

# Oncology communities of practice: insights from a qualitative analysis

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## ABSTRACT

**Background** A community of practice (CoP) is formally defined as a group of people who share a concern or a passion for something they do and who learn how to do it better as they interact regularly. Communities of practice represent a promising approach for improving cancer care outcomes. However, little research is available to guide the development of oncology CoPs. In 2015, our urban community hospital launched an oncology CoP, with the goals of decreasing barriers to access, fostering collaboration, and improving practitioner knowledge of guidelines and services in cancer care. Here, we share insights from a qualitative analysis of feedback from participants in our CoP. The objective of the project was to identify participant perspectives about preferred CoP features, with a view to improving the quality of our community hospital's oncology CoP.

**Methods** After 5 in-person meetings of our oncology CoP, participants were surveyed about what the CoP should start, stop, and continue doing. Qualitative methods were used to analyze the feedback.

**Results** The survey collected 250 comments from 117 unique CoP participants, including family physicians, specialist physicians, nurses, and allied health care practitioners. Analysis identified participant perspectives about the key features of the CoP and avenues for improvement across four themes: supporting knowledge exchange, identifying and addressing practice gaps, enhancing interprofessional collaboration, and fostering a culture of partnership.

**Conclusions** Based on the results, we identified several considerations that could be helpful in improving our CoP. Our findings might help guide the development of oncology CoPs at other institutions.

**Key Words** Communities of practice, quality, collaboration, partnerships, knowledge management, knowledge preservation

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## INTRODUCTION

The increasing demands and challenges in oncology emphasize the need for practitioners to break out of traditional silos and work collaboratively to improve the quality of cancer care<sup>1</sup>. The “community of practice” (CoP) approach is a promising model to promote knowledge mobilization and collaboration. A CoP is defined by Wenger *et al.*<sup>2</sup> as a network of people who share information, build on existing knowledge, and develop expertise to solve problems for a common purpose in an ongoing way. Communities of practice have three fundamental elements: a domain, a community, and a practice<sup>2</sup>. The domain is the area of shared inquiry: the key issue, problem, or goal that members share. The community is the group of people who

interact regularly in relation to their domain. The practice is the specific knowledge that the community develops, shares, and maintains.

Communities of practice were initially applied in the business world, where they were shown to drive knowledge management, to create social capital, and to add organizational value<sup>3,4</sup>. Subsequently, many health care organizations have promoted the creation of CoPs in an attempt to replicate those benefits. Multiple CoPs that have facilitated achievement of quality outcomes in health care have been described in the literature<sup>5-8</sup>. For example, Huckson and Davies<sup>6</sup> described a CoP that encompassed 41 health services across Australia and set out to close practice gaps in emergency care. The authors outlined the CoP's first project: to realize best-practice

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care for mental health presentations in the emergency department. The project focused on improving collaboration between services, performing regular audits of indicators of best-practice achievement, and developing a Web portal to promote networking and sharing of resources. Evaluation 18 months after project launch demonstrated a significant improvement in a national indicator of mental health care in the emergency department. In addition, more than 100 resources published to the online portal were accessed almost 2000 times. In another example, Render *et al.*<sup>8</sup> reported on the utility of a cop in the implementation of interventions to significantly reduce central line infections and improve adherence to evidence-based practices. Those authors reported that the cop facilitated cooperation between physicians and problem-solving that supported the success of the project.

The cop model has further been successfully applied to achieve quality outcomes important in cancer care<sup>9–13</sup>. Fung-Kee-Fung *et al.*<sup>12</sup> described three interdisciplinary regional cops in breast, colorectal, and prostate cancer that involved 230 care providers at 9 hospitals in Ontario. The authors reported that the cops were designed to leverage the skills and passion of practitioners at those institutions toward common goals. The goals included improving the effectiveness or efficiencies of care, with each goal linked to performance measures of effect on care outcomes. The cops used a hub-and-spoke infrastructure, in which a tertiary care centre served as the regional hub, and regional hospitals made up the spokes. As a result of the cops, all 9 hospitals implemented innovations in the delivery of care, including centralized rectal care; prostate pathology protocols; standardized consensus-based perioperative pathways (breast, colon, prostate); sentinel lymph node biopsy for breast cancer; standardized radiologic diagnostic testing; and access to standardized patient education materials. Further, at 6 years after the launch of the cop, evaluation demonstrated significant improvements in compliance with provincial and regional evidence-based clinical practice guidelines.

