Using Social Media to Create Virtual Interest Groups in Hospital Libraries

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Abstract

Social networking has positively impacted the realm of human interactivity. Although libraries have traditionally been viewed as a place for research and information seeking, Web 2.0 technologies, such as blogs and Instant Messaging (IM), are starting to change users' experiences of current library services.

In this study we aim to examine whether the opportunity for enhanced researcher-librarian interaction that Web 2.0 tools provide creates a synergistic experience for health research interest groups. In addition, we will explore whether these tools increase efficiency in obtaining information and/or improve quality and quantity of research evidence.

This study was conducted by two hospital librarians working in tertiary hospitals. An email was distributed to the health care professionals from these two sites, inviting participation in two online research interest groups: Clinical Practice Guidelines and Patient Safety. A pre-survey of participants was intended to assess the comfort level of this group with Web 2.0 tools and to gauge their level of use both professionally and personally. We created a Virtual Interest Group (VIG) environment to incorporate the following Web 2.0 tools into the existing library website: user blogs, enabling commenting to facilitate a knowledge-sharing atmosphere; chat software to assist with easy access to acquired information; and Delicious tagging for a more systematic documentation of grey literature. A post-survey was conducted three months later in order to re-evaluate the participants' experiences with social media, in particular with the online interest group environment.

Findings from this study can be used to highlight future trends around the discoverability of grey literature with social media tools and to establish a basis for integrating Web 2.0 tools in library websites and services.

Introduction

Online social media, since its introduction, has transformed the means of human interaction and communication in the twenty-first century. Social media, “a group of internet-based applications that …allows the creation and exchange of user generated content” (1), has advanced users’ capacities in publishing information, communicating with others, and connecting and sharing with like-minded people. Social tools such as Facebook and Twitter have become dominant tools for creating knowledge, accessing information, collaborating and networking within and beyond a physical community.

Teaching and learning has often been a field where innovations in computing technology are adopted earlier than in other domains. (2,3) Educators have, therefore, begun to explore how new paradigms of learning, such as Education 2.0, can be implemented using social media tools, including Wikis, blogs, online groups, virtual worlds, social tagging and bookmarking. These applications enable innovative behaviours in acquisition, access, processing, retrieval, presentation and distribution of information within the learning space. (4-7)

The impact of social media technologies is not pervasive in education; everything is affected, especially in the scholarly and research activities. Our society is increasingly interconnected through social media. Social networking can assist in developing online resources, providing a collaborative research environment. Knowledge creation and scholarly communication are moving away from a world in which a few producers generate content to transmit to a set of users. Instead, research dissemination now has various routes via a wide range of collaborative tools. (8) The influence of social media on the rankings of articles has begun to be acknowledged. Binfield (2009) reviewed the metrics used by Public Library of Science (PLoS) to analyze usage of articles appearing in their journals. They include not only page views and downloads, but also citation counts, comments, ratings, social bookmarks, and blog coverage. (9) More research data is being

made available online, thus greatly impacting the perception of research results. Several well-designed studies (10-14) have also been published on scientists' use of Web 2.0 for information seeking of scientists, the impact of new technologies on health research, and dissemination of information through social networks.

Collective learning and social media

The advent of social media technologies imparts a new formative experience in collaborative group learning, which is often referred to as *Collective Learning*. Related to an instruction model known as active learning (3), collective learning focuses on "the process of learning and ensures learners are cognitively engaged." (15, p38) Collectively, the individuals can discuss, explore and develop educational content, and answer each other's questions. This enhances the engagement of learners with content, as well as their capability to actively learn and collaborate. (16)

While control is shifted from instructors to learners, undoubtedly, there are challenges to overcome. The changing roles require learners to have a strong motivation to work in groups to drive the self-directed learning process. When learning takes place through online social interaction, it challenges collaborators with sets of uncertainties and assumptions and the need to develop mutual trust between peers in a virtual research environment. (15) Furthermore, the success of learners and the unstructured process are extremely difficult to measure.

The potential that social technologies, such as blogging, social bookmarking and social tagging, can offer foster immediate dialogue and stimulation. These applications feature the capability to support virtual social interactions and build social communities, all promising an easy-to-use, more open and dynamic platform.

