



Determination Effective Elements of Continuing Interprofessional Education Models

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ABSTRACT

Background: Traditional continuing education (CE) approaches have limited impact on patient management and outcomes. Continuing interprofessional education is an innovated educational approach that can improve patient care and outcomes related to health care. There is a need to provide guidance to continuing education professionals in the development, implementation, and evaluation of continuing interprofessional education activities. **Objectives:** This study attempted to identify effective elements of continuing interprofessional education in programs or models. **Study Design:** Database searches of published papers using Eric, Ovid, Science direct and PubMed (1990-2016) were conducted for existing IPE model post-registration. Broad search terms were used, including interprofessional education, continuing interprofessional education models and interprofessional education post-registration models. **Results:** Seven continuing interprofessional education models were identified in the literature. Topic, Goals, Content, learning strategy and Evaluation strategy were the components used in these patterns. **Conclusions:** Healthy topics, Content sharing between the participating professions, common educational goals for all professions, interactive learning and interprofessional learning methods and diverse assessment methods with feedback to learners, helps to make better be implemented inter-professional training programs.

Keywords: Continuing inter-professional education, Inter-professional education, Model, Element

INTRODUCTION

Interprofessional education (IPE) is an essential strategy and important stage in preparing health professionals for present and future practices [1-3]. Change in professional education is a complicated and challenging process. IPE is the key to change. It can improve professional individuality and role and facilitate communication between health professionals [4-9]. IPE can be useful to both academic and practice settings. However, IPE in the practice setting differs from academia [10]. Because of the importance of quality care outcomes, IPE should be a high priority for healthcare professionals [11]. Focus on interprofessional competencies to improve patient care and outcome is associated with healthcare situation [12]. Continuing IPE or post-registration education refers to education IPE which occurs after a healthcare professional acquires licensure and is practicing in the work place [13]. Barr defines interprofessional as the “ongoing learning with, from, and about other professions to improve collaboration and the quality of care [14]. Continuing IPE requires individuals to think in a different way and changes what we know and value as knowledge and professional practice [15]. Continuing interprofessional education (CIPE) trainings are used to improve competences by educating health care [5]. Graduates will be well-prepared to enter interprofessional programs for the desire of client/patient health outcomes and to become future interprofessional practice leaders [16].

Existing systematic reviews show mixed results and mainly positive outcomes in post-qualification training rather than undergraduate level [17]. Also, two recent systematic reviews of quality improvement training for health care professionals suggest that it may have an impact on knowledge and confidence to perform quality improvement in the clinical setting [18,19]. IPE provides an ability to share skills and knowledge between professions and allows a better understanding, shared values, and respect for the roles of other healthcare professionals [20]. Training future healthcare providers to work in such teams will facilitate this model, resulting in improved healthcare outcomes for patients [21,22]. The aim of this study was to identify interprofessional education models used in post-registration, to determine learning and evaluation strategies used in these models and to identify essential elements or key attributes of a model for continuing interprofessional education. an overview of CIPE models that can be used to inform the implementation or modification of interprofessional education. We hope that this review helps providers choose appropriate models, and that it encourages researchers to continue to develop models.

Search strategy

The following literature databases were used to search and access published literature: Cochrane Database of Systematic Reviews, PubMed, Ovid, Science Direct, and Eric during 1990-2016. In addition, web searches were conducted using Google and Google using reference lists from key reports and articles, as well as suggestions made by key informants. Broad search terms were used, including interprofessional education, interprofessional CE models, interprofessional education post-registration models, and interprofessional education post-licensure models (Table 1).

Table 1 Search strategy

Interprofession	AND	Learn	AND	Continuing	AND	
OR		OR		OR		
Inter-profession		Teach		post registration		Model
OR		OR		OR		OR
Interdiscipline		Education		post-Registration		Framework
OR		OR		OR		OR
Inter-discipline		Retaining		Post-licensure		Flowchart
OR		OR		OR		
Multiprofession		Training		post licensure		
OR				OR		
Multi-profession				post-qualification		
OR						
Multidiscipline						
OR						
Multi-discipline						
OR						
Team						
OR						
Collaborate						

Identification and selection studies

This search found a list of 686 articles. A total of 54 papers were identified from the searches prior to screening. Only seven were considered appropriate to be included in the review. The full texts of these were then evaluated for this review. To achieve the goal of identifying effective elements, content analysis was used (Figure 1).

