Implementing a shared decision-making and cognitive strategy-based intervention: Knowledge user perspectives and recommendations

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Abstract

The aim of this study was to employ knowledge user perspectives to develop recommendations that facilitate implementation of a complex, shared decision-making (SDM)-based intervention in an interprofessional setting. This study was part of a larger knowledge translation (KT) study in which interprofessional teams from five freestanding, academically affiliated, rehabilitation hospitals were tasked with implementing a cognitive strategy-based intervention approach that incorporates SDM known as Cognitive Orientation to daily Occupational Performance (CO-OP) to treat survivors of stroke. At the end of the 4-month CO-OP KT implementation support period, 10 clinicians, two from each site, volunteered as CO-OP site champions. A semi-structured focus group was conducted with 10 site champions 3 months following the implementation support period. To meet the study objective, an exploratory qualitative research design was used. The focus group session was audio-recorded, transcribed verbatim and analyzed through the lens of the integrated promoting action on research implementation in health services (iPARIHS) framework. The focus group participants (n = 8) consisted of occupational therapists, physical therapists, and speech language pathologists. Ten recommendations for CO-OP implementation were extracted and co-constructed from the focus group transcript. The recommendations reflected all four iPARHIS constructs: *Facilitation*, *Context*, *Innovation*, and *Recipients*. Implementation recommendations, from the knowledge user perspective, highlight that context-specific facilitation is key to integrating a novel, complex intervention into interprofessional practice. Facilitators should lay out a framework for training, communication and implementation that is structured but

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still provides flexibility for iterative learning and active problem-solving within the relevant practice context.

KEYWORDS

cognition, shared decision making, focus groups, problem solving, qualitative research, stroke, translational medical research, iPARIHS

1 | INTRODUCTION

A complex, multifarious study had the long-term aim of improving performance on meaningful functional outcomes for patients with cognitive impairments following a stroke by addressing two issues, (a) the reduced access to inpatient rehabilitation for these patients and (b) the reported limited capacity of health professional teams to effectively treat this underserved population.[1] In response to these interrelated issues, this multisite study implemented an integrated and supported knowledge translation (KT) initiative aimed specifically at the interprofessional use of the Cognitive Orientation to daily Occupational Performance (CO-OP) Approach,[2] an approach that relies heavily on shared decision-making (SDM). The KT initiative aimed at implementing CO-OP is known as *CO-OP KT*. Expected study outcomes included enhanced knowledge and capacity among interprofessional team members to implement the CO-OP Approach, an increase in the proportion of patients with cognitive impairments admitted to inpatient stroke rehabilitation and improvements in the immediate and long-term functional outcomes for patients discharged from inpatient stroke rehabilitation. In the paragraphs that follow, SDM in general and within stroke rehabilitation populations is discussed, and the CO-OP and KT interventions are described.

SDM is a person-centered process in which clinicians and patients collaborate to make decisions about assessments, treatment goals, and subsequent evidence-based treatment plans. This process that allows clinicians to share their skill and knowledge with patients, and patients to share their preferences and experiences with clinicians, thereby allowing the development of individualized plans that incorporate both perspectives.[3] SDM has the effect of engaging and motivating both patients and clinicians, and leads to increased patient satisfaction and better health outcomes.[4,5] Further SDM, when used consistently and interprofessionally, has the potential to enhance communication within clinical teams and across the care continuum.[6]

CO-OP is an effective, cognitive strategy-based treatment approach that aligns with Canadian Stroke Best Practice Recommendations. Using CO-OP involves a shift from traditional rehabilitation practices that focus on clinician-directed treatments, toward a person-centered, collaborative approach wherein the patients' self-selected functional goals are the focus of treatment.[7] The patient is given a considerable degree of control over the treatment direction to successfully achieve those goals. The rehabilitation team consults the patient and family to develop goals that are meaningful to the patient. Then, the patient is taught to use a global strategy approach, Goal-Plan-Do-Check,[8] to work toward their selected goals. Further, interprofessional team members use a process of guided discovery to enable the patient to identify and enact plans to work toward their goals. This approach requires ongoing communication and collaboration with the patient regarding treatment strategies. The foundations of CO-OP include person-centered care, constructivist learning theory, and as such, collaborative decision-making occurs throughout all aspects of the approach.

