Author’s response to reviews

Title: Training Scholars in Dissemination and Implementation Research for Cancer Prevention and Control: A Mentored Approach

Authors:

Margaret Padek (mpadek@wustl.edu)

Nageen Mir (nmir@wustl.edu)

Rebekah Jacob (rebekahjacob@wustl.edu)

David Chambers (dchamber@mail.nih.gov)

Maureen Dobbins (dobbinsm@mcmaster.ca)

Karen Emmons (kemmons@hsph.harvard.edu)

Jon Kerner (jon.kerner@gmail.com)

Shiriki Kumanyika (kumanyika@drexel.edu)

Christine Pfund (christine.pfund@wisc.edu)

Enola Proctor (ekp@wustl.edu)

Kurt Stange (kcs@case.edu)

Ross Brownson (rbrownson@wustl.edu)

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Author’s response to reviews:

Reviewer 1 Comments:

1. [Line 53: "and training and..."] Is this an ongoing training? How is this different from the 5-day intensive training?

Response: Wording in line 53 was changed to clarify the activities described were in reference to the entire program.

Page:3 line:53
2. The background section lacks an in-depth analysis of the current situation in D&I training and skips the basic information such as, what is D&I, why it is important to train the workforce in this area, what has been done so far etc. While a lot of readers of this journal would be aware of the field and issues, but others such as early career researchers who are changing fields or students would benefit from an adequate background and rationale to the issue. For example, Line 102 in the Background section indicates the research to practice translation gap of 17 years, without explaining what that means. Many readers might not be able to connect the dots automatically between the importance of D&I, research to practice gap, and the need for training. Hence, consider rewriting background section in a bit more informed and structured way.

Response: A few edits were made to clarify some points in the background session. However, given that this journal is specifically targeted to D&I science research and the limited number of words left to address other points from the reviewers, we were not able to add extensive information on the background of D&I. Several papers are cited throughout that can provide additional information if the reader so wishes.

Page: 5-6  Line: 89-97; 100-104; 107-109; 113-118

3. Line 86-88: It is unclear whether they have explored the availability of international (other than US and CA) training and courses etc. If the focus is on the US and Canada only, then it should come across in the background section as well as limitations.

Response: More details have been provided in background regarding other training opportunities both in the U.S. & abroad.

Pages: 5; 6  Lines: 107-109; 113-118

4. Consider adding a pictorial representation of the training, mentoring and evaluation for the purpose of clarity of this section. There is a lot of information flowing through the methods section which I was struggling to connect. A clear diagram highlighting all important components would add a lot of value to this paper.

Response: Thank you for this suggestions. Please see Figure 1 for a visual depiction of the timeline of the MT-DIRC program as well as additional File 1 for a sample agenda of the training institute

Page: 9; 29  Lines: 192-194; 675

5. Line 145-146 'most successful recruitment strategy': This is an important finding and should be moved to the 'results' section.

Response: This has been moved to the results section.

Page: 16  Line: 336-338
6. Line 192 - Mentoring: This is a very interesting description, however, would be more reader-friendly if supported by a pictorial form/diagram/figure or a table.

Response: The addition of Table 2 covers this information.

Pages: 11; 30  Lines: 229-231; 680

7. Line 206: "The self-paced course..." This is listed as one of the mentoring components, however, is not presented consistently with the other components. Consider moving it to a new line. A diagram highlighting these several important components would help readers going through this text smoothly.

Response: The addition of Table 2 covers this information.

Pages: 11; 30  Lines:229-231; 680

8. Line 225 - Methods section, talks about 'facilitators and barriers' to mentor-mentee relationships. It would be interesting to share some of those factors in results.

Response: Additional commentary has been added to the results suggestions.

Page: 17  Lines: 382-383

9. Although future directions point towards investigating fellow's academic outputs, it would be interesting to include some of the preliminary data here. Considering that the domain that saw the least increase in skill was "design and analysis", and participants had low satisfaction for "opportunity" as compared to the value that was put on this domain, it would be really useful to see some practical results (outcomes/opportunities) as a result of direct mentoring.

Response: This information is still being actively collected. Due to the ongoing efforts, it would be inaccurate to report on these outcomes at this time. The project does have plans to include this information in a later results paper (as noted in the Future Directions section).


10. Is there any data on how many of recommended monthly calls between mentors-mentees actually occurred? What was the average duration of those call? What are some of the enablers or barriers to using monthly telephone meetings in a mentored-approach? Similarly, how many mentees attended regular webinars etc.?

Response: Clarification on how mentoring was handled & webinar attendance was added.

Pages: 11; 16; 20  Lines: 233-236; 343-344; 428
11. Several terms are used interchangeably that may create confusion among readers. Such as (scholars, early career fellows, researchers, D&I investigators), (implementation research, implementation science), and (D&I science, D&I research).

Response: We have clarified most terms (scholars & mentees=fellows) and left terms which refer to a specific title or program in order to reflect their accurate title (e.g. D&I science; D&I research; Implementation Science). This distinction between terms can be found more in-depth in Rabin's article [1].

Page: 5 Line: 104

12. Abbreviations have either described but not necessarily used such as (Line 48-49 Abstract) or have been used without defining the full form (Line 49 Abstract).

Response: All abbreviations have been defined and added to the abbreviations section at the end of the paper.

