Can Workshops Provide a Way to Enhance Patient/Client Centered Collaborative Teams?: Evidence of Outcomes from TEAMc Online Facilitator Training and Team Workshops

Carole Orchard
University of Western Ontario, Canada

Susan Bursey
Northeastern Ontario Stroke Network, Health Sciences North, Sudbury, Ontario, Canada

Linda Peterson
Retired Epidemiologist, Canada

Susan Verrilli
Northeastern Ontario Stroke Network, Health Sciences North, Sudbury, Ontario, Canada

Abstract

The movement towards collaborative interprofessional teamwork for improving patient care has sometimes been impeded by health providers who have a desire to work together, but are unsure how to move towards such models of care delivery. The situation can be complicated by some reluctance on the part of health care institutions to release staff from normal duties to participate in team building training. The purpose of this study was to report on a collaborative team building process supported by the hospital administration in northern Ontario, Canada, and to provide evaluation results for the Toolkit for Enhancing and Maintaining Team Collaboration (TEAMc) using measurements before the start, at the end of the workshop series and at eight months post-series. Participants were from two teams (Acute Care and Rehabilitation) in a northern Ontario, Canada, hospital. TEAMc was comprised of six, 3-hour workshops offered over six months in 2014/15. A total of 77 health providers completed the pre-intervention Interprofessional Socialization & Valuing Scale (ISVS) and the Assessment of Interprofessional Team Collaboration Scale (AITCS), 50 health providers completed the post-intervention instruments and 32 and at the eight month follow-up. The study found that TEAMc can result in changes in team members' socialization towards wanting to participate in interprofessional teams and in the team's ability to emulate interprofessional client-centered collaborative practice. The greatest learning gained by participants was around their role clarification and understanding of each other's roles and expertise, as well as developing their capacity to use a process to resolve interprofessional conflicts.

Keywords: collaboration; collaborative teambuilding; interprofessional conflict; role clarification; socialization

and team workshops'. *International Journal of Practice-based Learning in Health and Social Care*, 4 (2), 73–87

Introduction

An Institute of Medicine report (Kohn, L.T., Corrigan, J.M., Donaldson 2000), and subsequent reports on the future of health care advocating teamwork by the World Health Organization (WHO 2005, WHO 2010), addressed the need for interprofessional teamwork to meet both the impending shortage of health practitioners and patient safety issues in practice. The movement towards interprofessional teamwork began to be discussed in the literature in the 1960s in Canada, and earlier in the US, and UK. However, not until health system administrators began focusing on human resource limitations, and connecting these to focus on utilizing this workforce in a more effective way, did interprofessional education and collaborative practice become part of overall policies. Today, almost any report within most health systems will note the need for interprofessional teamwork that is client- or patient-focused. The persistence of multidisciplinary teamwork has created some barriers restricting full movement towards collaborative practice. Multidisciplinary teamwork relates to a team of health professionals who independently assess and identify treatments, or other interventions, to address patients' health issues and who may or may not interact with other members of the team to share their personal viewpoint on patient needs. In contrast, interprofessional collaborative practice is "a partnership between a team of health providers and a client in a participatory, collaborative and coordinated approach to shared decision-making around health and social issues" (Orchard, Curran, and Kabene 2005: 1).

Over the past decade, there has been movement towards better understanding of what constitutes interprofessional client-centered care, including how the client can become part of the team. In 2005, a foundation for achieving interprofessional care, suggested by a number of Canadian authors, was summarized in a supplemental publication of the *Journal of Interprofessional Care* (Hammick 2005). They proposed building on work that had been carried out in the U.K. and the U.S. in the late 1980s. The outcome was a clear definition of what constitutes interprofessional education: "occasions when two or more professions learn from and about each other to improve collaboration and the quality of care" (Centre for the Advancement of Interprofessional Education 2002: np).

D'Amour and Oandasan (2005) provided an initial framework for what specific elements constituted both interprofessional education and patient collaborative care. In 2010, the Canadian Interprofessional Health Collaborative released its *National Interprofessional Competency Framework* (Canadian Interprofessional Health Collaborative 2010), while King *et al.*'s (2010) the ISVS scale was designed to provide a means for measuring and evaluating the socialization towards working interprofessionally. The CIHC Competency Working Group adopted a process approach to assessing competence in collaborative judgements made by teams working together that focused on both the learner and practitioner (Canadian Interprofessional Health Collaborative 2010). In 2012, the Assessment of Interprofessional Collaborative Team Scale (AITCS) was published (Orchard *et al.* 2012). This latter instrument evaluates how team members assess their collaboration as a team.