IPE definition was most commonly found in the literature: “[IPE] occurs when two or more professions learn with, from, and about each other in order to improve collaboration and the quality of care” (Center for the Advancement of Inter-professional Education in 2002).

Criteria for case study

The following criteria were used to identify papers of interprofessional post-registration education models to develop detailed case studies: 1) all case studies should be examples of interprofessional post-registration education models continuing interprofessional education. 2) All participants were all health professionals and 3) the purpose of continuing interprofessional education is expressed (Table 2).

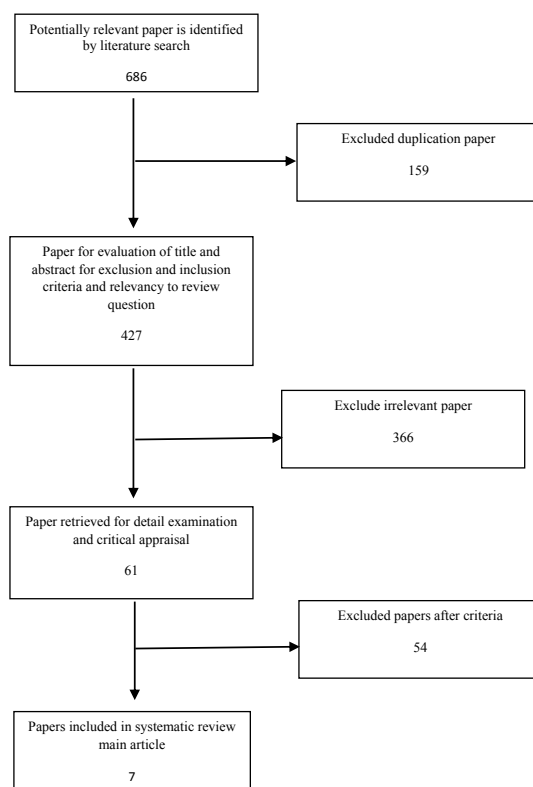


Figure 1 PRISMA diagram of the study selection process

Table 2 Criteria of articles for included and excluded review

Case studies	Inclusion Criteria	Exclusion Criteria
Study type	Definition or implementation of Interprofessional continuing education Models	Editorial, report, bulletin, commentary, book review, introductory report
Participant	Interprofessional education or program for all Professional health	Students or all Professional except health science
Purpose	Is clear	Not state
Focus article	Designing, or development and implementation and evaluation of interprofessional education theory and clinical	Purpose isn't to development and implementation interprofessional education

Quality review and evaluation of studies

Fifty-four articles that were capable answering to question entered this stage. These articles were retrieved and assessed based on two criteria: Relevancy and validity and York University guideline.

RESULTS

We found 7 articles inter-professional education models that have been implemented in post-registration (Table 3). Other articles related to inter-professional education models has been implemented at pre-registration level.

Table 3 Continuing interprofessional education models

Author/Year	Article	Model	Teaching strategy	Evaluation strategy	Competency
Jennifer Medves Marcy Saxe Braithwaite Debbie Aylward DellaCroteau (2009)	Interprofessional Education Curricula Models for Health Care Providers in Ontario	Ontario post-registration IPE model	Role-playing, patient-center care, workshop	Performance evaluation, rating scale, behavioral checklist	Role clarification, Conflict management, Inter professional communication, Team leader ship Patient/ Client / Family/ Community Centered

