Reviewer’s report

Title: Adopting clinical genomics: a systematic review of genomic literacy among physicians in cancer care

Version: 1  Date: 05 Sep 2017

Reviewer: Kurt Christensen

Reviewer's report:

Feedback on MGNM-D-17-00017R1 "Diffusion of innovation: a systematic review of genomic literacy among physicians in oncology care"

Overview

This revised review article examines genetic literacy among health care providers published within the past 25 years, with an emphasis on oncology; and addresses educational interventions and test uptake. The authors have revised their article substantially to use a knowledge framework based Diffusion of Innovation Theory research to provide a more nuanced discussion of awareness knowledge, how-to knowledge, and principles knowledge. A number of sections and conclusions would benefit from more nuanced consideration, but conceptual shortcomings are relatively minor.

Major Comments

Distinguish use from knowledge. In a number of places, the authors cite usage data to draw conclusions about knowledge without justifying why. For example, in the subsection about awareness, they discuss how "31.2% of the sampled physicians... had ordered cancer susceptibility tests," and in a different subsection about how-to knowledge, they discuss how "100% used HER2 testing." Greater knowledge in other genetic testing contexts is often correlated with lower genetic testing uptake because physicians learn that they've been ordering testing when it was not warranted.

What was the rationale for focusing on oncologists? The article sometimes addresses cancer testing, other times addresses oncologist responses among non-oncologists. The approach the authors have taken may be entirely appropriate, but the article feels unfocused in places without an explanation why.
Minor Comments

The authors have done a good job specifying how they define categories of knowledge, but how they summarize the work they analyzed is often vague and feels misclassified. For instance, in the "Principles knowledge of genomics in oncology care" subsection, the authors write that "42.8% of the sample answered correctly all three knowledge questions about BRCA1/2," but I had to go to the source article to learn what those knowledge questions were (and found batteries of six and four questions, but none with three). There and throughout, it would be helpful if the authors provided a little more detail about the data they are summarizing.

I was surprised to see no mention of the Scheuner review, published in JAMA in 2008 and heavily focused on physicians, cancer, and knowledge.

In the Introduction where the authors discuss a U.K. review of genetics education for PCPs, what did that review find?

I suggested the Rogers knowledge framework (proposed by Smerecnik et al in 2011) as one strategy to be more nuanced in their review, but I would suggest keeping the discussion about Diffusion of Innovation Theory to a minimum. For instance, the rate at which technologies are adopted is not really important to this article, and is a bit distracting (e.g., beginning of the discussion). On a related note, Rogers' framework is not temporally based (i.e., awareness does not necessarily precede how-to knowledge), and the term, "stage" feels inappropriate in the abstract and throughout.

The authors need to re-read the article closely to correct numerous grammatical and formatting errors, particularly missing words.

What do the authors mean by, "physicians are one of the most challenging groups of participants to recur due to their hectic schedules and their credibility"?

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
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Yes

Are the conclusions drawn adequately supported by the data shown?
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Yes
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Not relevant to this manuscript

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