Thus, a great deal has been published about interprofessional education and student learning. However, there is less specific information about the structure needed for building effective health teams. Two often-cited programs include TeamSTEPPS® (http://www.ahrq.gov/teamstepps/instructor/index.html) and Crew Resource Management (CRM) such as that of Global Air Training (n.d.); both are valuable in helping teams work on their interprofessional communications and resolving conflicts (Salas, Gregory, and King 2011, Baker *et al.* 2010). These programs are designed to improve knowledge of, attitudes towards and skills in core areas. However, neither fully addresses the competencies necessary for the implementation of collaborative interprofessional client-centered practice. In an analysis of literature related to this form of team development, Salas *et al.* (2008: 1005) reported that "team training interventions are a viable approach organizations can take in order to enhance team outcomes. They are useful for improving cognitive outcomes, affective outcomes, teamwork processes, and performance outcomes". More recently, Salas and Rosen (2013) suggested that

in order to enhance teamwork in health care, it is necessary to focus on three components: (a) team training; (b) standardized communication protocols; and (c) team structural interventions.

The purpose of this study was to report on a collaborative team building process supported by both the Northeastern Ontario Stroke Network and the hospital administration in northern Ontario, Canada, and to provide evaluation results for team training using the Toolkit for Enhancing and Maintaining Team Collaboration) (TEAMc) from participants on two teams (Acute Care and Rehabilitation) in a northern Ontario, Canada, hospital using measurements before the start and at the end of the workshop series, and at eight months post-training series. On-line training was provided for the facilitators of the workshops.

Methods

Workshop development

In 2009, an initial approach to the development of such a training program occurred in London, Ontario, Canada, using evaluative outcomes from face-to-face workshops with one newly formed health provider team. The result was a program of six workshops provided in 2-hour blocks of time over six weeks. The impact of this training has been reported (Adams *et al.* 2014). Based on the release of the Canadian Interprofessional Health Collaborative's (CIHC) National Interprofessional (IP) Competency Framework (Canadian Interprofessional Health Collaborative 2010), and the movement in the health system to focus on appreciative inquiry (AI) to support innovative change in practices (Cooperrider and Whitney 2005), some modifications to the workshops were made. The IP Competency Framework and AI were then used to create a structure for an interprofessional client-centered collaborative team-building training program and resulted in the release of TEAMc *Toolkit for Enhancing and Maintaining Collaboration* 2014 (TEAMc 2016).

TEAMc materials are available online for facilitators of the licensable program including Powerpoint® slide sets, worksheets, feedback and reflection forms, as well as a facilitator resource book (www.teamc.ca). The program's content is based on theory and research designed to help facilitators conduct workshops and to transform participants from multidisciplinary to interprofessional collaborative practitioners. The program also provides in-house facilitators with ongoing coaching and mentoring support for orientation of new team members and for maintenance of collaborative team members.

The setting

The Northeastern Ontario (NEO) Stroke Network is comprised of stroke care stakeholders from across the continuum of care (public health, pre-hospital/emergency medical services, acute hospital care, rehabilitation, long-term care, and community-based care). Under the guidance of the Regional Stroke Steering Committee, the network develops strategic plans for implementing stroke best practice across the region. Although the administrative offices of the network are based out of the district stroke centers in Sault Ste. Marie, Timmins and North Bay and the Regional Stroke Centre in Sudbury, the work extends to all parts of the region and across all sectors. The NEO Stroke Network was involved in the design of the program as a sponsor and supporter.

A one-day TEAMc facilitator training workshop was conducted for four sites, focusing on overviewing and on providing the workshops. Each facilitator, chosen by his/her respective hospital administrators, was provided with a facilitator workbook containing all the workshop materials (Powerpoint slides; worksheets; feedback forms; and reflection sheets; etc.). Three of the four sites withdrew prior to implementation, because of the cost of staff attendance and the expected commitment for the TEAMc facilitator role.

The participants

Two members from NEO Stroke Network's regional team, committed to being TEAMc workshop facilitators, were successful in garnering support from senior leaders at Health Sciences North (HSN) and provided materials and online access to TEAMc. An online facilitator support site was developed on the University of Western Ontario's online learning platform, OWL, and included a fictional development of a team across the workshops as an online framework. The goals of the workshop training series are provided in Table 1.

Table 1. TEAMc Facilitator Training Workshop Goals

- To explore facilitators' current knowledge of interprofessional client-centred collaborative practice;
- To gain an understanding of the Interprofessional (IP) CIHC IP Collaboration Competency Framework and its application into practice;
- To gain insight into the assessment of both collaboration in teams, and team member's socialization towards interprofessional teamwork;
- To develop an understanding of the use of Appreciative Inquiry for team building;
- To gain insight into the role of the TEAMc facilitator for workshop, and the patient orientation module;
- To explore the TEAMc facilitator role: in guiding team sessions, in support teams post sessions, in coaching for ongoing team enhancements, and in helping teams to assess their teamwork;
- To explore the role of management and administration in supporting interprofessional client-centred teamwork; and
- To discuss the ongoing orientation of new team members to the teams, and facilitator support during TEAMc implementation.