The collective learning paradigm is extremely helpful in organizations (17), where employees are expected to explore, experience, and teach themselves new technologies without formal training. Primary characteristics of social media, including accessibility of most social media sites; flexibility in refining and altering; currency and usability of these technologies help in supporting collective learning based environments. Even the social media categories (namely, *wikis, blogs, microblogging, media sharing, social bookmarking, social friendship networks and social news sites*) (15, p40) align well with the collective learning model's goals of interactivity and proactivity. The presence of collective learning is evident in organizational learning groups such as communities of practice and virtual research environments (VRE) via social media platforms. In the context of a VRE, social networking sites such as Facebook provide an easy means of finding research partners and keeping them in touch with changing interests. Building a virtual community platform (18-20), where subject information guides, information gateways, literature alerts, literacy training and chat references are one-stop accessed, gives subject users a more convenient and more attractive environment to preserve their research results and to share their experience.

Social media and libraries

Libraries are major information providers and facilitators. As new communication technologies support collaboration among scientists, researchers, students, faculty members and all other users, it offers libraries and librarians the opportunity to be more proactive in facilitating the use of social networking for resource finding and sharing. Joe Fernandez (2009) (21) presented a SWOT analysis of social media in libraries, allowing libraries to see the strengths and weakness that social media offer, recognize the opportunity of using social media to develop a more dynamic relationship between themselves and their users, and develop awareness of the threats that they might face when getting into the Web 2.0 realm and help them respond to the challenges accordingly.

There have been numerous studies highlighting the ongoing research activities on the integration of social media in library information and knowledge management services. The Web 2.0 tools are becoming mainstream and are increasingly more and more expected by users. For example, blogs are a popular tool used by librarians and information scientists to collaborate, connect and instruct, or to provide news and current awareness services to users (22), both as a form of publication and as tools for marketing their resources and events. (23) (4) Moreover, Bar-Ilan (2007) (24) proposed that library blogs are ideal for disseminating, commenting, and expressing opinions. Social bookmarking services such as Delicious allow users to tag (describe), save, manage and share web pages. Various library subject/resource guides are created using this social bookmarking service to facilitate the retrieval of information on the Internet.(6) Information seeking behaviour within the virtual world of Second Life (5) was found to be rich, complex interactive with multiple facets. Health libraries develop integrated personal information portals (25) to promote evidence-based information to health information consumers. Information literacy programs are a core service component in nearly all types of libraries, but a challenging one to meet. Learners have found themselves more engaged through interactive online learning modules created by Web 2.0 technologies. (26)

Social networking and virtual interest groups (VIG)

Social networking, incorporating Web 2.0 technologies, has transformed the way information professionals are creating, storing, retrieving and disseminating information. Frameworks have been developed to facilitate the development of virtual communities. (28,29) Virtual interest groups (VIGs), are online communities that use social networking sites to allow collaboration between users logically grouped with common shared interests. (30, 31) Research has shown that the VIGs created and facilitated via social media platforms provide an integrated environment that supports the work of a community or group of collaborating researchers. (19)

Background

The study was conducted in two tertiary hospitals in Calgary, the fourth largest municipality in Canada and largest in Alberta. (27) The Health Information Network Calgary, a network of hospital libraries located at six major Calgary sites, provides information and library services to patients, the public and health care professionals working in the Calgary Zone and in Cancer Care. Collaboration across disciplines, geographical distances and political boundaries is increasingly accomplished in the hospitals where we provide information support.

Two key subject areas of interest that we, as librarians, have developed through our work in reference, instruction and knowledge management support are c*linical practice guidelines* and p*atient safety*. Tailored information services are already in place contributing to the knowledge creation of the groups, whether through subject-based e-resource guides, or through alert services to inform researchers and health care practitioners the current literature on the related topics. Webinars and discussion forums are hosted to facilitate the sharing of information among researchers and practitioners.

Objective and Research Methodology

Our study aimed to examine whether the opportunity for enhanced researcher-librarian interaction that Web 2.0 tools provide creates a synergistic experience for health research interest groups, and to explore how the content is co-developed, assessed and further improved by users. We also hoped to gain a better understanding whether social media tools improve the discoverability of grey literature.

Emails were distributed to library users in two hospital libraries to recruit study participants for two VIGs: clinical practice guidelines and patient safety. A preliminary online survey was administered

in order to understand the participants' experience using social medial tools, how they used the technologies and possible barriers to using these tools for online research purposes. The survey was also intended to help the librarian facilitators identify training needs for the social media tools selected.

