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TelePain: A Community of Practice for Pain Management

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Abstract

Introduction—Comprehensive pain management services are primarily located in urban areas, limiting specialist consultation opportunities for community healthcare providers. A community of practice (CoP) for pain management could create opportunities for consultation by establishing professional relationships between community healthcare providers and pain management specialists. A CoP is a group of people with a common concern, set of problems, or a passion for something they do. Members of a CoP for pain management increase their knowledge of evidence-based pain management strategies in a way that is meaningful and relevant. In this article, we provide evidence that TelePain, an interdisciplinary, case-based pain management teleconference consultation program through the University of Washington, qualifies as a CoP and present preliminary evidence of TelePain's effectiveness as a CoP for pain management.

Methods—Specific behaviors and conversations gathered through participant observation during TelePain sessions were analyzed based on the 14 indicators Wegner developed to evaluate the presence of a CoP. To demonstrate preliminary effectiveness of TelePain as a CoP for pain management, descriptive statistics were used to summarize TelePain evaluation forms.

Results—TelePain is an example of a successful CoP for pain management as demonstrated by the presence of Wegner's 14 indicators. Additionally, evaluation forms showed that TelePain enhanced community healthcare providers' knowledge of pain management strategies and that continued participation in TelePain lead to community healthcare providers' increased confidence in their ability to provide pain management.

Conclusion—TelePain, a CoP for pain management, facilitates multidisciplinary collaboration and allows members to develop interdisciplinary care plans for complex pain patients through case study discussions. Evidence-based pain management strategies gained through CoP membership could be disseminated to other healthcare providers in members' clinics, which has the potential of improving the care of chronic pain patients.

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Keywords

Community of practice; Pain management; Rural healthcare; Telehealth

Introduction

Managing pain effectively is often challenging for the community healthcare provider. With comprehensive pain management services located in urban areas, the opportunity for consultation with pain management specialists is limited. Through collaborative inquiry and discourse, communities of practice (CoPs) are established to improve pain management. The University of Washington (UW) has developed a CoP for pain management called TelePain, a weekly teleconference series that utilizes technological advancements in communication to transcend geographical boundaries and facilitate consultation with community healthcare providers and pain management specialists [1]. TelePain participants are from Washington, Wyoming, Alaska, Montana, Idaho, (WWAMI) and Oregon. Pain management training in these areas is especially necessary as opioid poisoning is the leading cause of injury death in three of these states (Washington, Alaska, and Oregon) [2]. In this article, we describe how a CoP is defined, a brief history of its use, provide evidence that TelePain qualifies as a CoP, and present preliminary evidence of TelePain's effectiveness as a CoP for pain management. Furthermore, we determine that community healthcare providers who participate in TelePain gain practical benefits that could translate into better care of their patients.

Communities of Practice

A CoP is a group of people with a common concern, set of problems, or a passion for something they do [3]. The emphasis of the group is on the sharing of information, and promoting trust and respect [4]. CoPs have been used in the education and business sectors for over 20 years [5]. Although the use of CoPs in the health sector has been limited, its use is increasing [6].

By interacting on a regular basis, CoP members increase their knowledge and expertise in a way that is meaningful and relevant to all participants [7]. Essential elements of a CoP are domain, community, and practice [3]. The domain is the commonalities that distinguishes members from non members and provides boundaries for members to determine what should be shared and how to present their ideas. The community is the social structure that aids learning through interactions and the development of member relationships. The practice is the knowledge shared, developed, and maintained by the community. When the three aspects work well together, an environment exists that facilitates learning and knowledge development [8].

CoPs are viewed as a way to improve practice and patient care [9]. Li and colleagues [10] conducted a systematic review to understand the use of the CoP concept in the business and health sector. Eighteen studies from the business sector and thirteen studies from the health sector conducted between 1991 and 2005 were examined to determine how CoPs were defined. In addition, the studies from the health sector were evaluated for their effectiveness in improving the uptake of best practices and mentoring new practitioners. The CoP research

in the health sector focused primarily on how people shared information, created knowledge, and built a professional identity in a social setting. There was a lack of empirical studies that looked at effectiveness on practice. As well, there was no consistent way in how the CoP concept was operationalized in both the business and health sectors [10].

CoP membership in the health sector is dependent on each clinician's reputation and ability to contribute evidence based knowledge as well as tacit knowledge and practical wisdom resulting from clinical experience [11]. The CoP provides a protected environment for learning new competencies. Deficiencies in the practice of evidence based medicine are addressed and members' clinical judgment is enhanced by acquiring practical wisdom to deal with the uncertainties of clinical practice [7]. For these reasons, pain management is an appropriate clinical problem for health professionals to discuss and learn from each other in a CoP.