The workshops

The framework for the series arose from two complementary theoretical approaches: appreciative theory (Cooperrider and Whitney 2005) and the CHC's Interprofessional Competency Framework (Canadian Interprofessional Health Collaborative 2010). These approaches are based on the expectation that team members consider what is currently working well within their team, and what enhancements team members would like to see within their team to be even more effective. The emphasis is on utilizing existing team strengths as the basis for growth.

The workshops consist of six sessions and an orientation session for patients who participate with the team in its development beginning in Workshop 3. Each session lasted approximately two to three hours. The content is summarized below.

In *Workshop 1 – Discovering Interprofessional Teamwork, Roles, Skills & Responsibilities*, the team considers and identifies how to utilize the full knowledge, skills, and expertise of all their team members in sharing the work to achieve team set goal(s).

Workshop 2 – Our Teamwork Effectiveness, helps the team to focus on the aspects of their teamwork that really work well, with a focus on their team communications and team meetings.

In *Workshop 3 -- Ideal Interprofessional Collaborative Team Functioning*, the team 'dreams' about what their ideal interprofessional collaborative team would be. At this stage, it is recommended that at least one to two patients, who normally receive care from the team, be invited to participate in the team enhancements to ensure team care will be patient-centred. The team may also choose to add a family member to this process. A family member (or other chosen caregiver) is especially important if the team cares for patients who are cognitively

impaired or are often unconscious. If patients and family members are to be included, they should first go through the orientation component of the process and then be integrated into Workshop 3 with the other team members. A separate patient/family member orientation is provided in this toolkit.

In *Workshop 4 -- Moving the Collaborative Team to a Design*, the focus is on the team's 'dream' and what is already in place to support the 'dream', then to consider the gaps that need to be addressed for change to occur.

In *Workshop 5 -- Creating the 'Dream' into their 'Destiny' Operational Plan*, the team is provided with the opportunity to integrate their strengths with the changes needed to overcome gaps into a plan to design their 'dream'. A key aspect of this workshop is assessing the fit of the plan into their existing agency or institution. Ensuring a fit may require some adjustments to the Destiny Plan (this is part of Appreciative Inquiry (AI) in which the team used their dream of how they could function as a collaborative team and then created the plan to make it happen. We term this the Destiny Plan to fit with the model for AI).

In *Workshop 6 -- Testing the Destiny*, team members have the opportunity to try out their new team functioning using a 'case study' that reflects a composite of those patients and families the team often deal with. In so doing, they are able to find out what in the design is working well, and where adjustments to their design and plan may be needed. Following this, the team can use their team meetings to reflect on how well their team work is moving forward and if more in-depth development is needed.

Data collection

Two instruments were used to determine the impact of changes in team practice. The first instrument, Assessment of Interprofessional Team Collaboration Scale (AITCS), contains 37-items using five-point Likert scales (total range 37-185) and was developed to assist health providers in delineating their perceptions of how their team and its members work collaboratively together (Orchard *et al.* 2012). The AITCS has three subscales: Partnership (range 19-95), Cooperation, (range 11-55) and Coordination (range 7-35), which together assess team collaboration. In addition, the need for health providers to assess their progress toward acceptable levels of wanting to work in interprofessional collaborative teams can be assessed through a second instrument, the - Interprofessional Socialization & Valuing Scale (ISVS), which uses a seven-point Likert scale (total range 34-238). This 34-item instrument was developed to provide documentation of the comfort and the attitude of students or health providers to working in collaborative relationships with others. Three subscales measure: Comfort in working with others (range 9-63) Ability to work with others, (range 11-77) and Valuing working with others (range 14-98), which together assess an individual's socialization towards working in teams. The psychometric properties of these instruments have been reported elsewhere (King *et al.* 2010, Orchard *et al.* 2012) and are also available from www.ipe.uwo.ca. Both the AITCS and the ISVS include patients and their families as potential collaborators, groups that are excluded in other existing tools (King *et al.* 2010, Orchard *et al.* 2012). A total of nine patients and family members were recruited by the workshop facilitators to participate in the teams' development.

