Published in final edited form as:

J Technol Hum Serv. 2016 ; 34(3): 241–255. doi:10.1080/15228835.2016.1186581.

Using Technology to Facilitate Collaboration in Community-Based Participatory Research (CBPR)

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Abstract

This study explores the use of Computer-Supported Collaborative Work (CSCW) technologies, by way of a computer-based system called iCoherere. This system was used to facilitate collaboration conducting Community-Based Participatory Research (CBPR). Data was gathered from 13 members of a Community Collaborative Board (CCB). Analysis revealed that iCoherere served the following functions: facilitating communication, providing a depository for information and resource sharing, and allowing for remote meeting attendance. Results indicated that while iCoherere was useful in performing these functions, less expensive technologies had the potential to achieve similar goals if properly implemented. Implications for future research on CSCW systems and CBPR are discussed.

Keywords

Community based participatory research; computer supported collaborative work; impact of technology; information & communication technology

Introduction

Community-Based Participatory Research (CBPR) is a unique approach to research that has the power to reduce health disparities and transform communities (Nicolaidis et al., 2011). CBPR methods require researchers to involve the communities of study in each stage of the research process by utilizing the knowledge and expertise of those same individuals and communities being researched (Israel et al., 2008; McKay et al., 2007; Pinto, Spector, & Valera, 2011). In this way, an action-oriented CBPR approach can create solutions that are then implemented by the communities and populations being studied (Olshansky, 2012). CBPR methods have been used to address a wide variety of social problems including HIV-

related health disparities, food insecurity, substance use, recidivism, and sexual harassment (Berkley-Patton et al., 2010; Carney et al., 2012; Cheatham-Rojas & Shen, 2008; Windsor, 2013).

CBPR is often conducted through a Community Advisory Board or a CCB (Pinto et al., 2011). These boards comprise consumers, community residents, service providers, and researchers who work together on a CBPR project. While there are many benefits associated with CBPR, it is a process that takes a great deal of time as it involves a diverse group of participants. In order for CBPR to be effective, trust and cooperation must exist between participants who may be inexperienced working with one another (e.g., academic researchers and community members in a low-income neighborhood; Smith & Jemal, 2015; Windsor, Jemal, & Benoit, 2014; Windsor, Pinto, Benoit, Jessell, & Jemal, 2014). While boards usually meet face-to-face on a regular basis (e.g., monthly or bimonthly), there is still the need for communication and the completion of tasks between meetings in order for a research project to progress. Additionally, many members of CCBs are not always able to attend all meetings but must remain involved in order for the research to be truly participatory.

Computer-Supported Cooperative Work (CSCW) technology has the potential to alleviate these challenges and enhance collaboration by facilitating communication and engaging people of diverse backgrounds. An interdisciplinary field, CSCW is the study of how technology can improve or impair collaborative activities and augment social interactions (Ackerman, 2000; Grudin & Poltrock, 2012). Since its emergence in the mid-1980s, the field of CSCW has studied a vast array of technologies including social media, wikis, instant messaging, and cell phones apps, exploring how these systems affect real-life relationships and the progress of collaborative work (Fitzpatrick & Ellingsen, 2013; Grudin & Poltrock, 2012). According to Grudin and Poltrock (2012), human behavior can contribute to collaborative work through the following means: communication, sharing information, and coordination. However, human behavior in the context of CSCW can also lead to pitfalls if not properly managed. As Janssen & Bodemer (2013) point out, computer-supported environments can offer a limited amount of perceptual information and awareness of what others are doing compared to face-to-face efforts. When effectively utilized, however, CSCW systems have the potential to positively impact collaborative work.

While CSCW has the potential to enhance the facilitation of CBPR and build community capacity, little research has explored how technology can impact CBPR methods, especially from a CSCW framework. Shoultz and colleagues' (2006) CBPR project on Intimate Partner Violence among multicultural populations found that "partnership related issues" (e.g., the need to build trust among stakeholders, distribute responsibility, share opportunities for leadership) were ameliorated through e-mail communication, including the creation and circulation of meeting agendas before meetings and important documents sent to those who had missed meetings. This, however, is one of only a few CBPR projects that reports on the role of technology on the collaborative process. Thus, the current article begins to address this gap by reporting findings from an evaluation of iCohere, a fee-based web platform, during a 4-year period of CBPR conducted by the Newark Community Collaborative Board (NCCB).

iCohere and the Newark Community Collaborative Board (NCCB)

iCohere is an all-in-one computer-based, online platform that has been used to facilitate collaboration among organizations including the National Institute of Health, the Department of Labor and the American Society of Association Executives (iCohere, 2011). It includes an online forum where communities can post announcements, engage in discussions, manage tasks and build relationships. iCohere provides a number of features for both Mac and PC users that have the potential to enhance collaboration, including document management tools, discussion boards, webinars, networking areas, member profiles, text chat, calendars, blogs and project task management tools. It is compatible with mobile devices, although this feature was not available when the NCCB began using it.