Pain Management Community of Practice

The use of Telehealth to establish knowledge networks is well established. Via Telehealth, each case presented by a clinician and reviewed by a panel of experts improves the care of dozens of other patients in that provider's clinical practice and the practices of other members of that practice group, and also other participating listeners [2]. This "multiplier effect" broadens educational impact for community providers of many specialties (e.g., physicians, nurses, dentists, pharmacists, PAs, social workers, home health workers, addiction counselors, physical therapists) enabling locally shared community expertise actively supported by experts. Telehealth with direct health professional student participation as a means to deliver expert content and curriculum to an extended community health system has been used at UW since 1994 [12,13]. To address the UW's geographically dispersed medical student clinical rotations and to provide a service to the regional community physicians who act as preceptors, the UW School of Medicine added interdisciplinary, case based pain management teleconference consultation as a pilot program through its Telehealth service, called UW TelePain, in 2008 [14].

As of March 2011, TelePain joined the University of Washington Center for Pain Relief. Since this merger, over 400 healthcare providers have participated with an average rate of 35 attendees/session. This conference series has reached over 100 unique locations as well as provided over 3,000 hours of pain management training, education, and consultation. Each week, providers from community WWAMI and Oregon use video or phone conferencing to listen to specialists present topics concerning pain management then discuss patient cases as a community.

Methods

The 14 indicators Wegner (Table 1) [15] developed to evaluate the presence of a CoP were used to demonstrate that TelePain qualifies as a CoP. Over the course of multiple TelePain sessions, a nonmember researcher noted specific behaviors and conversations through participant observation, an ethnographic field method in which the researcher becomes a member of the CoP being observed and allows for a thorough understanding of the customs

of the group [16]. The observed behaviors and conversations were then evaluated for evidence of Wegner's 14 indicators. If an indicator was fulfilled by an observed behavior or conversation, it was coded as that indicator. This research method was appropriate for this project because the integration of the researcher into the group reduces the amount of interference that researcher imposes on the environment. This allows for the observation of actions corresponding with Wegner's indicators as they occur naturally [17].

Additionally, 58 community healthcare providers completed Continued Medical Education evaluation forms. Questions related to knowledge improvement and confidence were summarized using descriptive statistics to preliminarily demonstrate the effectiveness of TelePain as a CoP for pain management.

Results

Clear evidence for all of Wegner's 14 indicators of a CoP was found through participant observation, demonstrating that TelePain is a CoP.

Members of the CoP referring to one another by first name demonstrated sustained mutual relationships (Indicator 1). In addition, personal conversations before and after CoP gatherings, in regards to personal life, took place. Example topics include inquiries about vacation trips, family, and carpools.

Members reviewing patient cases as a group demonstrated shared ways of engaging in doing things together (Indicator 2). A summary of the case was presented, followed by rapid fire discussion. In addition, members contributed to this discussion by relating their personal experiences through clinical work or by referencing published literature on the topic.

Continuous overlapping speech with the presenter demonstrated the rapid flow of information and propagation of innovation (Indicator 3). In addition, information circulated between multiple geographic sites in the WWAMI and Oregon region through the use of teleconference technologies.

Group discussion and contributing remarks most often began without any introduction, which demonstrated the absence of introductory preambles, as if conversations were merely the continuation of an ongoing process (Indicator 4). Any introduction that did occur was short, such as "hi," "so," or "let's get started." In addition, before the start of the videoconference, a member entering the room engaged the others in informal conversation conversations without any type of "hello" or "how are you?"

The time it took didactic or case presentation discussions to begin, including introductions and roll call, took on average 4 minutes and 15 seconds, which demonstrated very quick setup of a problem to be discussed (Indicator 5). In addition, once the presenter was introduced and was given the attention of the room, they began with "so basically" and immediately began discussing their topic.

Group members' qualifications and contribution potential were made explicitly clear to the other attendees to validate their presence in the group, which demonstrated substantial

overlap in participants' descriptions of who belongs (Indicator 6). In addition, members entered into conversations after an introduction of their membership status and what they could contribute to the group.

Specific members were selected to answer questions or to start the discussion of the newly introduced topic, which demonstrated knowing what others know, what they could do, and how they could contribute to an enterprise (Indicator 7). In addition, transition statements included: "[name] we haven't tapped into your knowledge yet…both as a primary physician and an addiction specialist," "[name], any words of wisdom?" "I am going to pass this on to [specific person]," and "I have a quick question for [specific person] if there's time." Furthermore, explicit references to other members' professional accomplishments that related to the topic of the conversation were made during discussions without notes. For example, "[name] sitting right here did the best research…"

"I thought I would ask the assembled brains" demonstrated mutually identifying identities (Indicator 8). In addition, two subgroups were continuously referenced during conferences: "the panel" and "the community."