Data analysis

Questionnaires containing the AITCS and ISVS instruments were available online through SurveyMonkey® or in paper format. Data were collected from workshop participants prior to the start of the first workshop, just after completion of the last workshop, and eight months after completion. Changes in overall subscale mean scores were assessed using independent t-tests ($p < 0.05$) because it was not possible to link survey responses across the three data collection times due to the lack of individual identifiers. The lack of identifiers was a conscious decision to encourage practitioners to respond to the surveys in the light of reports that they held a sense of distrust with administration and its programs. In addition, feedback was requested from the

respondents in the form of open-ended questions concerning the content of the training and the experience in the workshops. Summaries of responses to open-ended questions were prepared by the workshop facilitators and were based on comments provided by participants in the final feedback forms at the end of the workshop series.

Findings

The participants.

Table 2 provides a list of the staff roles of the participants from the two units, along with their years of practice in the team. As can be seen from the table, teams were quite different in terms of roles and years of experience. Attendance at the workshops decreased overtime. Initially 82 individuals attended Workshop 1; by Workshop 6, attendance had decreased to 50.

Table 2. TEAMc Participants by Unit, Professions and Team Experience
(legend: T1 = pre-workshops; T2 = post-workshops; T3 = 8 months post workshops)

Unit	T1 *N*	T2 *N*	T3 *N*	Health Professions*	Team Experience by *M* and Range
Unit 1 Acute	36	21	11	RN (14), PSW (7), RPN (5), OT (2), Therapy Assistant (2), PT (1), SLP (1), SW (1)	*M* = 3-5 yrs (16); 6 to 10 yrs. (12)
Unit 2 Rehab	41	29	21	RN (4), RPN (10), Therapy Assistant (7), OT (5), PT (5), SLP (5), Recreation Therapist (2), Clinical Psychology (1), SW (1), PSW (1)	*M* = 3-5 yrs. (16); 11 to 20 yrs. (10)

*RN Registered Nurse, PSW Personal Support Worker, RPN Registered Practical Nurse,
 OT Occupational Therapist, PT Physical Therapist, SW Social Worker, SLP Speech Language Pathologist

Pre- post- AITCS results

Table 3 shows the pre- and post- AITCS results**.** For Unit 1 (acute care), none of the changes in the scales were statistically significant across the three time periods at $p < 0.05$. For Unit 2 (rehab), one of the three subscales (Coordination) as well as the overall team Collaboration improved significantly, while the change in Partnership was borderline. The Cooperation subscale did not change. There are differences in the numbers of individuals who filled out questionnaires and those that were analyzed, since some of the items on the scales were incomplete and could not be included in the analyses.

Table 3. Pre- post- AITCS subscales means, SD and *p*-values

	T1			*T2*				*T3*		
Unit 1 Acute	*N*	*M*	SD	*N*	*M*	SD	*p*	*N*	*M*	*SD*
Partnership	34	30.38	4.900	20	30.65	4.32	.940	11	32.91	2.982
Cooperation	32	29.53	4.872	20	30.00	3.685	.471	11	32.364	4.056
Coordination	32	25.25	2.082	20	25.45	3.620	.794	11	26.00	4.561
Collaboration	31	82.81	13.990	20	86.100	9.695	.334	11	91.273	10.527
Unit 2 Rehab	*N*	*M*	SD	*N*	*M*	SD	*p*	*N*	*M*	*SD*
Partnership	39	30.821	5.530	32	32.720	5.126	.080	21	32.574	3.749
Cooperation	36	29.472	5.700	32	31.590	4.760	.125	21	30.95	3.122
Coordination	36	21.970	5.955	30	25.970	5.163	.030	19	24.84	4.22
Collaboration	33	81.76	14.891	30	90.800	13.116	.046	19	88.895	9.398

Pre- post- ISVS result

Table 4 shows the pre- and post-ISVS results. The T1 to T2 improvements in the three subscale scores and the overall socialization towards interprofessional teamwork were highly statistically significant for both units.

Table 4: Pre- Post- ISVS subscales by unit, means, SD and *p*-values

	T1			T2				T3		
Unit 1 Acute	n	*M*	SD	N	M	SD	P	n	*M*	SD
Comfort	33	33.333	12.183	19	50.842	8.732	<.001	11	54.64	4.610
Ability	30	51.70	16.253	18	63.668	10.059	.003	11	73.273	6.695
Attitudes	31	57.484	23.697	18	79.222	14.461	<.001	11	65.364	5.464
Socialization	29	145.379	50.972	18	193.833	32.711	<.001	11	193.273	16.044
Unit 2 Acute	n	*M*	SD	N	M	SD	P	n	*M*	SD
Comfort	38	29.151	16.551	28	52.429	18.446	<.001	21	51.00	7.470
Ability	38	43.632	14.978	28	63.679	10.774	.003	21	67.76	9.979
Attitudes	38	50.974	20.398	28	75.179	14.957	<.001	21	59.95	10.317
Socialization	37	123.162	46.413	28	191.286	39.467	<.001	21	178.71	26.571

