

Evaluation of the Research to Reality (R2R) Mentorship Program Pilot

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Introduction

The Research to Reality (R2R) Mentorship Program was launched in 2011 by the Division of Cancer Control and Population Sciences and the Office of Communications and Education in the National Cancer Institute (NCI). The purpose of the program is to help build the capacity of public health practitioners to effectively navigate the complex, “real-world” context in which evidence-based decision making occurs. The program aims to develop junior practitioners’ knowledge, understanding, and skills around core competencies necessary for identifying, adapting, implementing, and evaluating evidence-based cancer control and prevention interventions in community or clinical settings by having experienced public health professionals serve as mentors to community practitioners.

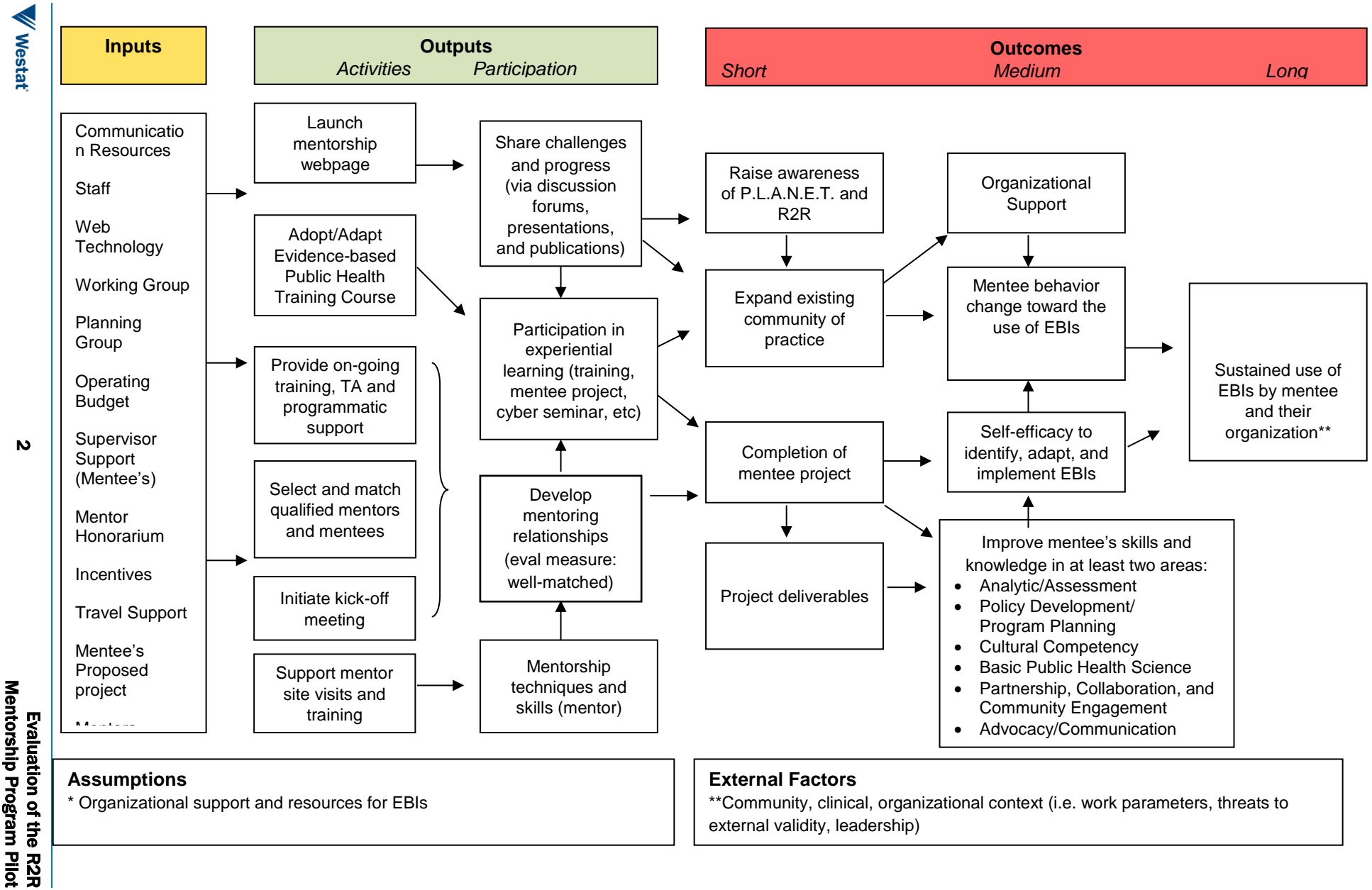
The program was piloted during an 18-month period (September 2011–March 2013). Mentoring was the focus of the first 12 months, and program deliverable completion and evaluation were done during the final 6 months.

Background

Although research has shown the effectiveness of certain interventions in preventing and treating cancer, these results are not generally being translated into public health practices. The R2R Mentorship Program was developed to address this gap. The program administrators identified a number of barriers to the use of evidence-based practice, including limited understanding of the contextual factors that can complicate implementation, inadequate resources, lack of support from organizational leaders, reluctance to change existing programs, and lack of incentives for practitioners to implement evidence-based interventions.

Mentorship programs had been shown to be effective in helping to overcome contextual issues arising during the implementation of evidence-based programs. However, mentors had not previously been used in the delivery of cancer control and prevention programs by health practitioners. The R2R Mentorship Program was seen as a mechanism for developing the skills, knowledge, and competencies of practitioners for the conduct of such programs. The pilot program was developed to test this model. A logic model depicting the theory of change underlying the R2R Mentorship Program was developed by the program administrators (Figure 1).

Figure 1. Research to Reality (R2R) Mentorship Program logic model



An additional expectation for the program was that NCI would gain a better understanding of the barriers and facilitators of implementing evidence-based programs in local communities with different contexts. NCI would then be able to make resources available to address the needs.

Program Goals

The goals of the pilot program were as follows:

- Recruit qualified mentors and mentees and select six well-matched pairs to participate;
- Provide ongoing technical assistance, training (including in-person and webinars) to the mentee/mentor pairings to improve mentees' skills; and
- Build a community of practice among the mentee/mentor pairs and also with the broader cancer control community through interactive web platforms, conferences, presentations, and/or publications by program participants.

Program Administration

Staffing for the program consisted of the program manager and program coordinator. The program manager was responsible for the activities needed to plan, implement, and evaluate the program. The program coordinator was responsible for administering the program and providing support and technical assistance to the mentorship pairs.

An NCI-selected Working Group set the agenda and provided overall strategic guidance for the program. Working Group members were NCI staff with backgrounds in national research dissemination, education, communication programs, and partnerships. The Working Group was involved in the review of mentee applications, selection of mentors, and matching mentees with mentors. Guidance in the planning, implementation, and evaluation of the program was also provided by the Planning Group, whose members consisted of university and state health professionals.

Program Participants

The pilot program included six mentees, each of whom was paired with a mentor. In addition, each mentee's immediate supervisor had to sign a letter of support.

Mentee eligibility requirements were as follows:

- Working full time with an organization addressing issues related to cancer control and prevention;
- Motivated to engage in evidence-based practice;
- At least a master’s level public health training and/or 2–3 years equivalent training or experience; and
- Some experience working with community organizations.

The six mentees in the pilot program were selected from 48 eligible applicants. The applicants came from 22 states, worked in a variety of settings in different types of organizations, had a diversity of past experiences, and proposed a range of cancer topics for their project.

In their applications, mentees had to identify at least two competency areas in which they wanted to improve their capacity through participation in the program. The Working Group took these competency areas into account in identifying a mentor for each mentee.

The requirements for the mentors were as follows:

- At least a master’s degree in public health or equivalent training, preferably a doctorate;
- 5 or more years of experience in applied cancer control and prevention that includes partnerships, collaborations, and community engagement; adaptation and implementation of evidence-based interventions; and program evaluation or sustainability of evidence-based interventions;
- Participation in behavioral/social science research that includes expertise in research methods, and community-based participatory approaches or designing and implementing evidence-based interventions;
- Two or more years of experience in applied practice within public health or clinical settings; and
- Two or more years of experience supervising or mentoring other health professionals.

