Author’s response to reviews

Title: Understanding Primary Care Providers’ Perceptions of Cancer Prevention and Screening in a Predominantly Rural Healthcare System in the Upper Midwest

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Reviewer reports:
Annsofie Adolfsson, PhD (Reviewer 1): This is an important article today when it have developed many new data, and the screening is important to prevent cancer. However, as the paper state the system must be easily to reach and use. (Berg, Linden, Adolfsson, Sparud Lundin, & Ranerup, 2018) This is an help for the provider to remind information and prevent cancer with information and check at the databas. Important that all computer program is compartive and easily to use and draw conclusion from.

Julia R. Berian, MD, MS (Reviewer 2): To the authors,
Reviewer comment:
This is a well-written original descriptive study, outlining primary care perspectives on cancer screening, finding that only approximately half prioritize cancer screening.
Introduction:
It would be helpful to understand the problem you are trying to solve. What are the cancer screening rates in your area? Are they universally low across cancer screening tests? Why did you choose to conduct such a broad survey?

Author response:
This survey was conducted prior to implementing an National Cancer Institute study focusing on clinical decision support in primary care clinics: “The survey was administered before implementation of a cancer prevention and screening CDS in the 24 intervention clinics.”
What we are trying to understand with the survey are baseline observations about provider perceptions regarding decision support, the EMR, cancer prevention, etc. The survey was conducted at our health system because our health system implemented an EMR-embedded CDS to improve cancer screening and we wanted to understand what providers thought about cancer screening prior to the implementation. The larger study certainly is interested in improving cancer screening, and the results of our clinical randomized trial will come after 2021. Our original manuscript had a typo regarding our main observation. We have corrected it to read as follows: (Abstract) “…only 53% reported their patients gave cancer screening a high priority relative to other health issues.”

Reviewer comment:
As you note in the introduction "a simple recommendation for screening may not be enough to motivate patients to comply" (p.3, lines 36-39). Is it possible that primary care providers are providing appropriate recommendations, but the patient population is not following through with testing?

Author response:
We agree and have added the following: “…may not be enough to motivate patients to comply, or patients may not be following through with testing”

Reviewer comments:
The stated aims are 1) to evaluate perspectives on the electronic medical record and cancer prevention clinical decision support tools, 2) assess primary care providers' knowledge of current cancer screening and prevention recommendations, and 3) identify strategies that could narrow observed gaps in cancer prevention and screening.
These aims are quite broad. Are they connected to a hypothesis? What is the underlying impetus to conduct this study?

Author response:  This part of our study is primarily descriptive, and few studies have asked providers these types of questions. Our overall NCI-funded study for implementing a CDS in primary care may change these perceptions overtime. We wanted a baseline survey for descriptive purposes, as well as to potentially show a difference in responses following the implementation and usage of a large EMR-based CDS tool in primary care clinics in a rural part of the country. We conducted the survey not so
much with a hypothesis in mind because it is a relatively small survey. We conducted it to gauge our
providers perceptions and for exploratory purposes. Our follow-up survey is not in the field yet, but
once we have those results we may compare baseline and follow-up. Regardless, we believe the
baseline is valuable in and of itself.

Reviewer comments:
Methods:
The methods are appropriately described. It would be helpful to identify a primary outcome of interest.

Author response: We don’t exactly have a primary interest, other than what we mention in the study
regarding assessing opinions regarding cancer prevention.

Reviewer comments:
Finally, if your study aims to survey the views of primary care providers in your state or region, why
only survey those in your own health system? Is your group comparable to the makeup of the greater
region? This is a convenience sample and may not provide generalizable data for the overall area.

Author response: We're only interested in our providers because that's where the larger study is taking
place. We agree it is likely not generalizable to the rest of MN or even outside our large region, but
that's not the intent of the study. We want to gauge how our providers feel, whether there is indeed a
need for any improvements regarding EMR assistance for cancer prevention (our survey reports there
certainly is). I added the following language to clarify: “This survey was conducted as part of our
larger NCI-funded cancer CDS study to understand providers’ perceptions regarding cancer prevention
prior to the implementation of our EMR-based CDS.”

Reviewer Comment
Results:
The number of possible, invited and participating subjects is included as appropriate. Despite an
average rating of cancer screening as high priority (53%), this differed between MD (63%) and APN
(40%) practitioners. From reviewing the results, it seems the majority of PCPs feel (very or somewhat)
prepared to discuss cancer screening (p.13, Lines 4-12). Time constraints are often a concern, but in
this case do not appear to be a significant impediment to cancer screening. Table 3 states that "Not
having enough time to discuss HPV vaccination" is "Always" or "usually" a concern for <20% of
respondents. (p.12 lines 18-22) While more general survey items like "our EMR decision support is
easy to use…" (p.15 lines 16-24) may return lackluster response, specific items indicate the EMR may
actually be doing fairly well: "The EMR makes it easy for me to order the needed service - Breast
Cancer Screening, n=130, 84% YES, […] Colorectal cancer screening n=128, 84% YES" (p.17 lines
31-46).

Author response: Completely agree with this. Our findings show the EMR does do well around
ordering cancer screenings.

Reviewer comment:
Conclusions:
"These data point to the need for a more useful and practical EMR" (P. 19, lines 21-24). Perhaps not - it
appears that breast and colorectal screening (See above) are functioning quite well in your EMR.
Perhaps it is just Cervical cancer screening or Lung cancer screening (ie. The low-scoring items, see
table 5, p.17 lines 31-46) that need improvement.
Author response: We agree the EMR does well for certain things (ordering), yet not well for calculating individual cancer risk, printing materials to assist patients in making better decisions, and for alerting that certain cancer screenings are overdue. I have made the following changes to our discussion: “While providers generally reported the EMR does well around ordering screenings, the EMR does not calculate individual cancer risk well, and does not allow for printing materials to assist patients in making decisions. These data are somewhat mixed, yet point to the need for a more useful and practical EMR that better helps PCPs make decisions and assess cancer risk for patients.”

Reviewer comment: Furthermore if patient interest or awareness is an ongoing concern, a clinical decision support through the EMR may have no impact in actually changing screening participation.

Author response: We are excited to learn whether or not our CDS makes a difference, and agree that patient awareness is valuable. Our CDS works in a way to alert patients they are overdue prior to seeing their providers: https://www.ncbi.nlm.nih.gov/pubmed/30972358