Our article reports the experiences of the NCCB and its use of iCohere as well as other CSCW technology to achieve collaborative goals. The NCCB was funded by The Center for Behavioral Health & Criminal Justice Research, which was supported by the National Institute of Mental Health (NIMH). The NCCB was created in 2010 to promote research addressing health disparities and reentry issues in Newark, NJ. Over the past several years, the NCCB has developed and evaluated a manualized health intervention, called *Community Wise*, for people with a history of substance use returning to Newark from incarceration (Windsor, 2013; Windsor & Jemal, 2012; Windsor, Jemal, & Benoit, 2014; Windsor, Jessell, Lassiter, & Benoit, 2015; Windsor & Murugan, 2012; Windsor, Pinto, Benoit, Jessell, & Jemal, 2014).

Methods

The present research is part of a larger process evaluation of the NCCB.¹ The process evaluation highlighted iCohere as providing a “unique aspect to building a cohesive NCCB” (Smith & Jemal, 2015, p. 5). Thus, this case study set out to evaluate the functionality of iCohere through the use of a qualitative methodological approach. Specifically, we utilized thematic analysis to categorize the patterns which emerged in the interviews of the participants during baseline, 12-month follow-up and 4-year follow-up. Thematic analysis is a categorizing strategy for qualitative data analysis (Boyatzis, 1998). This data analytic strategy helps move qualitative analysis from a broad spectrum to a more manageable discovery-driven pattern assessment process (Boyatzis, 1998; Braun & Clarke, 2006).

This study draws from in-depth interviews, observational data and usage logs² of NCCB members generated by iCohere. Thirteen in-depth interviews with NCCB members at baseline, 11 members at 12-month follow-up and seven members at 4-year follow-up were analyzed for the current article. The interviews were conducted by trained graduate students in person or via telephone and lasted between 30 to 60 min in length. Answers were digitally recorded, transcribed, and stored in FileMaker Pro software. The interview protocol³ asked

¹An evaluation of the structure and dynamic process of a CCB that had the goal of creating an evidence-based substance abuse/health intervention for previously incarcerated individuals. The evaluation shed light on a process that illustrated the integration of community-based and scientific knowledge to address the health, economic, and societal marginalization of low-income, minority communities (see Smith & Jemal, 2015).

²Number of days that participants logged into the site and the total amount of time they spent using it.

³The current interview questionnaire is part of a larger interview protocol for the process evaluation of the NCCB.

NCCB members to discuss the role of iCohere and other computer-based technologies in the NCCB's communication and collaborative process during baseline, 12-month follow-up and 4-year follow-up. All NCCB members' names were changed to pseudonyms to protect confidentiality.

Data analysis

Qualitative data collected were analyzed through an interpretive and descriptive lens. Two of the researchers carefully read and reviewed the transcribed interviews to identify codes and emergent themes at 12-month follow-up. The second set of interviews at 4-year follow-up relied on one researcher to identify codes and emergent themes. The interview instrument provided an a priori coding tree on the relevance and use of iCohere by NCCB members. These original codes (guided by the interview questions themselves) were considered domains as a way of reducing the data to a more feasible level. From there, data underwent open coding until achieving theoretical sufficiency where data were classified, trends surfaced, and coding did not reveal new insights about concepts (Charmaz, 2006).

During the second phase of analysis, we began to consider how the codes merged to form overarching themes in the data. The themes provided meaning to the data from which patterns of perceptions and functionality about iCohere were formulated. Moreover, the data tracking capability of iCohere allowed for triangulation of participant responses. Specifically, usage logs produced by iCohere were analyzed to uncover any discrepancies in self-report, providing credibility to the results. Demographics of the NCCB are reported in Table 1.