An important challenge in cop development is the lack of guidance in the literature to enable easy and uniform reproducibility. Ranmuthugala *et al.*<sup>14</sup> conducted a systematic review of the literature, examining the structure and function of cops in health care. The authors found that no single cop model has been adopted in the health care sector; rather, the structure and delivery of cops depended on the intended purpose. That finding underscores the importance of understanding which elements of cops are helpful in various contexts. Averling *et al.*<sup>15</sup> reviewed the literature about participatory, community-based approaches to achieving quality improvement in health care and identified 8 key lessons for developing and refining the approach. Those lessons included identifying and providing the right resources and training, fostering a sense of community, and recognizing the importance of context. However, how to successfully apply those lessons to form a cop and whether the lessons apply in the oncology cop context remain unclear. Furthermore, few data are available to clarify the perspectives of cop participants about preferred cop features.

In a companion article, we described the launch of an oncology cop at our community hospital and its networks<sup>16</sup>. That cop was spearheaded by the medical oncology group at our centre, who had initially identified the need for the initiative. They then formed the coordinating executive committee which ran and maintained the cop. The main goals of the cop were to decrease barriers to access in cancer care, to foster collaboration in cancer care, and to improve practitioner knowledge of guidelines and services relevant to cancer care. Here, we share insights from a qualitative analysis of feedback from participants in that cop. The objective of the project was to identify participant perspectives about preferred cop features, with a view to improving the quality of our community hospital's oncology cop.

## METHODS

### The COP

To realize the goal of improving practitioner knowledge of guidelines and services relevant to cancer care, the cop was structured as a continuing medical education series focused on the screening, diagnosis, and management of common solid tumours. The cop was supported by the hospital, which provided the venue for the meetings. To facilitate the goal of decreasing barriers to access, speakers in active cancer care practice were invited. Supporting the objective to foster collaboration in cancer care, the series began with a general roundtable discussion that invited participants to “tell us anything, ask us anything” related to cancer care in the community. Subsequent meetings focused on specific tumour sites and included both didactic and roundtable discussion components. At the subsequent meetings, each speaker discussed content related to their area of expertise that was relevant to the community. Speakers were asked to provide guidance about patient referrals and to outline cancer care services during their management discussions. Further, the Toronto Central Regional Cancer Program was invited to share their work in health education publications, screening guidelines and programs, and primary care leadership. Each meeting concluded with a roundtable discussion moderated by family medicine physicians practicing in cancer care. The roundtable discussions served as an important element of community building, providing a forum for participants to ask questions, to identify issues and barriers, and to propose solutions.

### Survey Design

The cop coordinating executive committee designed a feedback survey to evaluate participant perspectives about the cop. The aims of the survey were to provide insights into improving the quality of the cop and improving cancer care in our community. Completion of our institutional research ethics board's “research versus quality improvement” guideline and checklist determined that the survey was a quality improvement project<sup>17</sup>. After each meeting except the first, participants were asked to complete the survey. It was emphasized that survey completion was optional and that completed surveys were anonymous.

The first item on the survey provided participants with the option to exclude their survey data from data analysis

or scholarship, but still to provide feedback. Surveys from participants who did not consent to participate in the scholarship aspect of the COP were removed from the analysis. The surveys collected no personal data except for the responder's clinical role and years of practice in cancer care. The participants were then asked to write bullet-point suggestions about what the COP should start, stop, and continue doing (Figure 1).

### Qualitative Analysis

Data were analyzed thematically using conventional content analysis<sup>18,19</sup>. Conventional content analysis seeks to describe a phenomenon by systematically coding and interpreting data to identify themes<sup>19</sup>. Codes are derived from the data and defined during data analysis. This approach is used to develop an understanding of phenomena when existing research is limited<sup>19</sup>.

We first extracted the entire dataset from the survey platform into an Excel (Microsoft Corporation, Redmond, WA, U.S.A.) output file. Data were entered independently by two research assistants. Three researchers then independently performed the content analysis. First, the researchers individually read all participant suggestions of what the COP should start, stop, and continue doing, screening for clarity. Comments without sufficient information to allow for clear interpretation were excluded. Researchers then read through the included comments to develop a preliminary list of codes (that is, tags applied to statements or words to catalog concepts). Each response was numbered and then assigned to one or multiple categories to achieve a quick overview of potential themes. Context from the roundtable discussions at the meetings informed the interpretation by the researchers of specific sets of written comments. After those analyses, researchers met to resolve differences in identified themes and coding to achieve consensus.