Details of the CO-OP KT intervention have been previously published.[7] In brief, it included a 2-day training workshop with interprofessional teams of nurses, occupational therapists, physical therapists, speech language pathologists, and other disciplines, to establish the theory and application of the CO-OP Approach in clinical practice. Following this workshop was a 4-month implementation support period, during which clinicians were encouraged to use CO-OP in their practice with the support of facilitators with expertise in both CO-OP and KT. CO-OP KT also incorporated infrastructure support, which included engaging team and hospital leadership in the implementation process. CO-OP KT included CO-OP intervention theories, in that the implementation facilitators worked with individual sites to develop site-specific implementation goals and plans. The implementation facilitators visited each site six times, and provided off-site telephone and email support between visits. The implementation support period ended with site-specific CO-OP consolidation sessions to allow for discussion about the adoption and implementation successes and challenges at each of the five sites. The CO-OP consolidation sessions took place immediately following the implementation support period and were facilitated by CO-OP KT research team members who had been actively involved with implementation facilitation throughout the intervention period. Therefore, the successes and challenges generated from these sessions reflected the recent and supported use of the approach rather than sustained, long-term use. Furthermore, the sessions were facilitated by research team members who had been involved with the implementation process, so it is possible that team members may not have felt open to voice all of their concerns. In particular, they may not have voiced concerns that differed from their managers and research team members. Therefore, the research team was interested in understanding knowledge user perspectives elicited by a neutral facilitator after the KT intervention was complete.

User perspectives are paramount to successful research implementation, clinical practice change and sustainability of any new initiative.[9] An implementation study for best practice recommendations in stroke rehabilitation highlighted differences in the perception of barriers to practice change between the frontline clinical staff who are the primary users and leadership.[10] The findings suggest that overcoming barriers identified by the clinicians, in addition to those identified by managers, may lead to greater adoption of evidence-informed practice recommendations.

Furthermore, evaluative KT studies often assess the value, feasibility and uptake of novel approaches by applying qualitative methods such as semi-structured interviews or focus groups.[11,12] Therefore, a focus group was held to determine the state of CO-OP adoption approximately 3 months after the implementation support period had ended. The focus group was divided into two sections with distinct objectives. The aim of the first section, reported in another publication,[13] was to gain a cross-site understanding about the state of CO-OP adoption since the end of the KT support. The aim of the second section, the focus of this article, was to develop recommendations from the perspective of allied health knowledge users, working in interprofessional teams, to facilitate implementation of a complex, collaborative intervention that incorporates SDM. Furthermore, we aim to build on previous literature that suggests that facilitating the implementation of SDM approaches within the stroke care system are primarily clinician-related. Clinicians' perceptions and motivations around using an SDM approach determines whether the approach enhances clinical practice and improves patient outcomes.[14]

2 | METHODOLOGY

2.1 | Design

To meet the study objective, an exploratory qualitative research design was used. Research ethics approval was received from all institutional research ethics boards of participating rehabilitation hospitals.

2.2 | Participants

The larger CO-OP KT study included interprofessional teams of stroke rehabilitation clinicians from five freestanding, academically affiliated, rehabilitation hospitals in Toronto, Canada. At the end of the implementation support period 10 clinicians (two from each site) volunteered as CO-OP site champions. All 10 site champions were invited to attend the focus group. They were asked to gather information about the state of CO-OP implementation from their team members before attending and to represent the experiences of the interprofessional members of their site's stroke rehabilitation team. Informed, written consent was obtained from all focus group participants prior to beginning the session.

2.3 | Focus group procedure

A semi-structured focus group was conducted approximately 3 months following the 4-month CO-OP KT implementation support period. The focus group was facilitated by AH and AP, two members of the research team, who were not involved in the implementation support and had no prior interactions with the champions. The primary facilitator (AH) used semi-structured, systematic questioning of all participants simultaneously[15,16] to elucidate potential CO-OP implementation recommendations. The research team developed guiding questions prior to the focus group, based on feedback about CO-OP implementation during the previous site-specific CO-OP consolidation sessions.