Results

The main aim of this article was to explore the functionality of iCohere in a CCB. Data analysis showed that iCohere played a role in improving collaboration among NCCB members by way of facilitating the exchange of information and developing relationships. In addition, the analysis of the data also reports on the discontinuation of the use of iCohere and the implementation of more commonly used web-based technology in order to continue collaboration within its members. Four domains emerged from the data: (a) varying levels of technological skill among NCCB members, (b) communication among members, (c) information sharing, and (d) allowing NCCB members to attend and view meetings remotely.

Varying levels of technological skill among NCCB members

Interviews revealed that NCCB members were diverse in their level of skill and comfort using CSCW technology, including iCohere, but that these differences were surmountable. Over time, members with varying levels of technological skill became more confident and engaged with iCohere. To assess members' familiarity with computer-based technology and how this may have affected their experiences with iCohere, members were asked at baseline about their knowledge and comfort using websites such as Facebook, Myspace, and/or online dating sites (see Table 2). Out of 11 responses, 82% ($n = 9$) of members felt comfortable using some sort of social networking site. However, even those who expressed

comfort with social networking sites described ambivalence towards other computer-based technologies such as iCohere at baseline:

Kelly:

... I'm struggling with the web-based technology. My partner solves most of the problems with the computer ... I put that off on somebody else ... but this is an interactive web-based technology so I have to do it myself, you know, I am working on it.

While they did not report being unfamiliar with the social networking sites inquired about, a few users reported being "slow" at first in using iCohere.

Rachel:

Well, the one thing I found out about was that once you sign up, you know, you've got your login for the website. My computer crashed and I expected everything to come back the way it was, and I couldn't, so I couldn't get in the website for a couple days. So, that taught me how to go back and reset all my passwords, because usually somebody else was doing them for me. But, yeah, that helped me work through some other web-based technology things I didn't know how to do. I like the website. I mean it's easy to use. I think I probably go on there once or twice a week, depending on the e mails that come in, or there's usually something that triggers me to go on there, and usually, if one of you sends an e mail, I'll go see what the conversation is or see if it's something I need to respond to.

Twelve months later, all of the members reported feeling comfortable with social networking and computer-based technology as it related to iCohere. Usage logs produced using iCohere administration capabilities supported an increase in use and comfort with the site over time (see Table 3).

Data analysis at 4-year follow-up discovered the replacement of iCohere with the implementation of new web-based technology. Interviews suggested that one of the main reasons was the cost. Technologies such as Dropbox and GotoMeeting were used but members described having problems using them and, compared to iCohere, there was less training and support on how to use them.

Mary:

[Dropbox] was very confusing at first. I think some of us didn't understand the instructions for accepting the invitation and actually how to use it and I'm looking at my Dropbox folder now and I don't see the NCCB. So I don't know what that means. I don't know if it's right. I think the [new] technology, I think we didn't follow through

Rachel:

See Dropbox, something went wrong with my computer at some point and when they set it up again, I don't have everything in Dropbox that should be there. So I don't have access to that ... I just have a folder on my desktop where I move everything now and save it. I would like to be able to use Dropbox.

This change in CSCW technology was a significant one which interfered with the exchange of information but not with collaboration among the members of the NCCB. These commonly used technologies were selected based on their popularity, which may have led to the assumption that they would be integrated more easily than a less familiar online platform such as iCohere.

iCohere and the facilitation of communication

Generally, iCohere proved to be a useful tool for enhancing communication among the NCCB. Enhancing communication was interpreted as the ability for members to send and receive mass e-mails through the site and access a member directory with contact information for all members. At baseline, NCCB members were asked about their thoughts on how iCohere would add to the communication between the members of the NCCB. Eighty-two percent ($N=9$) indicated a belief that iCohere would facilitate communication among the group (see Table 4).

At the 12-month follow-up, when the members had familiarized themselves with iCohere, all members expressed that the site was useful in enhancing communication among the NCCB. Interestingly, despite self-reported low personal usage among a few of the members, all members believed iCohere helped the board communicate more effectively.

Julian:

The website [iCohere], is up, so that's been helpful. I don't know if everyone uses it as often as they should, but it is a tool that we know we have in our toolbox if there's something that needs to be distributed on a mass level to everybody fast.

At 4-year follow-up, iCohere was no longer being used but most members did not feel the loss had cut down on their communication. They described how the NCCB had developed strong enough relationships and a commitment to the work that allowed them to remain engaged without it. They also reported the fact that they could e-mail one another directly without going through the iCohere system.