Blogger (www.blogspot.com) was adopted to create two blogs as a gateway platform for the other two tools integrated in our research group activities. Group members were invited to share resources and questions with their peers via this platform. Subject-related information literacy training and information consultation between researchers and librarians, and among researchers themselves were conducted via a browser-based chat service. Two platforms were explored: *Meebo* (https://www.meebo.com/) and *Chatroll* (http://chatroll.com/). Chat was used to connect with researchers virtually in real time and to enhance collaborative decision-making. Tags created for websites about clinical practice guidelines, patient safety and social media on Delicious (www.delicious.com) were linked from the two blogs. A number of networks from these tags were formed among researchers when these specified tags were subscribed to and the participants were followed.

After three months, a post-survey was distributed via email to gather feedback about the pilot project, assess comfort level with social media tools for research purposes, determine barriers to uptake during the pilot, and seek recommendations for the future services in VIGs.

Results

Pre-Survey

Twenty-five people indicated interest in participating in the VIG pilot and responded to the pre-survey. Of these 25, all elected to join the Clinical Practice Guidelines VIG and eight indicated interest in Patient Safety. Most participants had experience with at least one social media tool prior

to participation in the VIGs (Table 1) and only two participants self-reported discomfort from lack of experience with social media.

Table 1. Responses of 25 participants who were asked, “What social media tools do you use?”

Tool	Number of participants	Percentage
Flickr	2	8
Twitter	6	24
Delicious	0	0
Facebook	18	72
MySpace	0	0
YouTube	13	52
Ning	0	0
Blogger	2	8
LinkedIn	2	8
Other	1	4

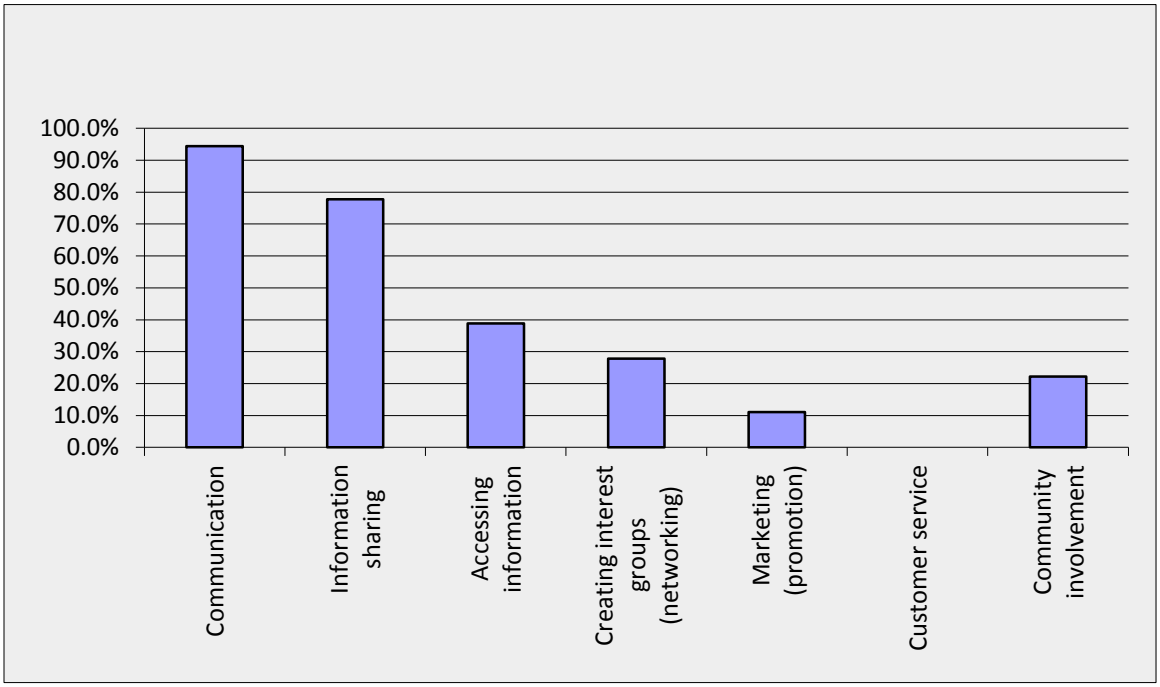

Figure 1. Participants’ previous uses of social media tools.

Most participants had used social media tools for communication and information sharing purposes prior to the pilot (Figure 1).

Self-reported barriers to using social media tools included limited workplace access, time constraints, discomfort with the medium, and privacy issues. Training was requested in creating good online content and directions to use the tools proposed for the VIGs.

Blog

A blog was created for each VIG: Clinical Practice Guidelines and Patient Safety (Figure 2).