Potential mentors were identified by the Working Group and key leaders in cancer control and evidence-based public health who participated in a series of nine informational interviews. Invitations were sent to 34 potential mentors, 23 of whom agreed to be in the mentor selection pool.

Program Components

The R2R Mentorship Program had three main components:

- Mentorship and the mentee project;
- Training and support from NCI; and
- Online Community of Practice.

Mentorship included regular communication between each mentee-mentor pair (via email, telephone, and/or web conferencing) and a site visit of the mentor to the mentee's workplace. In addition, each mentee planned and implemented an evidence-based work-related project with support from the mentor. This project had to be focused around an objective of its state's comprehensive cancer control plan. Training and support from NCI included kick-off and close-out meetings in which all mentees and mentors participated; quarterly conference calls with all mentees, mentors, and NCI staff; webinar trainings (Evaluation, Program Adaptation, Making Data Talk, Working and Communicating with Policy Makers, and Manuscript Writing); and ongoing support from the program coordinator. The Online Community of Practice included both a public website and a private workspace open to just R2R Mentorship Program participants.

The mentorship pairs were also required to submit a series of deliverables over the course of the program:

- Project proposal work plan with a description of the mentee project and identification of the competencies that would be developed during the conduct of the project;
- Monthly story posted by each mentee on the public website with a response posted by the mentor;
- Cyber-seminar by each mentee on her¹ project;
- Tangible products resulting from the mentee project;
- Local presentation by the mentee on her project to colleagues and/or community;
- Presentation by the mentorship pairs at the close-out meeting; and
- Abstract on the experience of the mentorship for inclusion in a journal article.

¹ Due to the small number of participants, only feminine pronouns have been used in this report in order to maintain confidentiality.

Evaluation Methodology

A program evaluation component was incorporated into the planning of the R2R Mentorship Program from the beginning. The evaluation questions were established before the program began, and data were collected on the program components during the conduct of the program.

The evaluation questions were as follows:

- Is the program being implemented as planned? If not, how and why is it being implemented differently?
- How do participants rate different elements of the mentorship program—mentoring relationship, project, trainings/webinars, technical assistance, webpage?
- Do participants' competencies improve from pre- to post-program? What did mentees learn (knowledge and skills) in terms of evidence-based public health competencies? What mentoring techniques and skills does the mentor use? Did they change over the course of the pilot as a result of training?
- Do *Research to Reality* website users access the mentorship webpage and stay on the site and navigate to additional pages within the *Research to Reality* or *Cancer Control P.L.A.N.E.T.* web portals?

The evaluation consisted of the following components:

- Pre- and post-program self-report questionnaire for all participants to assess change in competencies;
- Individual interviews of mentees, mentors, and mentees' supervisors conducted at the end of the program;
- Review of mentees' project activities and deliverables;
- Review of participation and satisfaction data for all training, webinar, and mentor-mentee activities;
- Focus group with the Working Group;
- Interviews with key program staff; and
- Web analytics for the *Research to Reality Mentorship Program* webpage and the *Research to Reality* web portal.

Due to the small number of program participants, most of the data were qualitative. For many of the topics explored, multiple data sources were used, including the mentees, mentors, mentees' supervisors, and in some cases, the program administrators. Thus, triangulation strengthens the evaluation findings. Results of the interviews and the examination of the various project deliverables were analyzed through content analysis, in which the coding categories were directly derived from the text data. To ensure reliability, the codes of the two analysts were checked for consistency.

Results

All program components were in place from the start. The program goals and objectives were articulated from the beginning and a complete set of activities was established to enable participants to meet the goals. Program deliverables and a timeline were determined from the beginning. At the same time, the program administrators were flexible when participants encountered situations that resulted in changes from their original plans.

The results of the evaluation are presented under the following main topics: program implementation/process results, mentee development, mentoring, Research to Reality website engagement, participants' recommendations for program improvements, and recommendations for program improvements from program staff and the Working Group.

Program Implementation/Process Results

Aspects of the R2R Mentorship Program implementation covered in this section are the characteristics of the selected mentees, matching mentees and mentors, role expectations, implementation challenges, and program support.

Mentee Characteristics

The six mentees selected for the pilot were diverse in many dimensions. Two had public health experience but were relatively new to the area of cancer control. One had received her academic training more than 10 years ago and it had not included evidenced-based interventions or logic models. Two were in degree programs (one master's and one doctoral program) while participating in the R2R Mentorship Program. The mentees also worked in different geographical regions of the country. However, all of them were in job situations in which they could implement an evidence-based program.

Mentor-Mentee and Program Matching

A key task in getting the R2R program started was finding suitable mentor matches for each mentee admitted to the program. When queried about the final outcome of the matching process, four of the six mentees asserted that their match with their mentor had been very satisfactory, although one would have preferred a mentor closer to her geographically. One mentee thought that the mentor was a good match in terms of experience and expertise but fell short as the mentor became less available due to a significant job status change halfway through the program. Another mentee thought the mentor had been very helpful on one aspect of the project but not so much in other areas, especially those relating to public policy and practice—as opposed to more academic concerns, which were covered sufficiently.

When asked about the mentor-mentee match, respondents typically described common areas of interest, mentor areas of expertise and experience, mentee competency areas, and project topic areas. However, all mentees and mentors also talked about personal compatibility and connection, which seemed to be critical for the overall success of the mentor-mentee collaboration.

I think in some of the things that she was particularly interested in I was able to be very helpful . . .and I think in terms of our working selves, and relationship. . . I think that was a good match too.

As it turned out we became good friends. So I think we were a good match.

One mentor suggested that even though she shared many common interests with the mentee, their personal chemistry seemed somewhat lacking, although her mentee thought they had a good connection.

I think that I brought the skill set that she needed to the table. I am not sure how much we connected interpersonally.

Finally, all mentors felt that their mentees had been good matches for the R2R program more generally. Two mentors described how the program was able to develop the mentees' existing interests in topics such as evidence-based practice and translation. Others mentioned how the program could help mentees work on their competencies. One mentor noted how the mentee also made a contribution back to the program by being a very engaged and responsive mentee to all the pairs. Another mentor noted how networking had been such a key area of interest for a mentee and that the program really served a purpose in that regard. Overall, mentors felt that all mentees had benefited from the program in some key ways

through mentee participation in trainings, meetings, and contributions to the web space, although the types of benefits varied across the mentees.

Mentor and Supervisor Role Expectations

Five of the mentors felt that the program's expectations of their role were clear from the start of the program.

We were able to attend an orientation session, and kind of have an orientation to the whole program, and to mentor and mentorship roles. So I kind of feel like in terms of our expectations and also in terms of deliverables . . . I think they were clearly laid out.

Only one mentor had not been very clear of her roles and responsibilities.

I think that's my primary concern about the program. I've been a mentor before . . .and I've had more guidance and direction as to what we are supposed to do as a mentor.

Two mentors noted that they felt the time commitment required was significant given the essentially voluntary nature of the task. One mentor noted giving up on responding to stories posted on the website early on due to time constraints.

Trying to build in some of the deliverables and expectations for essentially a volunteer position was a challenge because the honorarium would have covered my staff, my time for the days that I traveled. But then everything else was volunteer in my eyes. And so I think that as a busy professional, trying to carve out time that's not protected . . . was difficult at times.

One mentor noted that she had expected to have a greater impact on the project itself through the mentee. Another mentor noted that since the mentee's project had been planned prior to the start of the R2R Mentorship Program and thus without her involvement, her contribution was different from that of other mentors.

I think what did not work for me is just having limited opportunities to be impactful . . . I feel I was more impactful in areas outside of the project, which is good. It is still part of mentoring and I think it is a part that you don't really anticipate. I thought it was going to be very project focused. But it turned out to be a little bit of both project and professional development.