Eight month follow-up

At the follow-up, 11 individuals from the acute care team and 21 from the rehabilitation group responded. In the eight month re-assessment, comfort and ability increased from T2 while attitudes decreased but did not return to T1 levels. The result was a minimal decrease in the overall socialization in the acute unit team. There was a similar decrease in the rehabilitation team's attitudes as well as in their comfort but there was a further increase in their ability to practice interprofessionally. However, the rehabilitation team's overall socialization decreased from T2 to T3 but also did not return to T1 levels. Since there are currently few longitudinal studies with which to compare these findings, it is difficult to interpret the full meaning. Further assessments over time will be carried out with these two teams to determine if there are patterns that might be learned from their team experiences long term.

Feedback at the end of the series

Table 5 summarises the feedback at the end of the series. Overall the responses from participants in the workshops were positive. It is interesting to note that participants felt that they still needed to focus on communication and increasing confidence. In addition, there were several suggestions concerning future educational efforts such as goal setting and person-centered care. Summaries of the open-ended questions were reached using consensus.

Table 5. The pre- and post-workshop results for collaboration and socialization into teams and open comments

5 = strongly agree; 4 = agree; 3 = neutral; 2 = disagree; 1 = strongly disagree					
	5	4	3	2	1
1. I understand the means that can be used within the team to communicate effectively.	56%	42%	2%	-	-
2. I have gained an appreciation of how the knowledge, skills and expertise of all our team members can enhance patient care planning.	59%	39%	2%	-	-
3. I have gained an understanding of members of the team who can share areas of patient care with me.	56%	34%	10%	-	-
4. I now have a clear understanding of what our team goals are.	44%	52%	2%	2%	-
5. I am able to share responsibilities for patient care within this interprofessional care team.	59%	37%	4%	-	-
6. I am gaining more comfort in allowing the patient and family to take more control over their own care planning.	56%	44%	-	-	-

7. What were the *most relevant aspects* of the TEAM C workshop series *for you* as a member of a stroke care team at HSN?
Developing Goals/Collaborating: 44% Role Clarification: 19.5% Communication: 19.5% Patient Interaction: 10% Left blank: 7%

8. What do you feel you personally *still need to focus on* to become an effective team member?
Communicate more effectively/increase my confidence: 34 % My conflict resolution skills: 10% Collaboration/improving the stroke unit: 12% Goal setting with patient/family: 15% Left blank: 29%

9. Where do you feel the team as a whole *still needs to focus on* regarding its development (to reflect all the principles and concepts developed during the workshop series)?
Communication: 29% Collaborate/improve the stroke unit: 24 % Goal setting with patient/family: 17% Increased education/support: 10% Left blank: 20%

10. What, if anything, would you like education on: *(check all that apply)*
a. Goal-setting – 34 % b. Person-centered care – 27 % c. A specific outcome measurement tool: 2 % d. Group Dynamics – 17 % e. Communication – 27 % f. Effective Meetings—20 % g. LEAN Training ---42 % h. More IPC concepts --4 % i. Other: Update of working group's achievements/progress on our Goals/Projects

Feedback from health care participants

The 'role clarification' exercise proved to be one of the best parts of the entire series. Examples of participant comments included: '*I finally know what 'she' does'*, '*It was great to get to know other team members*', *'I was surprised how easy it was to share my opinion'*, '*It was helpful to learn what everyone's expertise is.'* The summary of the responses was carried out using reviewer agreement as the criterion.

Participants also enjoyed the 'conflict resolution' section. They also noted frequently how the former patients'/families' input was so valuable. Feedback was generally positive and the level of engagement among most of the participants in the workshops themselves was excellent.

Feedback from patient/family participants.

There were nine patient/family participants across the two teams. Overall, the patient participants found the experience to be very positive, in spite of some hesitancy in the beginning. The patients expressed appreciation for being asked to participate and for having their contributions seen as valuable. '*When I arrived for the first session, I felt presumptuous and perhaps out of place… before I walked through the door and met the group*.' '*I recognized some familiar faces from my previous stay, and I found it easy to offer my ideas and 'patient perspective' as the conversation developed.*' '*My contributions were definitely seen as helpful. I felt spontaneously accepted, and never felt like an 'outsider'.*' '*My words were recorded along with the others on the big flip-chart pages which papered the walls.*' '*Being a witness to the process was rewarding as well. Seeing how ideas emerged and the team arrived at new possibilities and deeper understanding was fascinating*.' Another said:

> I was given an enviable opportunity to see how individuals in the system can work together to meet challenges…. To develop key strategies and action plans to carry forward into an implementation phase.