#### Community of Practice Partnership Series

##### Survey Questionnaire for CME Attendees

This survey is intended to improve the quality of these sessions. We will also be doing scholarship on the responses in an anonymous manner. Should you wish to not have your responses included in the scholarship aspect, please check the following box.

I do not wish to have my responses included in the scholarship aspect. The responses will still be used for quality improvement purposes.

##### Questions:

1. What is your specialty / subspecialty / allied health role (please circle)  
Family medicine    MD/ subspecialty    NP    RN    allied health
2. How long have you been working in health care i.e. first obtained license to work in health care (please circle)  
0-5 yrs    6-15 yrs    16-25 yrs    26-35 yrs    >35 yrs
3. Did you feel this event was free of bias? (please circle)    Yes/ No
4. Did the session meet your educational needs? (please circle)    Yes/ No

##### Comments section

What would you suggest we "keep" doing?

What would you suggest we "stop" doing?

What would you suggest we "start" doing?

FIGURE 1 The data collection form.

## RESULTS

### Characteristics of Survey Participants

Meetings 2–6 attracted 148 unique attendees, with 43% of them attending 2 or more meetings. Meetings attracted a mean of 57 attendees (range: 48–65). Considering all sessions, attendees included family physicians (mean: 41%), specialist physicians (mean: 24%), allied health care providers (mean: 22%), nurses (mean: 10%), and nurse practitioners (mean: 3%), with a mean of 84% ± 6% of attendees completing the surveys and consenting to be included in the analysis.

### Qualitative Analysis

During the 5 COP meetings at which surveys were administered, 250 comments from 117 unique participants were collected and coded. Of those 250 comments, 133 offered enough information to be included in the analysis. Four themes emerged from the qualitative analysis of COP participant feedback: supporting knowledge exchange, identifying and addressing practice gaps, enhancing interprofessional collaboration, and fostering a culture of partnership. Figure 2 breaks down the number of comments coded to each theme.

#### Supporting Knowledge Exchange

Participants identified the importance of the COP in supporting knowledge exchange. They highlighted the value of keeping specific components, including networking opportunities with subject matter experts and the delivery of cancer care information in a variety of formats. Comments included "keep organizing educational and networking opportunities," "panel of experts [was] great in terms of knowledge, access to additional services/referrals," "continue bringing updates to [our community hospital] in order to remain current," and "continue to organize education opportunities highlighting newest research."

When asked what the COP should start doing, participants requested development of in-person, paper, and online educational resources to facilitate knowledge exchange. Those requests included having speakers provide clinical "pearls" in their talks about their areas of practice, distributing copies of meeting presentation slides, and providing "quick tips" handouts at meetings.

Participants also demonstrated interest in the development of online tools to support the COP. Those suggestions included development of a Web site to support the COP and

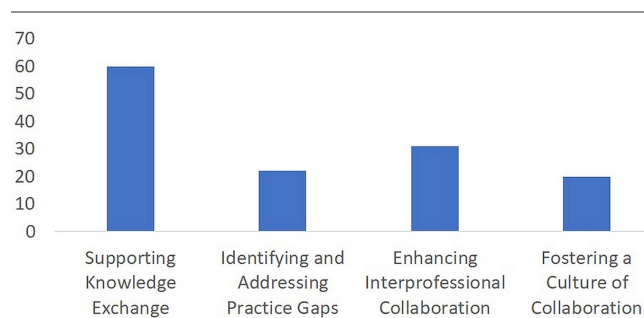


FIGURE 2 Comments coded to each theme.

use of an online file-sharing service to share educational resources. Representative comments included “have each speaker provide ‘pearls’ recommendations for primary care providers with respect to their area of practice,” “[provide] better handouts, including one review article on the subject, especially if there seems to be some controversy,” “make resources available for registrants to see online,” and “[create a] Web site with info pertaining to the topic of the upcoming session with links, readings, resources that could help enhance information discussed at the session.” Participant suggestions were feasible and could easily be incorporated into future meetings. Participants also highlighted the importance of ensuring that the educational aspects of the COP were aimed at the greatest proportion of the participants.