The focus group was divided into two sections, the latter of which is the focus of this paper. To develop recommendations that facilitate the implementation of CO-OP and other SDM treatment approaches in an interprofessional setting, this section was opened with the question: *"What are the things, in a perfect world, if we were going to implement CO-OP as [an] inter-disciplinary change in stroke rehab, what would it look like? What would have to happen?"* The facilitator used probes, such as *"What would need to be in place for it to work?"* to get a deeper understanding of the suggested recommendations and other probes such as *"Do you all feel that way?"* to determine consensus among the participants. The focus group session was audio-recorded and transcribed verbatim for analysis.

2.4 | Analysis

2.4.1 | Theoretical framework for analysis

During implementation of CO-OP KT, the integrated promoting action on research implementation in health services (iPARIHS) was used to provide a practical and holistic approach to support the complex nature of the implementation study. The iPARIHS framework was subsequently used to analyze the qualitative data derived from these focus groups. The iPARIHS framework suggests that successful research implementation is a function of the relationship between four core constructs, *Facilitation, Innovation, Recipients* and *Context*, with *Facilitation* represented as the dynamic component which helps to integrate the other three constructs.[17] Facilitation is achieved through facilitators, individuals with the appropriate roles, skills, and knowledge (novice-, experienced-, or expert-level) to help individuals, teams, and organizations apply evidence into practice. In our study, expert-level facilitators were those that taught and moderated the CO-OP training workshop and CO-OP implementation period. Experienced and novice facilitators were found among the research team and the CO-OP site champions or staff members that aimed to increase and enhance the use of CO-OP within their institution. *Innovation* describes knowledge derived from research or clinical practices that is introduced to generate change and improvement, while considering compatibility with practice context and recipients' accessibility to evidence. Within the parameters of the CO-OP KT project, *Innovation* refers to the clinical application of CO-OP and related experiential evidence developed by CO-OP trained clinicians. *Recipients* refer to persons who are affected by and influence implementation at both the individual and collective team level. The framework emphasizes the impact of the knowledge users on supporting or resisting the implementation of the innovation (ie, the CO-OP Approach). *Context* embodies the environment or setting in which the proposed change is to be implemented. This includes *inner context* which is specific to rehabilitation hospital site, stroke unit or interprofessional team, and *outer context* which refers to the broader health care system and provincial or Canadian policy frameworks.[17]

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TABLE 1 Description of iPARIHS code definitions

iPARIHS construct	Code definition
INNOVATION	Knowledge derived from research or clinical practice that is introduced to generate change and improvement, while considering compatibility with practice context and recipients' accessibility of evidence. In this project, "Innovation" refers to the CO-OP[a] Approach.[10]
RECIPIENTS	Persons who are affected by and influence CO-OP[a] implementation at both the individual and team level.
CONTEXT	The environment or setting in which the proposed change is to be implemented. This includes "inner context," which is specific to rehabilitation hospital site, stroke unit, or interprofessional team, and "outer context," which refers to the system and policy frameworks such as local health planning and funding agencies or broader Canadian/Ontario healthcare system.
FACILITATION	The active process of integrating the innovation into practice, through assessing and responding to characteristics of the innovation and the recipients (both as individuals and in teams) within their contextual setting.[10]

[a]CO-OP stands for cognitive orientation to daily occupational performance.

2.4.2 | Analysis

The focus group facilitators reviewed the transcripts to ensure accuracy, to clarify vague or inaudible data, and to provide notes regarding observations (body language, etc.) that are undetectable over voice-recording. Next, a two-step content analysis approach was employed which used an initial deductive process using an a priori coding rubric developed by two members of the research team who were not present at the focus group (K.-A.M.A. and K.R.D.) and followed by a data-driven inductive process.[18,19] The coding rubric was derived from the primary constructs of the iPARIHS KT framework (Table 1). Next, transcript data was coded line by line by three researchers working independently. Code applications were then discussed among the researchers to ensure consensus. Code definitions (Table 1) were modified iteratively throughout the application process. Codes were then reviewed by all members of the research team who were acquainted with the focus group transcripts to ensure they were reflective of the recommendations.