Feedback from facilitators

The facilitators were positive about the flexibility of the program, so that they could adapt content to the needs of the group. In this way, they could ensure that the material was directly relevant to the team. '*We really appreciated the freedom to alter/add/revise/omit content from the TEAMc program as we felt necessary as facilitators at one organization.*' **'***We altered the worksheets in workshop 5 and 6 to align with their direction/goals/dream etc.'* '*We also added in cartoons to drive home the points around communication and conflict resolution.*' '*We also pulled in local organizational content to support 'buy-in' like the hospital's strategic priorities, the hospital's adoption of LEAN methodology into process improvement, Quality-Based Procedures for Stroke etc.'* A further comment was:

> We connected the new goals/activities/destiny maps that the teams were crafting to established streams of work underway at the hospital so managers and directors would support the continued work that arose related to the destiny maps once the last workshop had ended.

Discussion

In general, there was support for the approach taken by the facilitators, team members and patients. The constructs that were measured by the ISVS were impacted by the experience for both participating teams. Measures of Comfort, Attitude, Ability and Socialization may be more directly relevant to the type of experience in the workshops than were the constructs measured by the AITCS (Partnership, Cooperation, Coordination, and Collaboration). Why this is the case, is not readily obvious. One explanation may relate to the need for team members, who have worked in different ways with each other in the past, to 'unlearn' old patterns to embrace new

ones. Certainly, some additional interviewing and qualitative analysis might help to provide some basis for the findings.

There were improvements in many aspects that were measured in this study. Of interest is the failure to find any changes in the AITCS subscales for Unit 2 (rehab). One possible explanation for this is that this group worked together as a team prior to the workshop and team characteristics were already being addressed by the members of this group. Perhaps consideration should be given to expectations from the workshops, based on prior relationships. So rather than concluding that the workshops were not effective, it may be that they served to reinforce already existing approaches for this team.

The resources that were required may prove to be a barrier for some institutions. Release time for participation in the workshops is three hours for each of the six workshops. In addition there are resource costs: TEAMc license currently $1,000 per annum, the workbook was $50 per person, and facilitator training was $1500 for one day (all Canadian dollars).

Cost for team building

Based on our experience with the two team workshop series, there are some factors that need to be considered. Three other centres in the region were approached to participate, but opted out because of the time commitment required for the facilitator and the staff. Of concern was the cost incurred for releasing staff to attend the sessions. In order to obtain cooperation, it is imperative that the benefits to patients and staff be demonstrated so that the long term benefits outweigh the short-term commitment.

Financial benefits to health organizations

In a Danish study focusing on the cost impact of collaborative practice with patients who had hip replacements, it was found that regular meetings of the team around the monitoring of their shared set of care plans resulted in a cost saving from shortened lengths of stay for these patients as compared to those patients receiving traditional care for the same surgical intervention (Hansen, Jacobsen, and Larsen 2009). In a study in Ontario with the staff of a rehabilitation unit, there was a reduction in staff turnover, increased desire by staff to transfer to work in the unit (when previously they could not recruit staff for the area) and a reduction in patient complaints (personal communication with Rehabilitation Manager, September, 2011). Hence, it can be argued that the investment in such team building can result in cost savings long term to the institution in both recruitment and retention of staff. At a time where health human resources are in the decline, such training may be a cost-effective means to overcome staffing shortages.

Health human resource utilization benefits

Improvements in interprofessional communications within collaborative team has been shown to reduce medication errors, and nosocomial falls and infections (Bonello *et al.* 2008). Such reductions can result in decreased cost of supplies to treat medication errors and infections as well as a reduction in the length of stay of patients. Both outcomes are key indicators being tracked by many health system evaluators. Suter et al. concluded from a knowledge synthesis on IPC that "there is strong evidence that IP interventions at the post-licensure level [practitioner level] reduce patient care costs" (Suter *et al.* 2012:261). This finding is further supported by the Zwarenstein *et al.* Cochrane Review of IPC on practice-based interventions which suggested that these interventions can "improve healthcare processes and outcomes…" (Zwarenstein, Goldman, and Reeves 2009: 2).

Understanding the value of interprofessional collaborative team training

Given the breadth of topics covered in the workshops, it is probably useful for the participants to be exposed to all of the materials. In the present study, a high percentage of rehabilitation staff are full-time and there is little staff turnover, whereas the acute unit is larger with many part-time

and casual staff. In the former case, participation was consistent, while in the latter there was a lower percentage of participation, especially as time went on. One approach to help with the issue of dropouts could be to film the sessions and have them available online for participants who were unable to attend all of the sessions; or a summary of the discussions could be provided online so that individuals could become familiar with the team's workshop processes and developed materials.