Unlike mentors, over half of the supervisors expressed concerns regarding the clarity of their position in the mentee projects and their expected level of communication with mentors and/or the NCI team. The supervisors were also unclear if any additional communication was needed with the mentees beyond their regular work-related interactions. Most supervisors noted having been in touch with the NCI team and the mentors just at the very beginning of the projects, perhaps an explanation for their expressed uncertainty regarding their role in the program.

I was not clear that there was anything additional that needed to happen because she [the mentee] was part of R2R. So I didn't really feel that R2R added another layer or work for us—and that was actually a good thing. But it was still not clear to me how they wanted us to participate as supervisors.

Still, as the quote below suggests, at least two of the supervisors felt confident in their role and purpose in the program.

My responsibility, as I understood it, as her immediate supervisor in her actual job setting, was to provide her that support and resources necessary . . . and then helping not only to ensure that she feels successful but to share those successes through our organization. And allowing and making sure that she had time, that she was given dedicated time, protected time to complete the project.

Implementation Challenges/Barriers

Program participants dealt with a variety of challenges in the course of the 18-month program. Job changes were experienced by mentees, mentors, and supervisors. Two mentees changed jobs at about the 1-year point in the program. In both cases, they obtained new positions within the same organization but were no longer involved with cancer control. Another mentee was supposed to have two staff members help with the project implementation, but they were moved to other departments. The immediate supervisors of four of the six mentees changed during the course of the program. Two mentors also changed jobs—one went from an academic role to a very demanding senior administrative position, which reduced the available time for mentoring, and the other retired but then went to work again.

When asked about challenges faced, mentors mainly cited workplace or life changes: maternity leave, health issues, change of employer, or retirement. One mentor noted that a project did not receive the expected funding and thus the mentee had to come up with a brand new idea/concept for a project. Yet, none of the mentors considered these difficulties as having been unsurpassable and a few in fact thought

that the flexibility and support offered by the program officials made all of these issues easy to overcome. One mentor noted that a program of this length—18 months—would inevitably have to face such challenges. One mentor suggested that reducing the overall length of the program may be the only way to reduce the turnover issue.

Two mentors mentioned time constraints as a particular challenge given their competing responsibilities, voluntary nature of their participation, and their geographic distance with the mentees. Both dealt with the issue by trying to maintain a regular call schedule but did not seem to have always succeeded. One mentor noted resigning from commenting in any of the mentee's stories so as to allow adequate time for activities deemed more valuable to the pair, such as frequent one-on-one conversations.

R2R Program Support

Mentors and mentees alike were very enthusiastic about the NCI support staff behind the R2R Mentorship Program. Most mentors and mentees reported needing assistance from the support staff at least once in the course of the program. The majority of questions addressed to NCI staff were logistical or clarification questions on the various program deliverables. One mentor-mentee pair dealt with both a project and a job switch, which NCI support staff dealt with in a helpful and expedient way. Both mentors and mentees particularly noted the staff's speedy and helpful responses to questions.

Supervisors reported virtually no contact with program administrators except for very early on upon program initiation. Most did not feel a need. One mentioned that it was enough to receive program updates and meeting announcement through the mentee. Another supervisor would have loved to receive more program updates from the NCI administrators.

Participants' Perceptions of the Program Elements

When asked what they considered to be the most valuable program component, many mentees named more than one. Two mentees considered the relationship with their mentor to be most valuable and two others expanded that to all relationships formed. The trainings provided were mentioned by two mentees. One mentee said that the project brought all aspects of the program together and another appreciated that the project was associated with the work assignment. Core competency development and the monthly write-ups were each mentioned by one mentee.

Mentors also named more than one program component when asked what they considered to be the most valuable. Four mentors mentioned the interactions among program participants, especially the mentee-mentor pairs. Communication or, more specifically, telephone calls and/or webinars were mentioned by four mentors. Components named by two mentors were the site visit, the project, and training, whereas one mentor said that writing was most valuable.

All mentees considered the trainings to be helpful and effective. One commented that they were valuable even if they were not related to a prioritized competency. Mentees considered the trainings to supplement what they were receiving from their mentors. Through the trainings they learned about applying the concepts presented in settings other than their own. The topics that stood out as especially useful were Manuscript Writing, mentioned by four mentees, and Making Data Talk, mentioned by three. Evaluation and Program Adaptation were each mentioned as useful by two mentees, although one suggested that Program Adaptation should be given earlier in the program. The policy-related training was mentioned as useful by one mentee. Mentors were invited to participate in the trainings and many did. One mentor commented, “I actually gained more than I thought from some of the trainings.”

All mentees thought that the program supports were adequate, and that many resources had been provided. One mentee suggested that there could be more encouragement to use the books and other tools that NCI provided, for example by referencing the book chapters that applied to the different trainings. Another suggestion was that more information on journal article writing should be provided if publication is going to be a component. Another would have liked more face-to-face time with the mentor.

All mentors also thought that the program supports were adequate and one added that they were more than adequate. A mentor commented that supports depend on the individual needs of mentees and mentors and the projects that have been chosen. Another said that the program administrators were helpful whenever an issue arose. All supervisors thought that the supports were adequate, and one was especially impressed that the mentor came for a visit.

After each meeting and training, mentees and mentors responded to a feedback form. In addition, mentees and mentors provided a progress report on a quarterly basis.

For the program kick-off meeting, with only a few exceptions every session of the meeting was rated a useful or very useful and of good or very good quality by all mentees and mentors responding. Although not all participants provided feedback, those who did gave high ratings for the five training sessions. The close-out meeting, which was greatly disrupted from a snowstorm, received lower ratings. Due to the small number of participants, statistical tests of significance were not conducted.

Mentee Development

The mentees entered the R2R Mentorship Program from different places in their careers and had different prior experiences in public health, so it was to be expected that they had different needs and developed in different ways. When asked what they had gained from their participation in the R2R Mentorship Program, five of the mentees said a network of colleagues, that is, connection to other public health professionals. Three spoke of having gained confidence as a result of the program. Three mentioned skills in general, and three specifically mentioned writing a manuscript. Other mentees said that they had built capacity as a public health professional and were able to implement programs correctly. Connection to the mentor, an association with NCI, resources, knowledge, experience, and friendship were each mentioned by one mentee. One mentee said that the program increased skills in the prioritized competencies.

Mentees' comparisons of their original expectations when the program began with their experiences in the program varied. One said that they matched well, and three said that the program exceeded their expectations, although one of them was not sure what those expectations were. Two others indicated that they had not known what to expect.

I didn't really know what to expect but I wasn't expecting to gain as much as I did with the training webinars and all of the opportunities that we had to speak on a national cyber seminar, to write papers, to work with people outside of our state, outside of our normal collaboration, to meet people from all over the country. I think my expectations weren't quite that big. I think I expected to work on a project and that was great but I got so much more out of it.

Competencies, Knowledge, and Skills Gained

The Mentorship Program identified six competency areas that would be targeted in the program and provided three to four skills associated with each competency area. As part of the application process, mentees were asked to rate themselves on a four-point scale in each of the skill areas and to select at least two competency areas in which they wanted to prioritize their focus. The competency areas selected most frequently were analytic/assessment; partnership, collaboration, and community engagement; and advocacy and communication skills, each of which was chosen by two-thirds of the mentees (Table 1). Half of the mentees chose policy development/program planning as a priority area.

