuscript is much stronger and will add to the current body of literature. Once again, thank you for considering our manuscript and we look forward to hearing from you.

Sincerely,
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