Of note was the attrition of nurses during the workshop series, particularly from the acute unit. Interviewing drop-outs in order to ascertain their reasons might provide useful information to improve participation in future programs. Perhaps alterations, such as changes in schedule time, might provide a simple way of improving participation; or the availability of make-up sessions to give participants options for sessions they may have missed.

Finally, the selection of patient participants in the training can have a marked impact on the training and the outcome. The nature of their health issues and their belief in the importance of this type of training can have either positive or negative impacts. In the case of this project, all the patients had excellent engagement and participation during both teams' development. Conducting some qualitative interviews might provide information on how to gain more 'buy-in' from workshop participants to complete assessment instruments to help them see the value in knowing how their team is progressing (or not) in its collaborative efforts. It is not possible to document the findings when one-third of the participants did not continue to participate in the longitudinal data collection of teamwork.

The participants' expressions of how they valued both role clarification and conflict resolution learning as part of TEAMc are consistent with the conclusion that this type of workshop can be important in overcoming profession-specific thinking (in-group/out-group bias) (Pettigrew 1998). Role clarification exercises can create a willingness to listen, to respect, and to value each other (intergroup contact) (Pettigrew and Troop 2008). The current emphasis on task training through Lean Management (See End Note 1) commonly provided within hospitals, needs to be augmented by relational development within and across teams as well to realize the full benefit of such training for staff and in providing safe care environments and improved health outcomes for patients.

Limitations

A number of limitations must be considered. A control group comparison was not part of this study and the study sample for each unit was small. Studies that include control comparisons, as well as longitudinal follow-up, are needed. Since the respondents provided their own perceptions of their socialization and team collaboration, there may be some social desirability in these findings. The absence of identifying codes also limited the analysis to aggregate mean scores for each team. In addition, there was attrition both across the workshop series and in the numbers of respondents providing survey information over time. It is not clear, therefore, whether the findings are generalizable to the entire group of individuals who began the workshop series.

Conclusion

TEAMc can result in changes in team members' willingness to participate in interprofessional teams and in the team's ability to emulate interprofessional client-centered collaborative practice. The greatest learning gained by the participants was around their role clarification and understanding of each other's roles and expertise, as well as developing the capacity to use a process to resolve interprofessional conflicts (Sexton and Orchard 2016). Methods for maintaining participation and for providing evaluation information at follow-ups, need to be explored.

Notes

1. Lean management is an approach to running an organization that supports the concept of continuous improvement, a long-term approach to work that systematically seeks to achieve small, incremental changes in processes in order to improve efficiency and quality. Available from searchcio.techtarget.com/definition/lean-management [23/09/2016]

References

Adams, T.L., Orchard, C., Houghton, P., and Ogrin, R. (2014) 'The metamorphosis of a collaborative team: From creation to operation.' *Journal of Interprofessional Care*, 28 (4), 339–344 http://dx.doi.org/10.3109/13561820.2014.891571

Baker, D.P., Amodeo, A.M., Krokos, K.J., Slonim, A., and Herrera, H. (2010) 'Assessing teamwork attitudes in healthcare: Development of the TeamSTEPPS teamwork attitudes questionnaire.' *Quality and Safety in Health Care*, 19 (e49), 1–4 http://dx.doi.org/10.1136/qshc.2009.036129

Bonello, R.S., Fletcher, C.E., Becker, W.K., Clutter, K.L. Arjes, S.L., Cook, J.J., and Petzel, R.A. (2008) 'An intensive care unit quality improvement collaborative in nine Department of Veterans Affairs Hospitals: Reducing ventilator-associated pneumonia and catheter-related bloodstream infection rates.' *Joint Commission on Accreditation of Healthcare Organization,* 34 (11), 639–645

Canadian Interprofessional Health Collaborative (CIHC) (2010) *A national interprofessional competency framework.* Available from http://www.cihc.ca/files/CIHC_IPCompetencies_Feb1210.pdf [1 August 2016]

Centre for the Advancement of Interprofessional Education (CAIPE) (2002) *Defining Interprofessional Education.* Available from http://caipe.org.uk/resources/defining-ipe/ [1 August 2016]

Cooperrider, D.L. and Whitney, D. (2005) *Appreciative Inquiry: A Positive Revolution in Change.* San Francisco, CA: Berrett-Koehler

D'Amour, D. and Oandason, I. (2005) 'Interprofessionality as the field of interprofessional practice and interprofessional education: An emerging concept.' *Journal of Interprofessional Care, 19* (Suppl.1), 8–20 http://dx.doi.org/10.1080/13561820500081604