The data were extracted from the transcript and synthesized through the lens of these codes into a list of recommendations for CO-OP implementation. Fifteen months following the focus group, two researchers (K.-A.M.A. and K.R.D.) met with the participants via teleconference to ensure recommendations were representative of their perspectives. The content of the recommendations was reviewed by the site champions and categorized using a "keep as is," "keep and reword," and "discard" method. The recommendations were re-worded by the first author (K.-A.M.A.) and verified by two site champions and

TABLE 2 Coding of recommendations for CO-OP implementation

Recommendations for CO-OP implementation	Related iPARIHS constructs
Establish site champions at the outset of CO-OP[a] training and implementation.	FACILITATION
Create biweekly practice assignments for each key feature of CO-OP[a] and encourage reporting back on the assignments, while working toward using all or most key features in clinical practice.	FACILITATION
Utilize site-specific case study reports and CO-OP[a] videos to create a repertoire of local context-specific evidence.	CONTEXT FACILITATION INNOVATION RECIPIENTS
Regular, structured, face-to-face, 1-h, implementation sessions with small subgroups (2-4 clinicians) for a formal review and practice of key features. Session could include review and discussion of videos of CO-OP[a] session with patient.	FACILITATION INNOVATION
Require full-team basic CO-OP[a] training, so that all team members (including nurses and medical doctors) are familiar with CO-OP[a] language. Ideally, this should be done in a series of face-to-face in services, with the online tool used as a back-up/support resource.	FACILITATION INNOVATION RECIPIENTS
Provide a communication/documentation framework (including suggested documentation forms) as a starting point that can be modified to meet individual team needs. Include details of the team-specific communication/documentation framework in the full-team CO-OP[a] in services. Include an overview of this communication/documentation framework in the 2-d workshop training.	CONTEXT FACILITATION RECIPIENTS
Collaborate with nurses to develop, implement, and evaluate CO-OP[a] training adapted for them.	FACILITATION INNOVATION RECIPIENTS
Develop, implement, and evaluate patient/family CO-OP[a] training to ensure that patients and families understand how the approach is different, why it is being used and how they can contribute.	FACILITATION INNOVATION RECIPIENTS
Build CO-OP[a] awareness and provide training for clinicians throughout the care continuum so that there is consistent use of CO-OP[a] language and principles. This will promote person-centered practice and facilitate the patient's transition through the continuum. This could be accomplished by providing face-to-face in-services in other settings, and developing and placing posters and information pamphlets to raise awareness among clinicians, patients, and their families.	FACILITATION RECIPIENTS
Postimplementation phase: support cross-site learning through quarterly face to face meetings with all site Champions. These meeting should include case study	FACILITATION

TABLE 2 (Continued)

Recommendations for CO-OP implementation	Related iPARIHS constructs
presentations and have clear, structured goals and action items that each stroke team should pursue over the following 3 mo.	

[a]CO-OP stands for cognitive orientation to daily occupational performance.

one researcher (S.E.M.). The co-constructed recommendations were modified to their final version (Table 2).

3 | FINDINGS

All 10 site champions were invited to attend the focus group, and eight participated. The group consisted of occupational therapists, physical therapists, and speech language pathologists. Ten recommendations for CO-OP implementation were extracted and co-constructed from the focus group transcript. Recommendations are listed in Table 2 along with specific code categorizations according to iPARIHS. Due to the salient relationship between the iPARIHS constructs in research implementation, a single recommendation may be represented by multiple codes. One of the recommendations reflected all four constructs, *Facilitation*, *Context*, *Innovation*, and *Recipients*: "*Utilize site-specific case study reports and CO-OP videos to create a repertoire of local context-specific evidence*" (Table 2, rec. 3).