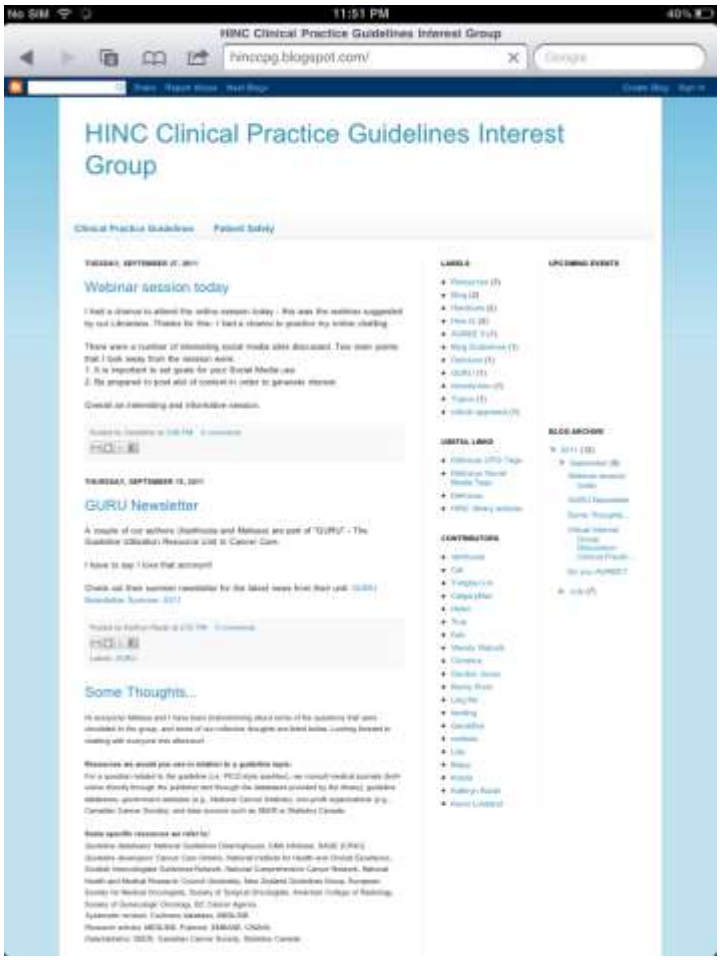

Figure 2. Screenshot of the Clinical Practice Guidelines Interest Group blog, created using Blogger.

Twenty-one participants registered for an account with one or both blogs. Twenty posts were published during the three-month period. Types of information shared in the blog posts included an

introduction to each piloted social media tool and “how-to” directions, two reviews of articles pertinent to the subject areas, information about guideline review tools including AGREE-II, favourite free resources including websites and a participant’s departmental newsletter.

Chat

Four live chat sessions were held. Eight people participated in one or more chat sessions. Chat sessions were scheduled approximately every three weeks. Sessions were an open forum but each session was prefaced with questions provided to the group to foster discussions.

- Session 1: Troubleshooting issues with signing up for the blogs, why were participants interested in joining the VIGs, social media in health care and previous experience with the VIG topic
- Session 2: Social media in health care, social media use in their workplace, troubleshooting issues with Delicious
- Session 3: Reflections on recent posts, using guideline appraisal tools, exploring the use of other social media tools for research and learning purposes
- Session 4: Favourite resources in the VIG topic: websites, medical journals/databases, consultation with colleagues, etc. and why these are good resources.

Types of information shared in chat sessions included recent developments related to the interest group topic, reflections and discussions about recent posts, interest group resource sharing, discussions about the use of social media for specific information sharing purposes and new Social Media tools to explore.

A screenshot of a typical chat session can be found in Figure 3.