Table 1. Priority competency areas selected by mentees, average ratings on a 4-point scale of all mentees at program completion, and average increase in ratings from program initiation to completion

| Competency | Number of mentees selecting this area | Average rating at program completion | Average increase in ratings |
|--|--|---|------------------------------------|
| Analytic/assessment | 4 | 3.0 | 0.8 |
| Policy development/program planning | 3 | 3.1 | 1.0 |
| Cultural competency | 1 | 3.1 | 0.2 |
| Public health science | 0 | 3.2 | 0.6 |
| Partnership, collaboration, and community engagement | 4 | 3.3 | 0.8 |
| Advocacy and communication | 4 | 2.7 | 0.4 |

Some of the ratings given by the mentees at the time of program application were quite high, leaving little room to show growth. In addition, participants at the beginning of any program may not be fully familiar with the various dimensions of a skill. Indeed, when asked about the training activities one mentee commented, “I didn’t know that I needed that information but it ended up being really useful.” Therefore, at the end of the program, the mentees were asked to retrospectively rate themselves to show their competency level prior to participating in the Mentorship Program and to provide a rating for their current competency level. (Appendix A contains the R2R Mentorship Competency Assessment form.) In every skill assessed, mentees gave themselves the same or a higher rating at the end of the program compared to their retrospective ratings. At program completion, average mentee ratings ranged from 2.7 for advocacy and communication to 3.3 for partnership, collaboration, and community engagement. The changes in ratings were averaged across all mentees. The greatest change was shown for policy development/program planning, which showed an average 1.0 increase on a four-point scale. An average increase of 0.8 points was shown in the areas of analytic/assessment skills and partnership, collaboration, and community engagement. Although none of the mentees had chosen public health science as a priority area, the average increase in ratings in this area was more than half a point.

In the interviews, all the mentees agreed that the competencies selected by the program were appropriate to target with a mentorship program. One appreciated the variety of competencies to select from since participants might be coming from different levels and have different needs. Another mentee said that looking at public health core competencies helped “me understand where I am professionally and where I need to go.”

Mentees considered their competencies to have changed. One commented, "The basic knowledge was always there but my confidence and ability to implement and to actually apply those skills have increased across the board."

All mentees said that competencies in areas such as program planning, public health skills, cultural competency, and assessment and analytical skills were all transferable to other projects. Some had already used what they had learned in other work.

Other skills that they had gained were manuscript writing, making presentations, using evidence-based interventions, and team building and working with people they had not known before. Several mentees did not perceive manuscript writing or the presentations to be covered in the R2R competencies. However, they do seem to be incorporated under advocacy and communication skills, which has “Effectively present accurate demographic, statistical, programmatic, and scientific information for professional and lay audiences” as a subcategory.

Perceptions of mentors regarding the mentees’ needs paralleled those of the mentees with only a few exceptions. Indeed, some mentors focused on the priority competencies identified by the mentees. However, community engagement had been selected as a priority area by one mentee but was not seen as a need by the mentor. Project initiation was perceived to be a need by one mentor but was not mentioned by the mentee.

While mentors saw growth in many of the same competency areas and skills as the mentees, four of them emphasized the learning of adaptation and watching for fidelity. For example, one mentor said that the mentee had learned the value of utilizing an existing program that has already been tested and that there is opportunity in the adaptation process. Several mentees said that the training on adaptation was useful, but only one specifically mentioned adaptation as a skill gained from either the program or project.

Like the mentees, mentors emphasized growth in the practical application of evidence-based program practices.

Understanding...the nuances of building new partnerships, the art of public health framed around the science of public health; understanding the politics of local medical communities, some of the things that are not necessarily in the literature that we all have to learn when we step out the door as a public health professional.

Supervisors’ opinions of growth in skills and knowledge were very similar to these of both the mentors and mentees. Various types of new evaluation skills were mentioned by four supervisors. Three said that the mentees had gained project management skills and a fourth said the program had provided the experience of actually implementing a project in a real-life situation. Three supervisors said that the mentees had gained a better understanding of evidence-based public health and that one mentee had

become a resource for this topic. Gains in writing skills were mentioned by three supervisors. One mentee who was new to the cancer area had gained technical knowledge about oncology. One supervisor commented that the mentee has become more independent: "So what I have now is more of a colleague versus an employee."

Supervisors also said that participation in the program had increased the mentees' self-confidence.

Her confidence in her own abilities and skills took a huge jump forward having been selected and then actually going through the program and completing it. I just really saw her blossom as a professional.

Supervisors said that through the interactions with the mentors and other mentees, program participants had gained a network of colleagues. Several of the mentees work in organizations that have few or no other staff members conducting similar activities, so the R2R Mentorship Program made them feel less isolated. Two supervisors said that the program had given the mentee a broader sense of their professional horizons. Advantages of program participation cited by the supervisors were the strong mentor relationship, the use of technology that had helped to keep everyone connected, and learning about programs in other parts of the country.

Mentee's Evidence-Based Projects

The mentees implemented a variety of evidence-based work-related projects. Three projects focused on cancer screening (two on colorectal and one on cervical cancer) and two addressed lifestyle changes (tobacco cessation and healthier diet and exercise). One project had a two-pronged approach involving skin cancer screening and sun safety education. Project partners included insurance companies, churches, hospitals, and a recreational center. Generally, the projects conducted were scaled back from what was originally proposed because they were quite ambitious. One project involving both formative research and an intervention had to be substantially cut back.

The mentees obtained funding for their projects from federal and other sources. Some conducted their projects in academic settings, whereas others worked in public health settings. Due to the small number of mentees and the many other variables that affected the conduct of the projects, no conclusions can be drawn regarding which of these characteristics were most effective.

When asked what they had gained from working on their individual project, mentees gave many different responses and described a variety of dimensions in which they had changed. Analysis skills, the most frequent response, was mentioned by three mentees. Taking a project from beginning to end was mentioned by two mentees, and two spoke of learning program management skills and having received tools to facilitate program planning. Two said they had gained confidence in themselves and a third said that the project “taught me a lot about myself.” Other gains mentioned were resources, adapting a project, writing a paper at the end, and working with people.

The biggest thing I gained from this whole experience, which is ultimately implementing the project, is gaining the confidence and self-efficacy in myself that I have the tools to actually be this competent public health professional. My previous experiences had all been in an academic setting, which is a vacuum compared to reality. So actually knowing that these tools can be applied and are useful tools in a real world setting.

All mentees experienced challenges while working on their projects.

[I had] obstacles that normally come up when you're implementing a project so it didn't go as perfectly as I hoped it would have; but I guess that was the point of the project.

Timeline challenges, particularly aspects of the project that took longer than anticipated, were experienced by four mentees. Three mentees had challenges in working with partners. One mentee had to change partners because the original ones were no longer available when the project was about to start, and another mentee had to switch projects due to problems with the original funder. A third mentee who had not had prior experience in working with community partners learned to begin the interaction with a discussion rather than developing plans for community partners in advance and then finding out that the plans were not feasible with their resources or population or program. This mentee also learned how to work with provider groups that did not get along with each other. Organizational changes affected two of the projects; in one case, staff that were originally going to help with the project were reassigned to other departments.

Many participants equated the project with the program. However, the project was intended to be a mechanism for developing the mentees' prioritized competencies. All mentees indicated that the project had helped them develop their competencies. However, one mentee had not gotten to a stage in the project of implementing an intervention in which one of the competencies could be developed, because the initial formative research component was quite large and took longer than anticipated.

All mentees considered the requirements and deliverables to be reasonable and productive. One mentioned the program's flexibility in enabling the deliverables to be tailored to individual situations. Another commented that knowing what the deliverables would be for the year and having deadlines helped to keep the project on track. One would have liked more guidance about what was expected in the final report summary.

The monthly stories were the deliverables that were the biggest challenge for the mentees. During the implementation phase, many struggled to write these stories. However, at the end of the program, they saw the value of the stories in providing documentation of the project, seeing how the project had progressed, and helping to develop writing skills. As noted above, one mentee considered the stories to be one of the most valuable program components.

The stories, those were hard and I hated writing them but now, looking back, I'm glad I did because that was very helpful so I wouldn't change that, even though I don't think any of us liked writing them. But I think they were beneficial.

Even though the dreaded stories were tough, they were not only doable but they were also productive because one of the things they are akin to is journaling. And journaling has always been, even in my profession, something encouraged. But I never really journaled professionally before and it helped me see how beneficial that could be especially to get clarity about what I'm doing and where I'm going.