Page: 24 Line: 500-506

Reviewer 2 Comments:

1. The authors state that the aim of the paper are to "inform the development of D & I training programs and to share the training of the emerging MT-DIRC cohorts". However, most of the results focus on outcomes of the MT-DIRC and there is very little information in the discussion to direct inform other D & I training programs. The aims could be revised to focus more on the evaluation of the program, or the discussion could be revised to better inform other training initiatives, or some combination of both.

Response: Wording in the abstract has been edited to reflect the proper intent of the paper. Additional wording has been added to clarify the overall intent of the paper.

Pages: 3-4; 7 Line: 47-52; 69-72; 144-146

2. The introduction includes a list of other D & I training; however, the section on graduate work seems less relevant, given the different target audience. Since this paper focuses on evaluating outcomes, it would be interesting to describe the findings from evaluations of the other training programs (noting that there are few evaluations, but some have come out recently).

Response: Edits have been made to more accurately reflect the purpose of the paper and current state of D&I training.

Pages: 5-6 Lines: 95-97; 100-118; 128-132

3. Paragraph 2 on page 4 presents some of the ways in which other training programs are different (e.g., have/ don't have mentoring); however, since the reader has not yet been
introduced to the MT-DIRC, some of this information is lost on the first read of the article.

Response: Wording has been changed to clarify the differences in programs and to introduce the program up front.

Page: 5 Lines: 100-104

4. Given the aim is to inform other training initiatives, it would be helpful to understand more about the content of the workshop training.

Response: Additional file 1 has been added to show a sample institute agenda.

Pages: 10; 33 Lines: 219; 724

5. One of the primary outcomes is participant self-reported skills; however, the measure, which asked participants "how skilled do they feel" seems to capture self-efficacy of D & I skills, rather than D & I skills. Although this was noted as a limitation, it would be more appropriate to describe this outcome as "self-efficacy" throughout.

Response: Self-efficacy is used to describe the confidence one has in performing tasks in a certain domain (such as D&I). This differs from perceived knowledge and skills. Researchers can have the same knowledge/skills rating but differ in their self-efficacy, thus differ in their implementation of that knowledge and those skills. These differences may seem subtle but they are aligned with our reason for reporting that our scale is assessing self-reported knowledge/skills. We agree that assessing self-efficacy for D&I and subsequent implementation of those skills is important. A clarification for our reasoning has been added to the methods section.

Page: 14 Lines: 297-301

6. Please clarify the sample used in tables 3 & 4 - it states n=56; however, only 2 cohorts completed the 18 month follow-up. Does the pre sample include all 56 participants and the 6 and 18 month have less? Or is it only cohorts 1 & 2 at all time points? If they are different samples, it would be helpful to know the means for the sample that was analyzed.

Response: This has been corrected to reflect the appropriate sample sizes in each table

Page: 32 Lines: 706; 712

7. Please add response scale to tables 3 & 4.

Response: Scale has been added to the tables

Page: 32 Lines: 706; 712
8. Table 4 presents data for beginners, intermediate, and advanced participants. The beginner baseline ratings are higher than the advanced group? Is this really true? Since this measure captures self-efficacy, not skill, what are your thoughts about why the beginners have such high baseline ratings and advanced participants have low ratings? Further, the advanced group only increases their self-efficacy to 3.25 at 18 months, which is quite low. Alternatively, were these were the labels flipped?

Response: The table & analyses refers to the learning levels of the competencies (i.e. are they considered a beginner, intermediate or advanced level competency), not the Fellows’ learning levels. Edits have been made to clarify this distinction.

Pages: 16; 32 Lines: 360; 712

9. In the results section, the authors compare beginners to the advanced group, but it appears that the analysis is a within-group over time comparison, not a between group comparison. To make statements comparing the change between groups, a between group analysis is needed.

Response: The skill levels refer to the competencies, not the individual fellows. Therefore a within-group comparison over time is the appropriate test. This has been clarified in the text.

Page: 17 Line: 360

10. A significant portion of the results and discussion focuses on the discrepancy between mentor and mentee ratings. It is not clear why this difference is important? It seems like it would be more important to understand changes in experiences from 6 to 18 months and to understand what they find most important (figure 1).

Response: Figure 2 was recreated to display both 6 & 18 month differences. Additional text has been added to discuss these implications.

Pages: 17-18; 20; 28 Lines: 372-383 436-445; 676

11. Additional questions that came to mind include: did the ratings of the mentorship relate to self-efficacy? Did these mediate or moderate changes in self-efficacy over time? Were there any differences at baseline between cohorts on self-efficacy?

Response: These are interesting questions. For many of these “deeper dive” questions, we currently lack the sample size to examine them in meaningful ways. We will be able to return to these questions in a few years when we have final data from all cohorts.

12. The discussion focuses almost exclusively on the results and reinterpreting the results, bringing in relevant literature would be helpful. For example, how do the changes in self-efficacy compare to other evaluations of D & I training programs? How do the overall findings compare to other D & I training programs? How do these mentorship findings relate to other research on mentorship?
Response: We added to the background section that no other training program looks at the long term skill evaluations that this paper is describing, thus we do not have anything currently in the literature to compare it to. There is currently in the discussions mention on how our mentorship results compares to other research findings.

Pages: 6; 19-20 Lines: 128-132; 414-419; 432-434

13. Given the purpose is to inform other D & I training, it would be useful to readers to have a section on how these findings can be used to inform other training.

Response: Additional text has been added to future direction section. Additional File 1 has also been added to serve as a template for structure of the training institute.

Pages: 22; 34 Lines: 490-491; 724