In the “stop” section of the feedback form, participants requested less emphasis on the details of treatment, including chemotherapy and radiation doses. Requests were also made to limit specific patient-related questions that might not be applicable to the entire group.

Overall, the feedback received demonstrated a participant perspective that an important role of our oncology COP was to improve practitioner knowledge relevant to cancer care.

### **Identifying and Addressing Practice Gaps**

Participants valued the opportunity that the COP provided to discuss practice gaps related to cancer care and to propose resources that could be developed to address those gaps. Practice gaps identified included the need for our community to become more aware of the available specialists and services; the need for a rapid diagnostic clinic in cancer care; and the need for family doctors to be copied on biopsy results. Participants also shared their awareness and experience of programs offered at other hospitals, such as referral processes and rapid diagnostic clinics. Many of the clinical resources requested by participants were easy to implement without significant resources, such as development of an online physician-specialist directory to access cancer care-related programs.

### **Enhancing Interprofessional Collaboration**

With respect to the theme of enhancing interprofessional collaboration, participant comments highlight the value that the community places on multidisciplinary involvement. Examples under the “keep” question included “multidisciplinary panel” and “range of experts.” Those comments support the notion that our COP achieved its goal of reducing barriers to accessing content experts. Furthermore, under the “start” question, participants recommended expanding multidisciplinary panels to include pathology, radiology, allied health professionals, and other disciplines. Comments here included “incorporate resources/allied health team (re: supports),” “should include pathologists,” “invite radiologists,” and “expand to other [departments].” Participants recognized the importance of the various skill sets of the cancer care providers and the need for collaboration and cooperation with those providers. Participants also made suggestions for other health care providers to be involved in future meetings and requested the chance to learn from various types of health care providers.

### **Fostering a Culture of Partnership**

Participants valued keeping aspects of the COP such as the “open feedback environment,” “culture of collaboration,” and community-building. Comments included “Ask me anything” is a good approach,” “Roundtable discussion is a definite keep! Very helpful and educational. Very well done,” “There was a lovely spirit of collaboration,” and “Excellent series in all. Very key to improve collaboration and increase awareness of what we do at [our community hospital in] collaboration with our [university] partners.”

Participants emphasized the need for additional meetings to continue to build the COP. Comments also reinforced the perception of support by the COP for the goals of fostering collaboration and facilitating communication. Multiple participants commented that the COP should continue the “culture of collaboration,” demonstrating that that atmosphere had been achieved from the participant perspective.

## **DISCUSSION**

Our analysis revealed components of the COP that participating health care providers felt to be highly valuable. Based on the results, we identified several considerations that will help to improve our COP and that can guide the development of future oncology COPs. Table 1 summarizes those considerations.

First, the analysis supported the benefit that a COP community can achieve by involving not only health care providers across the continuum of care but also key stakeholders, including hospital administration and leaders of cancer care programs and services. That involvement could include opportunities to share clinical knowledge. Feedback highlighted the participant perspective that the expertise of a diverse range of practitioners could enrich the community, support knowledge exchange, and add value to discussions.

Comments from our qualitative analysis supported the extension of invitations to allied health care providers, in addition to physicians, as expert speakers. Establishment of a non-hierarchical atmosphere has previously been identified as a key element to build trust and improve communication in COPs<sup>20</sup>. Diversifying expert speakers can support the COP participants in establishing a risk-free environment and might serve to improve participation. Implementation of that feedback has the potential to advance the goals of

**TABLE 1** Considerations to guide development of oncology communities of practice (COPs)

1.	Involve health care providers across the continuum of care, as well as key stakeholders, in cancer care delivery.
2.	Include roundtable discussions at COP meetings, emphasizing an “ask me anything” approach.
3.	Encourage COP participants to identify resources that are needed to address practice gaps, support knowledge exchange, and reduce barriers to accessing cancer care services.
4.	Consider development of online resources to support the COP.
5.	Host regular meetings to continue to build the COP.

the COP by lowering the barriers to accessing the included health care providers and stakeholders, and promoting collaboration in cancer care.