3.1 | Facilitation and context

All recommendations included suggestions about CO-OP facilitation to varying degrees, while only two recommendations placed a focus on practice context. Primarily, the recommendations expressed the need for more structure during the implementation period, such as regular problem-solving and implementation support sessions, CO-OP practice assignments, quarterly cross-site meetings, and frameworks for communicating and documenting CO-OP (Table 2, rec. 2, 4, 6, 10). They also included strategies for research facilitation, such as, the best time to identify a site champion during the implementation period and using a series of in-service training sessions (versus a 2-day workshop), with an online tool as a secondary option (Table 2, rec. 1, 5). The participants suggested that collaboration between facilitators and recipients to build on site-specific evidence (Table 2, rec. 3) and developing CO-OP resources and training programs would facilitate context-specific CO-OP implementation (Table 2, rec. 6, 7, 8, 9).

3.2 | Recipients

The majority of recommendations require greater integration of knowledge user, that is, recipient, perspectives such that the CO-OP Approach is more accessible, relevant, or applicable to clinicians and patients. Participants called for profession-specific training and modifiable communication frameworks with consideration for the needs and dynamics of interprofessional teams (Table 2, rec. 5, 6 7, 9). In particular, nurses play an important role on the rehabilitation team but, due to organizational constraints (eg, lack of coverage support to attend the focus group) they did not have the opportunity to engage in the CO-OP KT training to the same extent as other disciplines. They also recommended that patients, as recipients of CO-OP in treatment, need to understand their role in therapy as part of the SDM team. As such, patients should also understand how the approach is different from other treatment approaches they may have received (Table 2, rec. 8).

3.3 | Innovation

Half of the recommendations included suggestions that would facilitate an increase in understanding the CO-OP Approach (innovation). The participants emphasized a need for evidence of the CO-OP Approach in their specific practice contexts, such as CO-OP case studies or video demonstrations of successful, positive CO-OP sessions with patients with specific impairments (Table 2, rec. 3). These videos would also serve as training videos of how CO-OP can be used for those who are less familiar with the approach (Table 2, rec. 4). As with many treatment approaches, there is a specific language associated with its use. Participants suggested there needs to be specific training and a familiarity with the language across professions and among patients to ensure consistency in documentation, verbal communication, and person-centered care (Table 2, rec. 5, 6, 7, 8).

4 | DISCUSSION

The research team and CO-OP KT site champions co-constructed 10 recommendations for the interprofessional implementation of the CO-OP Approach that build on the original CO-OP KT intervention. These recommendations then led to further recommendations that can be applied more broadly to the implementation of complex SDM-based interventions in a multisite, interprofessional environment. In the discussion below, we elaborate on the importance of implementation facilitation, practice context, and training.

4.1 | Implementation facilitation and practice context

During the CO-OP implementation period, the facilitators used KT and supportive strategies that were flexible, and loosely structured to allow clinicians the freedom to develop their own approaches to implementing CO-OP into their practice. The facilitators chose this approach as it reflects the collaborative nature of CO-OP, and they believed it would encourage site-specific and person-centered adoption. However, the recommendations reflect the need for a more structured framework for implementation support. This aligns with

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findings by Harvey et al,[20] which highlights that a structured process for implementation along with active facilitation leads to greater uptake of an intervention compared to remote support with reference to online resources. Although CO-OP KT facilitation support included several face-to-face meetings for each team, there were also 2-week interim periods with remote support that may have been mitigated with more structured implementation, including earlier establishment of site champions. We suggest that KT strategies chosen for a complex, context-specific SDM-intervention must balance the importance of structure and guiding frameworks with the need for flexibility, site-specific variations, and individual health professional variations.

The facilitator[21,22] plays a major role in research implementation, as they not only have in-depth knowledge of the intervention (CO-OP Approach), but they also have an understanding of the practice context and stakeholder dynamics. The novice, experienced or expert facilitator may be internal or external to the practice context and is identified by their knowledge, skills, and experience with the intervention and with facilitation and KT strategies. The first recommendation suggests that the site champions, novice internal facilitators, are identified prior to CO-OP implementation rather than towards the end (Table 2, rec. 1). This may have presented the opportunity for the champions to be trained in CO-OP before their respective interprofessional teams, thus, entering the implementation period with a greater understanding of the approach and increased capacity to facilitate CO-OP use in their local context. Furthermore, with preliminary training, the champions, who are also knowledge users, may have better utilized the support and resources provided by the experienced and expert external facilitators (implementation facilitators). There are clear advantages to establishing a supportive partnership or mentorship between the novice internal facilitator and the experienced/expert external facilitator prior to research implementation; chiefly, a cohesive multilevel approach to facilitation which maximizes expert knowledge of the CO-OP Approach and KT strategies, and familiarity with site-specific culture and organizational frameworks.[17,23,24]