Mary:

We have a pretty good momentum and the board is down to a core, but it was [helpful], and I know one of the nice things about iCohere is we would get notified if somebody posted something ... but we've also matured to a point where we're communicating more frequently by e-mail

A couple of members described preferring to speak with one another face-to-face as opposed to using technology and they did not see the loss of iCohere as problematic for this reason.

Ryan:

No, again, I've always thought that face-to-face is so much preferable but obviously you have no choice sometimes. The thing that happens when you're doing it electronically is you lose nuance. You're not reading people's expressions, you're not reading their body language. So much of our communication is nonverbal and you virtually lose all of that when you do it electronically. Again, there're circumstances where you don't have a choice. That's the way you're gonna have to

do it. Overall though, I think that nowadays we communicate much too much electronically, not enough face to face and we don't dialogue ... I didn't use it [iCohere] enough to get real comfortable with it. I used it almost when forced to. Yeah, I mean, I'm being honest.

Information sharing and storage of NCCB documents

Members expressed that iCohere facilitated collaboration by serving as a depository for important documents, allowing members to easily retrieve NCCB materials when needed. Several of the NCCB members indicated that the best feature of iCohere was the ability to access documents, such as meeting agendas and minutes that they had missed in previous meetings. The ability to retrieve information such as the location of a meeting was also discussed as convenient. Members reported that iCohere increased information sharing among the NCCB by allowing members to easily post information about relevant events and resources. Some of the information posted was related to community events outside of the NCCB involving prisoner reentry issues, for example. For the most part, the use of iCohere was reactive and not proactive. This meant that most of the usage was a result of whether an announcement or e-mail was sent to the members. Yet, in this way, all members were collectively engaged.

Alexandra:

Just updating and following up with the information that was missed at a previous meeting, reading minutes and notes and, you know, posts from other board members is good. Information that you may not be aware of may be posted up there. It's not always about things happening within the board. It's just, you know, community information which is good.

Interviews at 4-year follow-up supported the usefulness and need for information sharing and document storage as a function for collaboration. The NCCB implemented the use of Dropbox to serve this purpose, but members did not report using it. The most common complaint members had about the absence of iCohere was their inability to access important documents and share information with one another as they had before.

Mary:

One of the things I found valuable about iCohere ... is that it's a place to permanently store things that we might want to draw on. So literature on critical consciousness for example, or reentry or whatever the issue might be, community based participatory research, all of those things. If we had, it's like a virtual library and we're gonna have to go back to those sources as we, you know, move on.

Julian:

Well just having the pool of resources that were accessible at any time [was helpful]

....

Convenience for members (attending/viewing meetings remotely)

At 12-month follow-up, members reported using iCohere to facilitate collaboration through the use of its video capabilities, which allowed members to attend meetings remotely or

view videos of the meetings at a later time. While this was a function that iCohere served for the members, some complained that the video feature used to watch previously recorded meetings and/or attend meetings through live streaming was not always successful. A third of the members reported that this feature, which many members looked forward to in the beginning, was unsatisfactory.

A few members emphasized that the malfunction of the video capability and/or live streaming was a hindrance to the collaborative process. For example, one of the functions that was intended to allow members to attend the meetings and participate from a distant location, had considerable issues with the streaming and/or lack of sound, which made participation through this method an arduous process.

Liz:

... the live streaming hindered our work. The web-based technology malfunction was often a distraction in the meeting and people who were trying to attend online had a hard time communicating with the board. It became so complicated we decided to quit using it.

One of the members described her dissatisfaction with the video function, which she attempted to use several times. First, she tried to use it to watch a video of a missed meeting but it did not upload correctly; the streaming was slow and she was discouraged to continue using this feature. She stated:

Mary:

I couldn't just sit through an hour and a half like that because it would have taken 3 hours to just load on the laptop.

She also used this function to participate in a meeting from a remote location but not all of the sound functions worked properly and she was forced to type her responses in order to communicate.

The 4-year follow-up interviews revealed that these problems were not unique to iCohere, but rather to a variety of CSCW technology the NCCB tried for members wishing to attend meetings remotely (e.g., GotoMeeting, phone conferencing, Skype). Members described similar problems with sound and visual quality, which at times disrupted members' ability to stay engaged and communicate throughout the meeting. Phone conferencing without visual capabilities was problematic as members reported feeling the remote member was disconnected and not able to be as fully involved in meetings.