Participant feedback also supported the inclusion of roundtable discussions at COP meetings, emphasizing the “ask me anything” approach to foster a culture of partnership. Professional, organizational, and cultural barriers can hamper knowledge-sharing and collaborative work within health care systems. Those barriers can include differences in values, professional identities, and attitudes to organizational change among the participating health care providers<sup>21–25</sup>. Roundtable discussions facilitate the sharing of experiences across practice; in that way, they support the dissemination of tacit knowledge, which is informal and therefore hard to document in databases or manuals<sup>26</sup>. Additionally, our analysis highlighted the potential of the roundtable discussion format to contribute to the establishment of a culture of collaboration and an environment of open feedback.

Furthermore, results supported the value of encouraging COP participants (through roundtable discussions at or between meetings) to identify the clinical and educational resources that are needed to facilitate knowledge exchange and to reduce barriers to accessing cancer care services. Our analysis identified numerous educational and clinical resources that were feasible to implement—specifically, a physician-specialist directory and handouts detailing cancer screening services available to patients in the community. Those resources can support the COP’s goal to lower barriers to access and improve cancer care. A COP implementation working group could be established to support the community to develop the identified resources needed to improve education and patient care.

Analysis of feedback further highlighted a participant perspective that online resources could be developed to support the COP at and between meetings. Virtual communities of practice have been proposed as a strategy to augment face-to-face communication and facilitate collaboration and knowledge exchange online, including through social media technologies<sup>27–29</sup>. Barnett *et al.*<sup>20</sup> conducted a systematic review of the literature about COPs in health care that included an online, electronic, or virtual component. The COPs included in that review incorporated a variety of online features, including e-mail, discussion boards, online chat, content sharing, and synchronous Web meetings<sup>30–39</sup>. The authors noted that the online environment improved most COPs, although one study identified the nursing culture of in-person interaction as a barrier to the use of online environments<sup>40</sup>. Important considerations for implementation included making technology easy to use and access, and ensuring flexibility of options for communication<sup>20</sup>. The authors also found that communities are more likely to share knowledge when there is a mixture of online and face-to-face meetings. Those observations lend weight to the comments of the participants in the present qualitative analysis supporting the development of online tools and emphasize the value of incorporating online components into oncology COPs.

Finally, the analysis revealed a participant perspective that regular meetings (in person and online) are important for continuing to build the COP. Face-to-face meetings

can strengthen relationships between COP participants, supporting development of a culture of partnership<sup>41,42</sup>. Online meetings can also help professionals in COPs share knowledge and connect with colleagues<sup>32,43</sup>.

### Limitations

Our analysis has several limitations. First, it examined qualitative feedback from a COP formed through regular, in-person meetings at an urban community hospital and its networks in Ontario. The results might not be generalizable to COPs with a different structure or geographic location, or to COPs spanning multiple institutions. Second, the comments obtained from post-meeting surveys were generally positive, and few comments made suggestions about what our COP should stop doing; however, we recognize that respondents might be more likely to give positive rather than negative feedback, particularly given that attendees self-selected to attend. Third, the qualitative survey was administered immediately after each meeting and was therefore unable to assess the participant perspectives about the durability of the COP’s effects. It remains unclear whether, and to what degree, participants would feel part of a culture of collaboration several months after the last COP meeting attended. Fourth, comments were short and lacked deep contextual information, introducing a higher risk of misinterpretation. Finally, the qualitative analysis did not elicit a participant perspective on whether and how participation in the COP led to better-quality care. Specific research questions that remain unanswered include whether a better understanding of access translates into better use of resources or better treatment for patients. Additional qualitative research is also warranted to assess the impact of the COP on the patient perspective of satisfaction with cancer care.

### CONCLUSIONS

In our oncology COP in our urban community hospital and its networks, qualitative analysis of participant feedback provided insights into how the COP could be improved. Analysis yielded feasible, specific suggestions that could be implemented in the future to strengthen the COP and ultimately to help achieve the goal of improving cancer care outcomes. Furthermore, analysis of feedback supported an understanding that the goals of the COP had been realized, indicating that the COP model could be successfully applied in this collaborative cancer care context. Our results might help to guide development of oncology COPs at other institutions.

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### CONFLICT OF INTEREST DISCLOSURES

We have read and understood *Current Oncology’s* policy on disclosing conflicts of interest, and we declare that we have none.

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