Members confirmed each other's recommendations but were not afraid to say when they did not agree, sometimes completely opposing another member, which demonstrated the ability to assess the appropriateness of actions and products (Indicator 9). In addition, members seated in the back when in camera screen sat up taller and consciously expressed attentive body language.

Items particular to TelePain demonstrated specific tools, representations, and other artifacts (Indicator 10). These included a conference room, camera, tech support, table and chairs set up, PowerPoint presentation assembled by presenter, TV screens, sign in sheet, and case files.

Multiple instances of jokes followed by responding laughter demonstrated local lore, shared stories, inside jokes, knowing laughter (Indicator 11). For example, leaders adjusted seats in the room to reduce the amount of people seen on screen at one time. The leader said, "we are going to keep the size of our presenters small" and another member responded, "well I am trying to lose the weight," to which they all laughed.

The term "opioid holiday" was introduced in the presentation and used later in the discussion portion "…take a breather from opioids or an 'opioid holiday' to use your term," which demonstrated jargon and shortcuts to communication as well as the ease of producing new ones (Indicator 12). In addition, the term "deadfast" is used by a member of the CoP instead of "steadfast" meaning that a patient has the attitude they are dying, showing the creation of new jargon.

Regular members of the CoP could be distinguished by relaxed body language and informal actions during the discussion, which demonstrated certain styles recognized as displaying membership expressions (Indicator 13). Furthermore, guests were distinguished by upright seating posture, tense yet low and open shoulders, and hyper attentiveness, and core pain management specialists had printed case files sitting in front of them.

Members used formal and technical vocabulary reflecting training in the biomedical health sciences, which demonstrated a shared discourse reflecting a certain perspective on the world (Indicator 14). This is the perspective from which each member understood and contributed to the discussion.

Results of the 58 evaluation forms are as follows. On a scale of 1 to 4 (1 being no and 4 being yes), evaluation forms showed that community healthcare providers believe their participation in TelePain enhanced their knowledge with an average response of 3.94/4. In response to whether providers gained new knowledge that they intend to use, the average response was 3.77/4. The results also showed that all but one out of nine providers who had continued participation in TelePain for 6 months or more had increased confidence in their ability to provide pain management. On a scale of 1 to 6 (1 being strongly disagree and 6 being strongly agree) there was an average of a one point increase after six months of participation and a two point increase after nine months of participation.

Conclusion

TelePain is an example of a successful CoP for pain management as demonstrated by the presence of Wegner's 14 indicators. Additionally, evaluation forms primarily showed that TelePain enhanced community healthcare providers' knowledge of pain management strategies and that continued participation in TelePain for six months or more lead to community healthcare providers' increased confidence in their ability to provide pain management. This has many implications for clinical practice and management of chronic pain patients.

Access to comprehensive pain management services for chronic pain patients and their healthcare provider is often difficult as the majority of pain management specialists are located in urban areas. CoPs for pain management, such as TelePain, are able to transcend geographical boundaries through the use of video and telephone conferencing technologies. In addition, members of TelePain develop an interdisciplinary care plan for complex pain patients through case study discussions. This not only could improve the quality of care given to chronic pain patients, but could also facilitate multidisciplinary collaboration drawing from specialists with expertise in pain, anesthesiology, psychiatry, addiction, physical therapy, and complementary/alternative medicine.

Creating a CoP for pain management could assist in establishing professional relationships between community healthcare providers and pain management specialists. Members of a CoP for pain management, like TelePain, are able to gain valuable evidence based pain management strategies from the experiences of their peers. These community healthcare providers could then disseminate the knowledge they gain through CoP discussions to other providers in their clinic. This has the potential to translate into an increased rate of successful treatments of future patients, not only those treated by CoP members, but others treated in their clinic. A study is currently underway to test the effectiveness of TelePain on patient outcomes [18].

Acknowledgement

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Table 1

Wegner's Indicators for the Presence of a Community of Practice [15].

1. Sustained mutual relationships- harmonious or conflictual
2. Shared ways of engaging in doing things together
3.The rapid flow of information and propagation of innovation
4. Absence of introductory preambles, as if conversations were merely the continuation of an ongoing process
5. Very quick setup of a problem to be discussed
6. Substantial overlap in participants' descriptions of who belongs
7. Knowing what others know, what they could do, and how they could contribute to an enterprise
8. Mutually identifying identities
9. The ability to assess the appropriateness of actions and products
10. Specific tools, representations, and other artifacts
11. Local lore, shared stories, inside jokes, knowing laughter
12. Jargon and shortcuts to communication as well as the ease of producing new ones
13. Certain styles recognized as displaying membership expressions.
14. A shared discourse reflecting a certain perspective on the world