Liz:

GotoMeeting it didn't work too well either I think for the same reason that iCohere didn't work. We really didn't have the equipment I guess. So and then phone conferencing so far has worked, but I think I mean the people who have used it can probably speak better than I can. I feel like it's a little disconnecting because you don't see the person there so it's very easy for people in the meeting to forget that there is somebody on the other end and I know that sometimes it's difficult to hear them.

Interestingly, Sharon, a member who left the NCCB after she was no longer able to attend meetings regularly, did not feel the technological problems related to her inability to attend remotely.

Sharon:

There were a lot of options there and, I think, you know, now looking back on it, I should have used some of those options in terms of being on the phone or on the web to be present at the meeting. I mean not physically being there, but still being a part of the process instead of just not coming to a meeting. There were ways that I could have attended a meeting if I wasn't able to physically be there. So I think that, you know, the appropriate systems were in place to give people the means and the options to connect with the board or respond to the board in any way that was suitable.

Discussion

To contextualize the previous results, this research adopted Pinto and colleague's (2011) CCB conceptual framework. In order to implement a successful CCB, Pinto and colleagues identified six systematized steps to engage members in procedural and substantive research roles. These were step 1—engaging membership, step 2—developing relationships, step 3—exchanging information, step 4—negotiation and decision making, step 5—retaining membership, and step 6—studying dynamic process. Based on this framework, iCohere was part of the systematic structure and the implementation of the NCCB. It allowed NCCB to accomplish steps 2 and 3 of the CCB structure (Pinto et al., 2011).

The information and results provided in this article will be most useful to members of established (or future) CBPR and CSCW researchers. The results provide key elements that must be considered when implementing technology as a way to develop relationships, exchange information, and enhance collaboration within CCBs. Our analysis revealed that iCohere performed several functions in assisting members throughout the collaborative process. We found that iCohere contributed to the CSCW collaborative functions described by Grudin & Poltrock (2012) and step 3 in Pinto and colleagues (2011); it supported communication, the sharing of information and resources, and the coordination of NCCB goals. iCohere enhanced communication among members and allowed for communication *on participant's own time*; it served as a depository for information sharing and resources, and allowed members to view meeting videos and attend meetings remotely. When iCohere was no longer in use, NCCB members were still able to perform these same functions, albeit with some difficulty. Members identified these difficulties as surmountable and indicative of the need for more training and support for alternatives.

While the use of technology, including iCohere, was useful to the CBPR process in many ways, the challenges experienced by the NCCB offer important lessons for future work. Difficulties described by NCCB members in using some of the technology relates to a problem in the CSCW field referred to as the “social-technical gap” (p. 180). According to Ackerman (2000), “... there is a fundamental mismatch between what is required socially and what we can do technically” (p. 198). In order to use technology successfully, we must

understand this gap and how people use technology in their lives and work and how these technologies can best capture the social nuances and contexts of people's lives (Ackerman, 2000; Munson, Cavusoglu, Frisch, & Fels, 2013). Our results support the literature on CSCW's social-technical gap and offer techniques for bridging it in order to facilitate the CBPR process. We found that the technological skill of participants varied vastly and that training for all technology had to be implemented in order for new systems to be used. Proponents of CBPR and CCBs call for close attention to the communication process, especially when bridging people of different backgrounds (Pinto et al., 2011; Strickland, 2006). While technology has the potential to enhance communication, it is important to remember that stakeholders and communities vary in their formal and informal training skill sets, backgrounds, and communication preferences. Before new technology is introduced into a CBPR project, CCB members should be assessed for technological skill, training should take place on how to use the technology, and plans should be in place for participants who may need additional support. It may also be beneficial to have a designated participant with strong technical skills available to provide support and step-by-step troubleshooting. Some options such as iCoHere and eCollege offer technical support and trainings as part of their service.

Another important consideration when selecting and introducing CSCW technology into the CBPR process is cost. A limitation of iCoHere that ultimately resulted in the NCCB discontinuing its use was its high financial cost. Ultimately other options, such as Dropbox, GotoMeeting, and basic e-mail, served similar functions but with no expense. Each CBPR project team should assess their particular technological needs within the limits of their budget.