Contributing to the challenge with the monthly stories was that the mentees did not generally receive responses to their stories. To address this situation, one mentee suggested that mentees be given a question to answer each month to produce a feeling of a conversation.

At the end of the program, mentees submitted the tangible products that they had developed during the course of conducting their projects. These tangibles varied considerably in number and type across the six mentees, in part a reflection of the kind of project conducted, the stage of the project at the program's completion, and the competencies on which the mentees wanted to work. All mentees submitted tangibles related to analytic and assessment skills, which was one of the R2R competency areas and the subject of two trainings. Data collection forms such as survey forms and a focus groups script were provided by four mentees, three of whom also provided results (two in separate documents and one embedded in a PowerPoint). The other two mentees provided evaluation plans. Four mentees included a logic model, which was a program planning tool suggested by the R2R Mentorship Program. Four mentees provided tools that they used during the conduct of their projects. These tools included a community asset inventory, implementation protocol, adaptation summary form, flyer, and postcard reminders. One

postcard reminder, embedded in a PowerPoint, represented considerable negotiation with a partner organization, a task that was related to the partnership competency on which this mentee wanted to work. Three mentees submitted the PowerPoint presentations they had made to a local group or meeting outside of the R2R Mentorship Program. One mentee prepared 74-page guidebook, and another produced a report about the deliverables. These more fully developed tangibles were produced by mentees who were able to spend more time on their projects than the other mentees; in one case, the project was a significant part of her job responsibilities.

Mentees' Time Commitment

The amount of time spent on the program varied considerably across the mentees. For five mentees, the average ranged from 4 to 20 hours per month. In contrast, one mentee spent 80 percent of her time on the project. Most mentees said that the amount of time per month depended on the phase of the project. One mentee who had one of the smallest monthly averages said that for two months she spent about 80 hours per month when she was adapting materials and conducting training.

Impact on Mentees' Organizations

Mentees reported being able to bring into their work much of the knowledge accumulated through their participation in the program. A few specifically mentioned the usefulness of the trainings they received. Many noted that their skills improved as a result of the trainings, their work on project deliverables, and the assistance provided by their mentors. One mentee noted how much she has learned about project management, from creating agendas and timelines to day-to-day management, skills very applicable in a variety of settings. Another mentee who has recently moved to a new position noted that she has already noticed using many of the skills she acquired through the program.

Supervisors concurred that their organizations benefited mainly due to the transfer of skills to the organization through the mentees.

I have a more knowledgeable and skilled employee . . . she is more confident in her own abilities. She was an asset to begin with . . .and I expect her to continue to do well.

It helps staff either strengthen skills that they already have and implementing evidence-based interventions or it enhances or supports development of new skills . . . and I also think that the communication or writing the blog, writing about what you're doing, working on the articles, I think the communication skill building . . . I think that's another part of our work that is valuable.

Three supervisors noted that through this experience both the mentee and the organization were able to get a sense of the “bigger picture” of their specific topic area within evidence-based practice. When asked if they would encourage more employees to participate in the program, all six supervisors unequivocally said yes.

I think it's a great opportunity and also it helps build institutional memories. So if you only have one person who's gone through the program, it makes it difficult to diffuse and disseminate information across. So to the degree that we can have additional people go through programs like this and receive the training, I think it would help tremendously.

One supervisor specifically pointed to the fact that the program provides great training for the employee without any real cost to the employing organization.

Finally, supervisors were split on whether the organizations' participation in the R2R program had had an effect on perceptions regarding evidence-based interventions within their organization. Two of them blamed the lack of an effect on inadequate dissemination of findings by the mentees and the supervisors to co-workers within the organization:

I don't think we got as much bang for the buck as we could have. But actually I think that is because I should have directed that. But that is also something that the program may consider going forward . . . that mentees do presentations not just for the program, but they do presentations at their home institution.

One R2R Mentorship Program expectation was that mentees would make a local presentation but not necessarily for their own organization.

One mentee, whose supervisor had changed during the course of the program, suggested that the program set clear expectations for the organization in which the mentee is working. These expectations could reinforce the impact of program participation.

Relationship Between the Program and Job Responsibilities

Supervisors considered the mentee projects to be closely related to their job responsibilities. Supervisors described the good “fit” between their program and R2R as a great advantage to all parties involved as it benefited the organizations and also made the program possible and manageable for mentees.

So actually, [program activities] are 100 percent sort of interwoven with her job responsibilities.

The [program] is directly related to her job. And that’s really how we wanted to use something like that. I really am a big believer in things, not creating projects that are not directly related.

Supervisor Involvement

The degree of supervisor involvement in the R2R program was not uniform across the different mentees. In addition, only two of the mentees had the same supervisor at the beginning and end of the program. Several of the supervisors indicated that they were unclear about what to expect from the program, particularly since they were not the original supervisor when the mentee began the program. Nevertheless, two supervisors said that it had met their expectations and three that it had exceeded expectations.

Three of the supervisors noted being involved in the initial development of the project and then having some regular monitoring meetings primarily in the context of “job” responsibilities. Two supervisors saw their role as exceeding that of job supervision and entering the realm of mentorship; these two supervisors played a role in decision making and document reviewing throughout the program.

For the first year, I was very actively involved. I had to write a piece for her application as far as from a supervisor role and then after she was selected, she would meet with me routinely and share her ideas and those things she was learning and the projects that she was going to roll out.

Yet another supervisor felt that their role had been minimal and should have been much greater. This supervisor felt that given her experience, she could have made a much greater contribution to the program had she been given the opportunity.

There was no contact that I can recall with NCI and I appreciate this is a pilot project. But one of the things that I would recommend is that there is some quarterly, at a minimum, contact between NCI and the mentee's supervisor to see how things were going and that there also be, likely also quarterly, some contact between the mentor assigned to the mentee and the supervisor.

Mentoring

Mentoring was a key component of the R2R Mentorship Program, so many dimensions of mentoring were examined in the evaluation.

Types of Mentor Assistance

Mentees were enthusiastic about the level and quality of assistance they had received from their mentors. When asked if there was any kind of assistance they had requested from mentors that they had not received, they all unequivocally said no.

Whatever I needed or that was on my mind, she was there to provide advice for.

She is definitely very knowledgeable in the cancer area . . .she definitely thought of things I would have never thought of.

Mentors' assistance to mentees varied throughout the R2R program to accommodate the full range of mentee projects and stage of project implementation, as well as the varying competencies and life/work circumstances of mentees. Mentees noted receiving help toward improving their competencies, references to literature, help with planning their projects and keeping tasks on track, and help with writing and presenting their work.

She gave a wealth of resources to be able to help with things like writing . . . some of those tools and resources were very helpful, in terms of organizing the data collection for the project.

She was able to review any documents that I would put together and provide feedback.

According to mentors, calls with the mentees were for the most part oriented toward monitoring progress on project tasks, timelines, and deliverables. Personal challenges and career goals came also into the picture but were not a main focus especially in the initial stages of the program.

All mentors noted tailoring their assistance in response to mentee interests and needs:

I tried to scale my advice to what her expectations were for the mentorship. So I really looked at what she was hoping to gain from the project.

Mentors and mentees alike noted the importance of being able to use the mentor's experience to inform the mentee's work, which both groups considered a cornerstone to the success of the mentorship. Several mentees provided examples of how their mentors' past experience closely matched their project and how it helped them carry out their work.

Several of the mentees noted the importance of the emotional support provided by mentors as they began a new type of work experience, especially in the implementation phase, and struggled to maintain a balance between their life and work.

[My] mentor provided me with support in trying to balance my life and my profession.

Her support of not only my professional but my personal development has been tremendous.

Finally, most mentees noted receiving career development support from their mentors.

She was really helpful when I transitioned jobs . . . she was a great sounding board for that. So it wasn't just project related. It was professional development as well.