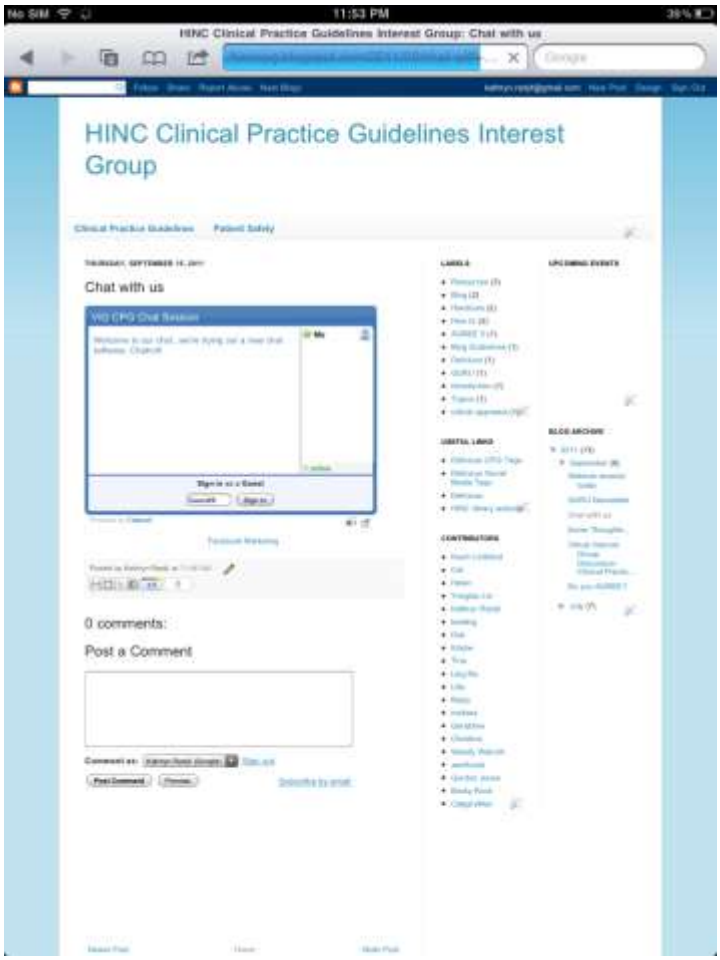

Figure 3. Screenshot of a chat session, embedded in the Clinical Practice Guidelines Interest Group. This chat session was created using Chatroll software.

Delicious

The librarian facilitators created three initial bookmark lists (tags) to share with the virtual interest groups: Clinical Practice Guidelines, Patient Safety and Social Media in Health Care. Twelve participants signed up for Delicious accounts. Participants bookmarked favourite websites during in-person training sessions. Users were encouraged to follow each others networks; however, no one was able to complete this task after the training sessions.

Types of information collected in tag lists included government websites, alert websites, online reports, statistical reports, online appraisal tools, popular reviews and videos pertaining to the interest group topics.

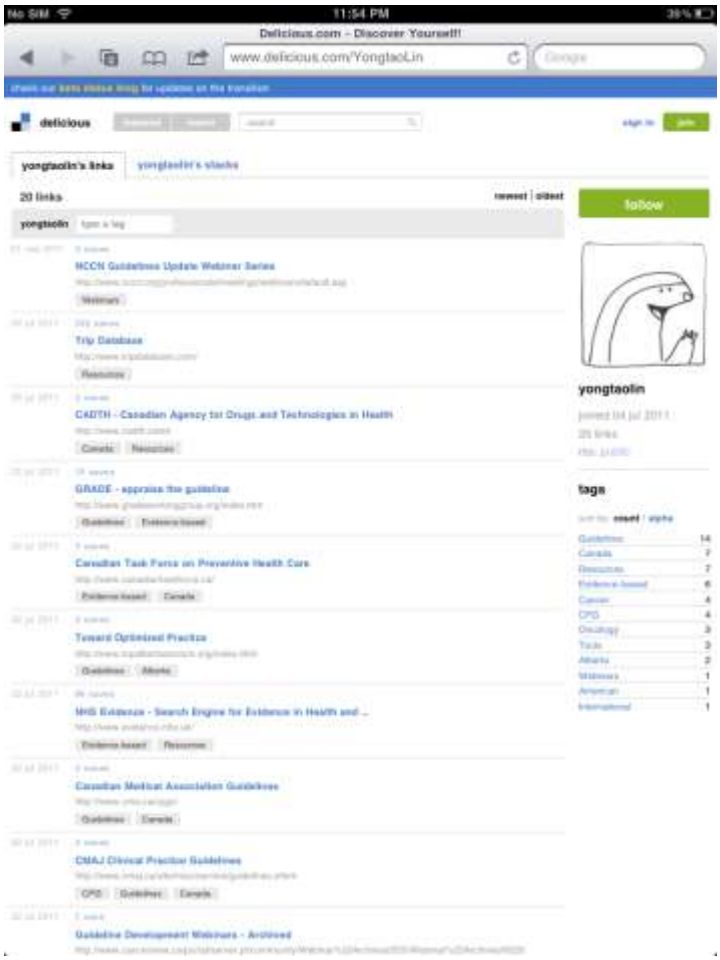

Figure 3. Screenshot of a librarian-created Clinical Practice Guideline tag list in Delicious.