Limitations

This study has a few limitations. These data were collected through in-person or via phone interview surveys. Thus, the limitations of self-reports are applicable to this study. Since these were retrospective accounts there may have been an issue of recalling exact times or usage of the technology. Nevertheless, including usage logs in the analysis reduced the impact of recall. For the most part, interviewers felt that respondents were honest about their answers. In addition, although this sample was racially and ethnically diverse, the distribution of educational level did not demonstrate substantial variation. This was an issue pertaining to the larger study, however, and could have impacted how members felt about discontinuing iCoHere and their knowledge/ease of accessing other computer-based communication strategies. Lastly, it is important to consider the contextual factors when attempting to apply these results to other locations and CCBs. It is recommended that research partners understand the challenges identified previously when testing this framework with other CBPR efforts.

Conclusion

CBPR is a research methodology with the ability to reduce health disparities and overcome implementation challenges. However, it can also be time intensive given the involvement of many parties. CSCW technology can be a means to facilitating the CBPR process by helping to build relationships and forge connection and communication in between face-to-face

meetings. Despite the potential usefulness of this technology and the popularity of CBPR methods, however, there is little research on how this technology can facilitate the CBPR process. We begin to address this gap in the literature by evaluating iCohere and other technology used during 4-years of a CBPR project. There is a need for future research on this topic going forward.

Acknowledgments

The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Mental Health, the National Institutes of Health, CBHSR, or Rutgers University. We would like to acknowledge the contributions made by all members of the Newark Community Collaborative Board in the development of this work.

Funding

The project described was supported by the Center for Behavioral Health Services and Criminal Justice Research (CBHSR), which is funded by National Institute of Mental Health, award number P30MH079920.

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Table 1

Sample characteristics of the Newark Community Collaborative Board (NCCB).

Characteristics	Total N (N) baseline	Percent (%) baseline	Total N (N) follow-up	Percent (%) follow-up
Gender	13		7	
Female	6	54.0	4	57.0
Male	7	46.0	3	43.0
Race	10		7	
White	2	20.0	2	29.0
African American	5	50.0	3	43.0
Hispanic	2	20.0	2	29.0
Mixed	1	10.0	0	0
Age	10		7	
26–35	4	40.0	0	0
36–45	2	20.0	4	57.0
46–55	3	30.0	2	29.0
56–65	1	10.0	1	14.0
Education	11		7	
High school graduate	1	9.0	0	0
Some college	1	9.0	0	0
Bachelor's degree	2	18.0	0	0
Graduate degree	7	64.0	7	100.0
Role	11		7	
Consumer	1	9.0	0	0
Provider	3	27.0	2	29.0
Researcher	4	36.0	4	57.0
Community member	2	18.0	1	14.0
Government	1	9.0	0	0
Employed	11	100.00	100.0	11

Table 2

Familiarity with social networking and/or online dating sites.

Comfortable with online social networks?	Baseline (pretest) (<i>N</i> = 11)	Follow-up (posttest) (<i>N</i> = 9)
Not comfortable	18.0% (<i>n</i> = 2)	0.0% (<i>n</i> = 0)
Comfortable	54.5% (<i>n</i> = 6)	77.7% (<i>n</i> = 7)
Very comfortable	27.3% (<i>n</i> = 3)	22.2% (<i>n</i> = 2)

Note. Missing values were not used to calculate percentages.

Table 3

Number of days and total time spent by Newark Community Collaborative Board (NCCB) members (September 2010–September 2011).

Participant	Days accessed	Total duration (hr/min)
Ryan	13	3 hr 57 min
Mary	70	9 hr 38 min
Sharon	41	24 hr 30 min
Matt	2	13 min
Lucy	2	8 hr 5 min
Hank	17	32 hr 0 min
Rachel	55	3 hr 12 min
Ethan	36	5 hr 23 min
Kelly	19	4 hr 16 min
Julian	64	17 hr 36 min
Liz	158	224 hr 46 min
Barb	5	6 min

Note. Matt and Barb and Lucy's days and total time spent were low as they discontinued their involvement with the NCCB in October 2010, November 2010, and March 2011, respectively. Additionally, the rates for two members are missing.

Table 4

Web-based technology to complement communication.

	Baseline (pretest) (<i>N</i> = 11)	Follow-up (posttest) (<i>N</i> = 10)
Hinder	0.0% (<i>n</i> = 0)	0.0% (<i>n</i> = 0)
Enhance	81.8% (<i>n</i> = 9)	100% (<i>n</i> = 10)
Unsure	18.2% (<i>n</i> = 2)	0.0% (<i>n</i> = 0)

Note. Missing values were not used to calculate percentages.