A few mentees noted that the type of assistance received from mentors changed a little over time. As one would expect, in the initial stages there was greater focus on planning and skill building, while more attention was paid on completing deliverables and career development toward the end of the program. In addition, for a variety of reasons—such as employment changes, personal reasons, and decreasing project needs—at least half of the pairs reported meeting less frequently after their projects got well under way.

When we first started meeting it was really task oriented and about the deliverables to NCI and it eventually moved to some more career development pieces.

One mentee-mentor pair read a text together and had conversations about the text. Another mentor thought that reading together was a great idea and would like to have done a similar activity with her mentee. This mentor suggested that if the program were to expand, some training for mentors should be

done before they meet their mentees. In this training, the mentors could be provided with activities that could be done during the mentee-mentor times. This mentor also commented that mentors often received information at the same time the mentees received it and would have preferred to receive the information in advance to prepare for what types of mentoring support could be provided.

Mentor Communication With Mentees and Supervisors

All mentees found mentors to be accessible throughout the program except for one who would have preferred more frequent and, if possible, face-to-face communication.

Mentor-mentee pairs communicated via both telephone and email, with telephone as the preferred method for facilitating more extensive conversations; for one pair, some calls lasted 2–3 hours at the beginning of the program. Email was used for quick question-answer exchanges and to facilitate the exchange of documents and document review. Only one pair was able to meet face to face frequently due to geographic proximity of the mentor and mentee. Interestingly, this pair did not meet more frequently than other pairs but did seem to have longer more infrequent meetings (telephone and email was used in between in-person meetings). At least three of the groups met more frequently during the initial stages of the mentorship. The frequency of meetings varied widely by pair and by phase of the program: one pair met once a week for most of the mentorship, while another pair met only every 3–4 months once the initial planning phase was over.

While mentors communicated frequently with mentees, little contact was made with supervisors except during the site visit. In one case, only the supervisor and mentee seemed to have talked from time to time during critical decision points in the course of the program. In all other cases—except one—the mentor and supervisor met during the site visit. In one case, the supervisor was not available during the site visit.

Three mentors said that they did not feel a need to contact the supervisor. Two mentors noted that if there was a need to contact the supervisors, they would be able to reach out. One supervisor expressed confusion on her role in the program and a desire to have known more about the project and the mentorship program, and to have gotten involved more.

Site Visit

All mentees and mentors found the site visits immensely helpful. Indeed, some would have liked more visits and/or more face-to-face meeting opportunities. For mentees, site visits provided an opportunity to bring together their mentors and supervisors with other relevant actors and stakeholders in their projects and to spend some quality in-person time with their mentors.

It allowed for all the other key players on the project to come around the table and meet face to face . . . and it was good to see everybody who was a key player and what their role was in the project, what they wanted the outcomes to look like, you know different ways of thinking about how to get to those goals. So it was very, very productive for outlining the project.

Mentors found the site visit helpful in learning about the context of the projects, the organizations, and sites involved and in meeting the mentee's supervisor. A few mentioned the visit as critical in tailoring their advice to mentees throughout the project, understanding the challenges faced by mentees, and learning about their competencies and needs in completing the work ahead.

Extremely useful. I mean it gave me a very insightful perspective about the challenges of implementing the project ... I mean it just really helped me to see the environment from a totally different perspective by having the site visit. Yes it was extremely beneficial. I don't think I would have had the same perspective or would have been able to give the same type of guidance and direction if it had not been for the site visit.

Mentees and mentors agreed that the visit provided an opportunity to further bond at a personal level and become familiar with each other's personalities, backgrounds, and working styles.

NCI originally suggested that the site visit take place about 3–4 months into the program but offered flexibility based on the needs and preferences of the mentees and mentors. Almost all respondents suggested that having the site visit take place early on in the program/project is ultimately better than waiting too long. Two specifically offered around 4 months as a possibility. (Four pairs seem to have met around 6–7 months, while two met at 3–4 months).

It would have been nice to have it earlier on. I think it would have helped us formulate a little better.... I think the skill that she specifically struggled with was project initiation . . . I just think we would have been better together earlier.

From my perspective it was good to have it fairly soon, so we can lay out the plan and everybody's on the same page about what we're doing.

One mentee noted that the visit was not particularly helpful to the mentor because no activity around the project was going on at the time of the visit. One mentor thought that the visit would have been more fruitful during the implementation stage as opposed to the planning stage. At least two mentees would have liked to have more face-to-face meeting opportunities throughout the project.

In terms of activities recommended for the visit, meeting the mentee's supervisor topped the list followed closely by meeting with program officers, policy officials, and other project stakeholders. Respondents talked about the importance of discussing everyone's roles in the work ahead as well as a timeline for the project. A few mentioned more generally ensuring that mentors get a feel for the context of the project, the physical environment, and all the actors involved. Two respondents suggested planning the visit around an organizational event or other educational opportunity to maximize the mentor's exposure to the mentee's organization.

One mentee was able to conduct a reverse site visit to the mentor, who was implementing the same evidence-based program. This visit was possible because they were located within the same general geographical area. Other mentees expressed an interest in being able to do a reverse site visit.

Mentors' Time Commitment

Mentors dedicated a significant amount of time to mentees throughout the program. Mentors reported spending anywhere from 4 to 12 hours a month with mentees and on program activities. This time commitment was consistent with the R2R Mentorship Program expectations for mentors of 1–2 hours per week. More time was spent on travel during the months when the site visit and the in-person meetings at NCI took place. Sixty to 90 percent of their mentoring time was spent communicating directly with mentees, while the remainder of their time on the program was spent reviewing materials, traveling, researching for materials, and participating in trainings and group discussions.

The majority of mentors found the time investment reasonable, though all seemed challenged by it either throughout the duration of the program or due to unforeseen events such as health issues or a change in employment status or employer. One mentor noted that the honorarium did not cover much of the time she spent on the program, including the amount of travel time, and that it was somewhat difficult to carve out time that is not protected. However, NCI had not intended for the honorarium to cover all the time mentors would spend in the program.

Mentor Gains

Mentors cited a wide range of benefits from their participation in the R2R Mentorship Program. A few noted enhancing their knowledge through the trainings, reading along with their mentee, and participating in the mentoring conversations. Two mentors mentioned how they welcomed the opportunity to learn more about and network with NCI. And two other mentors noted that they had gained colleagues and friends for the years to come. The majority of mentors noted that their participation in the program met or surpassed their original expectations when agreeing to participate in the R2R pilot program.

Research to Reality Website Engagement

The R2R website includes a publicly available site as well as a workspace available only to mentors and mentees. Within the private workspace, each pair has its own designated space to facilitate document sharing and discussions. As expected, throughout the course of the program the public site, being more widely accessible, received more visits overall. The mentorship About and FAQ pages received the most traffic followed by the pairs' public facing pages linking to their posted stories on their experiences and challenges while on the program. The public and private sites combined averaged close to 300 visits per month throughout the program across all pages. As described throughout the report, pairs used mainly alternate ways of communication—mainly telephone and email—thus, the private portions of the site received few visits after the initial stage of the program when trainings on the site took place and users felt compelled to at least give the private workspace a try. Private mentor-mentee home pages were visited anywhere from 75 to 206 times over the course of the entire program.

Private Web Space

Overall, mentors and mentees found the R2R private web space user-friendly and noted the usefulness of having a place to post stories centrally and accessible to everyone. Two program participants noted that RSS feeds (the automatic email notification subscribers received) and notifications definitely helped prompt them to go to the site to view new stories posted by mentees.

It was easy to use, easy to post stories and start conversations with other people.

Only one R2R participant experienced navigation issues on the web space but admitted not being tech savvy. A mentee noted that her mentor never used the site, which eliminated the possibility of the mentee ever using it as well. She suggested possibly offering training on the site not just at program start-up but as needed throughout the program.

Despite overall praising the site's functionality, mentors and mentees alike admitted to not having used the site as much as anticipated and typically as a supplemental rather than a primary communication channel. Many reasons were offered for this lack of engagement with the site. Three mentors and one mentee claimed not having enough time to use the site. This group noted busy schedules and the existence of many other professional sites with log-in requirements as well as social media sites that serve multiple purposes within a single platform.