Post-Survey

Eight participants (32%) responded to the post-survey. Participants were asked about each tool used during the pilot, indicating how much they used each tool and assessing the value of each for research and education purposes. If the participant did not use a particular tool, they were asked to indicate why. Finally, participants were asked to characterize their whole experience in the VIG pilot.

Overall, participants reported that participation in each tool led to increased comfort level using these social media tools. Five out of eight respondents were unable to interact with one or more of the social media tools during the pilot. The greatest reported barrier to participation was time constraints (Table 2).

Table 2. Self-reported barriers to use of individual social media tools used in the Virtual Interest Groups.

	Blogs (n=2)	**Chat (n=5)**	**Delicious (n=5)**	**In-person Training (n=3)**
Too busy	2	5	3	3
Insufficient training			1	
Not interested				
Not useful			1	

The blog content was viewed as useful to most (five out of six) participants who read them. Chat sessions were reported as most useful for sharing and discussing interest group resources, as well as for connecting with VIG collaborators and troubleshooting issues. Of the tools introduced in this pilot, Delicious bookmarking was considered to be the most difficult tool to use. Participants reported difficulty in creating accounts for this tool and in using it to find useful resources even after in-person and online training.

Participants joined the virtual interest groups for a variety of reasons (Table 3). Most indicated the motivation to learn more about the virtual interest group topics and to connect with their colleagues over these topics.

Table 3. Participants' motivations for joining the Virtual Interest Group pilot study.

Motivation	**Percentage of participants**[a]
I didn't have any experience in social media so I wanted to learn some basics.	37.5%
I had some previous experience with social media and wanted to learn how social media is used for work-related purposes.	25.0%
I wanted to be involved in the discussions of the	62.5%

topic(s): patient safety and/or clinical practice guidelines.	
I wanted to be part of the groups to make more connections to people with interest in patient safety and clinical practice guidelines.	50.0%
I signed up because the librarian recommended the interest groups and potential benefits to me.	25.0%

[a] Percentage calculated based on number of Post-Survey respondents (n=8)

Overall, participants characterized the experience as positive and reported an increased awareness of using social media tools for information sharing. Negative experiences noted were primarily due to lack of time to participate fully.

Discussion

Evolution of third interest group in social media and health care

Social Media is gaining an ever increasing role in health care. (32) While this pilot was designed to introduce the use of social media for learning and collaborative purposes in health care topics, it was not originally intended to address the prevalence and best practice of social media use in the health care environment. This topic, however, became a recurring theme throughout the pilot and therefore through this collective learning model the group adapted the VIGs to address questions in this topic as needed.

Social media training

The intent of this study was to facilitate as much as possible in the online environment, including training in the use of social media tools. Online learning is increasingly becoming the best practice model for continuing education in the researchers' health care environment. (33) However, some participants were unable to participate as desired, perhaps due to the limited time invested in

online learning as each tool was introduced (Table 2). It was observed that facilitated in-person training increased the comfort level and motivation to participate in the VIGs. The introduction of an in-person training session at the outset for learners who prefer this learning style should be considered for conducting similar projects. This introduction would likely increase participation.

Enhanced information creation and grey literature sharing in virtual interest Groups

While this pilot was small, there is strong evidence of increased information sharing and creation. Some resources that were deemed valuable by this interest group were shared in each of the social media tools used in this pilot, such as government websites, online reports and freely available research tools on the Internet. Participants from different departments and roles at three different sites came together to participate in the VIGs. The collaborative online environment allowed these professionals to share and learn from others in their organization with whom they would not usually have the chance to collaborate in-person. Information gathering took place in the use of each of the different tools. This may have been most evident in the chat sessions where questions were able to be addressed in real time. A more stable form of the shared information could be followed later in the form of a blog post or by tagging into Delicious. Examples of this can be in the sharing of departmental Twitter, which were not previously known or an organizational newsletter that was later shared in a blog post.

Future Directions

Future research will look into facilitated VIGs among health professionals and with librarians as participants. With librarians able to focus as participants and content creators instead of facilitators, the opportunity to create more awareness of grey literature in health VIGs may be more easily achievable. As more data is collected the researchers would like to explore a semantic approach of

visualizing these conversations using tag-based data mapping, which will greatly improve the discoverability of grey literature in health topics.

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