Practice context was the iPARIHS construct that was the least explicitly mentioned. Outer context, for example, single-payer provincial healthcare system, was not reflected at all in the recommendations and inner context in only two. Participants recommended access to site-specific evidence and to training and communication frameworks that are specific to the practice and dynamic of each team. This is supported by Bae,[25] who suggests that when clinical practice reflects a knowledge gap or misunderstanding of an SDM approach, education and training are the primary strategies to overcome these barriers. Note that recommendations for practice context were also categorized as recommendations for facilitation. This relates to the need for site-specific and profession-specific evidence and facilitation strategies which critically consider the practice environment.

4.2 | Training

The recommendations (Table 2, rec. 5, 7, 8) suggested that practice change can be facilitated by basic CO-OP training for the full interprofessional team and related teams across the care continuum (eg, outpatient rehabilitation). This type of broad-spectrum training would support the development of a common language, understanding and unified approach to care within an organization. Furthermore, the clinicians suggested that CO-OP training be re-structured such that the approach is broken down into more manageable components and the clinicians be allowed time to practice and reflect before building on the approach with another component. This would also allow flexibility for clinicians to reflect on how best to implement CO-OP elements within their practice. This, participants suggest, would facilitate a greater understanding and more complete implementation of an approach that requires significant shifts in behaviors from clinician-directed decision making to SDM within interprofessional teams. Furthermore, CO-OP training should also be targeted to the practice context and be profession-specific where applicable, particularly for nurses. Champions emphasized the need for collaboration with nurses to develop a CO-OP training module that is specifically modified for the nursing model of care. Current literature suggests that context-specific training and active facilitation is vital to building individualized evidence that motivates uptake of a new innovation or technology and generates "buy-in" for new approaches among knowledge-users.[13,20] Thus discipline-specific modules may be important, even within the interprofessional context.

4.3 | Limitations and future directions

This qualitative study was limited in that not all disciplines were represented in the focus group, two sites had only one representative rather than two, and the respondents were all site champions. Being site champions potentially gave them a more comprehensive understanding of the full team's implementation. On the other hand, this was a potential study limitation, in that responses came from these individuals who were presumably more devoted to the implementation process and had volunteered for a leadership role in it.

In terms of future directions, many of the KT challenges came from limitations imposed by the research design. The intention of CO-OP KT was to train the full interprofessional team, and provisions were put in place to facilitate that. For example, funding was provided to backfill staff who attended the workshop so that patient care would be minimally impacted and an online course was in place for those who could not attend the workshop. However, system and organizational constraints did not support participation by all team members. As a result, there were limited number of nurses who participated in the training and none were able to be site champions or attend the focus group. Although we considered the larger study to be a pragmatic design, a future implementation without the constraints of the research context may allow for more complete implementation.

5 | CONCLUSION

Implementation recommendations from the knowledge user perspective highlight that context-specific facilitation is key to integrating a novel and

complex intervention into interprofessional practice, particularly, interventions that requires significant shifts in clinical practice from clinician-directed decision making to shared-decision making. Furthermore, facilitators should lay out a structured framework for training, communication and implementation while providing flexibility for iterative learning and active problem-solving within the relevant practice context.[13]

This study is based on a real-world implementation of an SDM-based intervention from the perspective of individual allied health professionals and interprofessional stroke rehabilitation teams. Previous works have focused on the physician-patient dynamic in SDM, which is arguably quite different from the stroke rehabilitation practice context and relationships between allied health rehabilitation professionals and their patients. This study builds on the limited number of manuscripts from this perspective. We suggest further research in the long-term effects of SDM approaches on clinical practice and patient outcomes in stroke rehabilitation.

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