There are just too many other sites that people are using and especially for me; I don't have the time to go to multiple social media sites or group sites where discussions take place.

One mentee suggested a lack of incentive to use the site which could be changed by imposing some requirements on mentees and/or mentors.

The level of engagement can be changed by having some type of requirement or task or related R2R project that needed to be worked out through using the platform.

One mentee brought up anonymity as a critical prerequisite to open communication not fulfilled by the current structure of the blog and discussion features on the site.

They really wanted you to have a picture so they could put a name with the face. So not only is it your name, but it's your name, it's your face, your institution, and that's how you're posting and so it makes it very difficult to have an open discussion.

Similarly, because the responses to the stories would be read by others, one mentor gave up writing them since she did not have the time to ensure that they were well written.

R2R participants could not think of changes that would readily help improve and increase site usage. Two mentors and one mentee noted that having to enter a password to log into the site's private space may be a real barrier; one mentor frequently forgot her password and had to repeatedly invent a new one. One

mentee felt that a live chat feature might have helped encourage communication between program participants.

Public Web Space

Mentors and mentees were a lot less vocal about the public web space. Two mentees agreed that the site is a great resource and that dissemination is the key to getting the public to use it.

Here is why I began to use it more frequently. I did not know about it before. I was introduced to it. . . .I started using it more when I started seeing how the information being conveyed related to my work. Once I started seeing that, I started going to it more frequently...people have to get over a hump to realize that it is not only there but it is useful.

One mentee described the public site as a “major resource” and noted the need to promote the use of the site among public health students and professionals.

The public site is definitely something that should be built upon because I think there are a lot of people out there in the public health world who are looking for tips, looking for projects or information that would really benefit from the website.

One mentee noted going to the public site early in the program and never visiting again.

Participants’ Recommendations for Program Improvements

While overall respondents expressed great satisfaction with their R2R Mentorship Program experience, the majority of them also had some suggestions for improvement. Four mentees and mentors thought that communication between mentees had to be encouraged throughout the program, such as through the mentee-only calls that the mentees initiated. Four mentors and mentees felt that more opportunities for in-person meetings between mentors and mentees would promote many of the programs goals, including the exchange of ideas and experiences on evidence-based practice and the networking of practitioners. Several suggested an additional site visit—perhaps to the mentor’s workplace—or a meeting at a conference like the American Public Health Association (APHA). Two mentees suggested including geography among the mentor-mentee matching criteria.

...it would be great if mentors and mentees can be in the same, I’ll just say geographical area.

Many supervisors felt that their role in the program had not been well defined.

Clarifying the level of participation and support they want from the employers would be really helpful.

. . . maybe the only change would be to be more specific if they wanted more supervisor involvement because if they did, in fact, want more, I did not know that.

Two respondents felt that some timelines and goals had been unclear to them and seemed to be shifting during the course of the program.

Numerous other suggestions for improvement were made by one respondent each: extend the program to 2 years, shorten the program to 1 year, employ video calls given the geographic spread of program participants, allow more time for the kick-off meeting, add writing to the list of competencies, consider eliminating the stories, rethink the use of the website, encourage the site visit to happen as early as possible, cater more to the long-term professional development of mentees, and organize a session where all program stakeholders could participate to encourage buy-in by the organization and beyond.

Recommendations for Program Improvements From Program Staff and the Working Group

Program staff and the Working Group were also very satisfied with the pilot program. Nevertheless they offered recommendations for program refinements:

- Clarify that the project is only one aspect of the program and give greater emphasis to the development of competencies.
- More consistency in what the mentees provide as deliverables is desired. More guidance should be provided to the mentees about what to submit and examples should also be given.
- The R2R Mentorship Program has a research component, particularly involving research translation, which is something that NCI supports. However, the program also has some very practice-oriented or applied components, which are not typically supported by NCI. Partnerships might need to be developed with other agencies such as the Centers for Disease Control and Prevention (CDC), the Health Resources and Services Administration (HRSA), the Agency for Healthcare Research and Quality (AHRQ), and the Department of Veterans Affairs' Quality Enhancement Research Initiative (QUERI).

- A variety of research studies could be conducted regarding future cohorts. These include the following:
 - Comparing mentee-mentor matches within state versus some kind of control;
 - Comparing the skills development of 25 mentees who have a mentor with a control group of mentees who participate in the program but do not have a mentor; and
 - Comparing the results of conducting an evidence-based project versus one in which using evidence-based strategies is optional.
- If the program expands, an application process would be needed for identifying individuals who were interested in being mentors, had experience with mentoring, and were comfortable with distance mentoring.
- Providing an opportunity for the participants to present as a cohort is an activity that would be ideally added in the future. This had been planned as a component of the pilot program but the annual conference where it was envisioned this would happen did not occur.
- Other approaches for getting program participants to become more engaged with the website could be tried. These include having one person begin a conversation and having others react to it or providing a topic to which all would respond.

Summary and Conclusions

The implementation of the R2R Mentorship Program followed the original plan quite closely. Strong administrative support helped to maintain the focus of all participants but also provided the participants with some flexibility regarding timelines and deliverables to help them address the challenges that they encountered in planning and conducting their projects. The challenges were many, involving both project-related and personal issues. These challenges arose at the very beginning of the program, when a partner backed out of one mentee's project, another lost her funder resulting in having to switch to a totally different project, and a third lost staff who were supposed to help with the project due to a reorganization. During the course of the 18-month program, job changes occurred for two mentees and two mentors and four of the six mentees had a change of immediate supervisor. Other participants experienced life changes such as maternity leave, health issues, and retirement. Nevertheless, all mentees persevered and were able to complete some or all of their proposed project. Project staff had not expected all participants to complete their projects during the 18 months of the program.

With the exception of the website, all program components were valued by most of the participants. Mentees varied regarding which components they especially valued. Components mentioned by two or more mentees were the relationship with their mentor, the relationship with the entire cohort, the trainings, and the projects. Mentors were more apt to name two program components as most valuable: the interactions among program participants, especially the mentee-mentor pairs, and communication or more specifically the telephone calls and webinars. Several mentors also mentioned the site visit, the project, and the trainings. All mentees considered the training to be helpful and effective, and all mentees and mentors thought that the program supports were adequate.

Although mentees and mentors praised the R2R website's functionality, they made very limited use of it despite prompting from the program staff. Lack of time was frequently mentioned as a reason that the site was not used more often. One mentee said that it was difficult to have an open discussion if your comments are linked to your name and institution. Similarly, a mentor wanted to ensure that her comments were well written but she did not have the time to do that.

All mentees, mentors, and supervisors agreed that mentees had shown considerable growth in the core competency areas, including ones that they had not originally chosen to focus on when applying to the program. This growth occurred as a result of the various program components, but especially the mentee projects, conducted with the support of the mentors. The mentee projects were intended to be a

mechanism for capacity building and it was not expected that full implementation would occur during the 18 months of the program. Nevertheless, some participants thought the focus of the program was the conduct of the projects rather than the building of core competencies.

The mentees entered the R2R Mentorship Program from different places in their careers and had different prior experiences in public health, so it was to be expected that they had different needs and developed in different ways. Mentees gained confidence through participation in the program and valued the networking opportunities. Skills and knowledge gained included project management, building partnerships, navigating the politics of local communities, adapting an evidence-based program and watching for fidelity, assessment and analytical skills, manuscript writing, and making presentations. All of these accomplishments occurred despite the challenges encountered, such as workplace and life changes and loss of funding resulting in having to switch projects. Thus, with the support of the mentors, the mentees learned how to negotiate the “real-life” contextual factors that affect the conduct of evidence-based projects, the overarching goal of the R2R Mentorship Program.