Global Air Training (n.d.) *Crew Resource Management.* Available from http://www.globalairtraining.com/crew-resource-management.php?gclid=CJb63_nfItACFUY8GwodQ64B_A [7 November 2016]

Hammick, M. (ed.) (2005) 'Interprofessional education for collaborative patient-centred care: Canada as a case study. [Special issue]*' Journal of Interprofessional Care* [online] 19 (Suppl.1). available from http://www.tandfonline.com/toc/ijic20/19/sup1

Hansen, T.B., Jacobsen, F., and Larsen, K. (2009) 'Cost effective interprofessional training: An evaluation of a training unit in Denmark.' *Journal of Interprofessional Care*, 23 (3), 234–241 http://dx.doi.org/10.1080/13561820802602420

King, G., Shaw, L, Orchard, C.A., and Miller, S. (2010) 'The interprofessional socialization and valuing scale: A tool for evaluating the shift toward collaborative care approaches in health care settings.' *Work: A Journal of Prevention, Assessment and Rehabilitation*. 35, 77–85 doi: 10.3233/WOR-2010-0959

Kohn, L.T., Corrigan, J.M., and Donaldson, M.S. (eds.) (2000) *To Err is Human: Building a Safer Health System.* Washington, DC: Institute of Medicine (IOM) National Academies Press

Orchard, C.A., Curran, V., and Kabene, S. (2005) 'Creating a culture for interdisciplinary collaborative practice.' *Medical Education Online*, 10 (11), 1–13. available from http://www.med-ed-online.net/index.php/meo/article/viewFile/4387/4569

Orchard, C., King, G., Khalili, H. and Bezzina, M.B. (2012) 'Assessment of Interprofessional Team Collaborative Scale (AITCS): Development and testing of the instrument*.' Journal of Continuing Education in the Health Professions,* 32 (1), 58–67 http://dx.doi.org/10.1002/chp.21123

Pettigrew, T.F. (1998) 'Intergroup contact theory.' *Annual Review of Psychology*, 49, 65–85 http://dx.doi.org/10.1146/annurev.psych.49.1.65

Pettigrew, T.F. and Tropp, L.R. (2008) 'How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators.' *European Journal of Social Psychology,* 38, 922–934 http://dx.doi.org/10.1002/ejsp.504

Salas, E., DiazGranados, D., Weaver, S. J. and King, H. (2008) 'Does team training work? Principles for health care.' *Academic Emergency Medicine*, 15, 1002–1009 doi:10.1111/j.1553-2712.2008.00254.x

Salas, E., Gregory, M.E., and King, H.B. (2011) 'Team training can enhance patient safety – the data, the challenge ahead.' *Journal on Quality and Patient Safety,* 37 *(*8), 339–384

Salas, E. and Rosen, M.A. (2013) 'Building high reliability teams: Progress and some reflections on teamwork training.' *BMJ Quality and Safety,* 22, 369–373 http://dx.doi.org/10.1136/bmjqs-2013-002015

Sexton, M. and Orchard, C. (2016) 'Understanding healthcare professionals' self-efficacy to resolve interprofessional conflict.' *Journal of Interprofessional Care,* 30 (3), 316–323 http://dx.doi.org/10.3109/13561820.2016.1147021

Suter, E., Deutschlander, S., Michelson, G., Nursani, Z., Liat, J., Harrison, L… Grymonpre, R. (2012) 'Can interprofessional collaboration provide health human resources solutions? A knowledge synthesis.' *Journal of Interprofessional Care,* 26 (4), 261–268 http://dx.doi.org/10.3109/13561820.2012.663014

TEAMc (2016) *Toolkit for Educating a New Generation Of Patient-Centred Collaborative Teams*. [online] available from http://www.teamc.ca [7 November 2016]

World Health Organization (WHO) (2005) *Preparing a Health Care Workforce for the 21st Century: The Challenge of Chronic Conditions*. Geneva, Switzerland: WHO. available from http://apps.who.int/iris/bitstream/10665/43044/1/9241562803.pdf [7 November 2016]

World Health Organization (WHO) (2010). *Framework for Action on Interprofessional Education and Collaborative Practice*. Geneva, Switzerland: WHO. available from http://www.who.int/hrh/resources/framework_action/en/ [5 September 2016]

Zwarenstein, M., Goldman, J., and Reeves, S. (2009) 'Interprofessional collaboration: Effects of practice-based interventions on professional practice and healthcare outcomes' *Cochrane Database of Systematic Reviews*, 3. available from http://dx.doi.org/10.1002/14651858.cd000072.pub2 [7 November 2016]