Mentors’ assistance to mentees varied throughout the R2R program to accommodate the full range of mentee projects and stage of project implementation as well as the varying competencies and life/work circumstances of mentees. Mentees noted receiving help toward improving their competencies, references to literature, help with planning their projects and keeping tasks on track, and help with writing and presenting their work. Most mentees also received career development support from their mentors.

Telephone was the preferred method of communication between mentees and mentors for more extensive conversations. Email was generally used for quick question-answer exchanges and for the exchange of documents. One mentee-mentor pair worked in the same city and was thus able to have face-to-face meetings. The site visit of the mentor to the mentee’s worksite was considered helpful by all participants. During the site visit, mentors learned about the context of their mentee’s workplace and projects, and in all but one case, met their mentee’s supervisor. One mentee was able to conduct a reverse site visit to the mentor, who was implementing the same evidence-based program; this visit was possible because they were located within the same general geographical area. Some mentees and mentors would have liked more visits and/or more face-to-face time.

Recommendations

The R2R Mentorship Program pilot was well designed and implemented. It is ready to be scaled up with a few caveats:

- Expanding the program would necessitate a different mechanism for obtaining mentors. An application process has been suggested by NCI, but this approach was not tested in the pilot program. Will a sufficient number of qualified individuals apply to be mentors? Will the strengths of the mentor applicants match the competencies that the mentee applicants want to develop?
- Due to the practice-oriented and applied components of the program, which are not typically supported by NCI, partnerships with other agencies might be necessary. Possible partners might include CDC, HRSA, AHRQ, and the VA's QUERI.
- If research studies (e.g., comparing mentee-mentor matches within state versus some kind of control) are conducted with future cohorts, in order to show significant differences, large samples would be needed and contextual factors such as type of organization in which both the mentees and mentors are employed and type of project conducted would need to be controlled.

In addition, some refinements to the program are recommended:

Competencies

- More emphasis should be placed on the mentee competencies the program aims to develop, and there should be clarification that the projects are a mechanism for developing the competencies. The latter will help guide both mentee and mentor efforts throughout the program.
- Many mentees improved their writing skills through participation in the program. However, they did not see the connection between writing skills and the advocacy and communication competency area. This connection should be made more obvious. Alternatively, NCI might consider adding writing as a distinct competency.
- The competency assessment form enabled mentees to indicate their perceptions of growth in the competency areas. However, the four-point scale limited their ability to show modest growth in a particular area. Therefore, use of a seven- or nine-point scale is recommended. Use of the retrospective rating at the end of the program is recommended for future evaluations. However, use of the scale in the application materials along with further description of its purpose might be useful in selecting mentees.

Stories

- The stories were a great challenge for the mentees during the implementation phase, but by the end of the program they found this activity to have been useful in developing their writing skills and maintaining a record of the progress on their project. One mentee even considered the monthly stories to be the most valuable component of the program. However, some mentors mentioned time challenges in responding to the stories. Therefore, the stories should be maintained, but perhaps they could be done less frequently, such as bimonthly. In alternate months, some other type of writing activity might be done, such as having program participants respond to a question.

Site Visits

- Consider having the site visits earlier in the program—during the planning phase. Earlier visits would help to establish the mentee-mentor relationship and enable the mentor to learn about the context in which the mentee is working. But there should be flexibility in the timing of the visit, particularly if much of the project planning took place prior to the start of the R2R program.
- Encourage site visits around program events that may provide educational opportunities or at least during days and times that multiple stakeholders are available for meetings with the mentorship pair.
- Some mentees also thought that a reverse site visit in which they went to the mentor’s place of employment would be an instructive activity. One mentee, who was close geographically to the mentor and was implementing the same evidence-based program, found the reverse site visit to be valuable.
- Consider pairing mentees with mentors that are more closely located geographically. Mentees especially thought that additional face-to-face time would facilitate their relationship with their mentor. Alternatively, as budget allows, finding more opportunities for in-person meetings (e.g., possibly leveraging conferences or regional meetings) could also help mediate the geographic divide.

Participant Support

- Encourage mentee only calls, although this may happen naturally if the program expands.
- Conduct a conference call with all mentors prior to the program kick-off meeting to review the program’s expectations for the mentors and suggest mentoring techniques that can be employed. Consider holding one or two mentor-only calls during the program as a mechanism for exchanging ideas and approaches to mentoring and reminding mentors of the program’s goals.

Organizational Involvement

- Supervisors of mentees need more guidance about program expectations. In addition, when a change in supervisors occurs, the new supervisor should be briefed about the project and its expectations.

- Additional support should be obtained from the organization in which the mentee is employed. This support would help during the transitions of supervisors, a common occurrence for the mentees. Perhaps, a senior organization administrator could sign off on the application in addition to the supervisor.
- Encourage the dissemination of the mentee’s work within the organization. Two presentations to the organizational staff could be strongly encouraged. The first presentation could occur after the planning phase has been completed to make the staff aware of what the mentee will be doing and the second toward the end of the mentorship to report on progress and lessons learned.

Website

- Given the very low level of usage, the program should rethink how private workspace should be used or if it is needed.
- If the private workspace continues to operate, administrators should consider making some adjustments:
 - Simplify, if at all possible, password requirements to the site to ensure that users are not frequently blocked out of the site.
 - Consider using an alternate existing internet platform—such as a social media site—that mentees and mentors may already be using frequently to encourage communication between program participants.
 - Continue employing the automated content update notifications to users, which seem to have been effective in prompting users to return to the site.

Appendix A

R2R Mentorship Competency Assessment Form



The following table lists the six competency areas that the Mentorship Program was attempting to target with the program activities. We would like you to **complete the assessment twice**:

1. Think back to before the start of the program – retrospectively rate your competency level **prior** to your participation in the program. For each row, put an X in one box under PRE-Program.
2. Rate your **current** competency level now that you have completed the program. For each row, put an X in one box under POST-Program.

| Competency | PRE-Program (1=none;4=expert) | | | | POST-Program (1=none;4=expert) | | | |
|--|----------------------------------|--------------------------|--------------------------|--------------------------|-----------------------------------|--------------------------|--------------------------|--------------------------|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Analytic/Assessment Skills | | | | | | | | |
| Recognize how the data illuminate ethical, political, scientific, economic, and overall public health issues | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Identify relevant and appropriate data information source | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Make relevant inferences from data | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Determine appropriate uses and limitations of both qualitative and quantitative data | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Policy Development/Program Planning Skills | | | | | | | | |
| Collect, summarize, and interpret information relevant to an issue | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Utilize current techniques in decision analysis and health planning | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Develop a plan to implement policy, including goals, outcomes, and process objectives and implementation steps | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Cultural Competency Skills | | | | | | | | |
| Apply principles of cultural appropriateness to program design | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Interact sensitively and effectively with persons from diverse backgrounds | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| Competency | PRE-Program (1=none;4=expert) | | | | POST-Program (1=none;4=expert) | | | |
|--|----------------------------------|--------------------------|--------------------------|--------------------------|-----------------------------------|--------------------------|--------------------------|--------------------------|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Identify role of cultural, social, and behavioral factors in determining delivery of public health services | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Develop and adapt approaches to problems that take into account differences among populations | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Public Health Science Skills | | | | | | | | |
| Apply basic public health sciences | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Identify and retrieve current relevant scientific evidence | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Identify the limitations of research and the importance of observations and interrelationships | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Partnership, Collaboration, and Community Engagement Skills | | | | | | | | |
| Define a health issue according to the needs and assets of the population/community | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Establish and maintain linkages and/or partnerships with key stakeholders (including traditional, nontraditional, and academic partners). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Evaluate expertise and resources, including partnerships and collaborations, needed to implement evidence-based cancer control interventions | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Utilize negotiation and conflict resolution skills to build community partnerships | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Advocacy and Communication Skills | | | | | | | | |
| Effectively present accurate demographic, statistical, programmatic, and scientific information for professional and lay audiences | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Advocate for public health programs and resources | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Identify policy options and write clear and concise policy statements | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Are there any other competencies/skills that you feel you built as part of this program? If so, what?