Deborah Villarreal, Marcos I. Restrepo, Jennifer Healy, Do, bonita Howard Janet Tidwell, Jeanette Rossscotte Hartron ft, Marriyam Jawad, Sandrasan chez-Reilly Kristin Reed, and Sara E. Espinoza (2013)	A Model for Increasing Palliative Care in the Intensive Care Unit: Enhancing Interprofessional Consultation Rates and Communication Development and evaluation of an innovative model of inter-professional education focused on asthma medication use	consultative model AND “integrative model	Clinical round discussion	Patient/family feedback-participant feedback	Patient-center care Inter professional communication Team work Consult Inter professional Collaboration Interprofessional communication
Sinthia Z Bosnic-Anticevich, Meg Stuart, Judith Mackson, Biljana Cvetkovski (2014)	Continuing Interprofessional Education in Geriatrics and Gerontology in Medically Underserved Areas	An innovative model of inter-professional education Program for Outreach to Inter-professional Services and Education Model (POISE).	Workshop Group interactions	Role-playing exercises and small-group discussions	Semi-structured interviews and focus groups collaboration scale Team leadership skills, communication, and systematic problem-solving decision-making team management, team maintenance
John A. Toner, Edd, K. Della. Ferguson, Regina davis SokalL (2009)	The Advanced Clinician Practitioner in Arthritis Care program: An inter professional model for transfer of knowledge for advanced practice practitioners	-	Didactic, practical, case-based and self-directed learning interactive learning	Questionnaires were developed by the Consortium of New York Education Centers	A traditional and retrospective self-evaluation practice-focused survey Quantitative and qualitative work collaborative expanded scope of practice roles and responsibilities
Katelundoni, Rachel Shupaki, ScottReeves, Rayfel Schneider, & Jodi Herold Mcilroy	An Interprofessional Educational Approach to Oral Health Care in the Geriatric Population Case-Based Teaching for Interprofessional Post graduate Trainees in Adolescent Health		Case-based learning	RIPLS and the IEPS questionnaire	Improvement patient care
Patricia Brown Bonwella, Pamela L. Parsons, AlmBeste & Sabrina Hisea			Case-based learning	Kirkpatrick level 2	Inter professional collaboration
Holly C. Gooding, Sonja Zimel, Currie Toulountzis, Sarah Pitts, Adrienne Goncalves Jean Emans, and Pam Burke					

Educational programs of these articles were studied to obtain effective elements. To achieve these elements theme analysis was performed. Themes and codes were identified; five themes were determined showed in [Table 4](#).

Table 4 Themes and codes

Themes	Codes
Topic of continuing inter-professional education:	Primary and secondary prevention. Health, education, consultation
Goals	Change in knowledge and practice
	Recognition of professional responsibilities
	Understanding the role of collaboration
	Effective communication
	Team management
Content	The transition from beginner to mastery
	Team building exercises
	Content sharing
	Shared experiences
Learning strategy	Workshops, Seminars, Face-to-face training, Interactive, Consulting, Lectures, Patient-centered care, Case-based, Problem-based, Simulation, Role playing, Discussions, Journal club, Run online, Self-directed learning, and Getting Engaged with the reapers, Combined with exercise training methods of mutual understanding
Evaluation strategy	Feedback from patients, families, and colleagues
	Check list of behaviors
	Self-assessment
	Creek Patrick evaluation. Team skills scale

Continuing inter-professional education (CIPE) differs both in the learning process and the content, therefore requiring use of different theories and new approaches in designing and implementing CIPE activities. Content includes distinct knowledge, skills, and attitudes and each domain is equally important. Content specific issues for CIPE, stating that learners should learn issues related to professional role demarcation, group skills, communication skills, conflict resolution skills and leadership skills [23].

Focus of IPE is learning “from” and “about” each other; knowledge is largely created through the social exchange and interactions of different professionals. The focus for effective learning interprofessional education needs to be on creating learning situations and strategies [24]. Barr has outlined a range of interactive learning methods that can be used in interprofessional programs. These methods such as exchange-based learning (Debates, seminar or workshop discussions, case and problem-solving study sessions) Action-based learning (Collaborative enquiry, problem based learning, joint research, quality improvement initiatives, practice or community development projects, work-related practice placements for students), Observation-based learning (Work shadowing, joint client/patient consultations), simulation base learning (Role play, experiential group work, the use of clinical skills centers and integrating drama groups within teaching sessions) and Electronic-based learning (Video conferencing) increasingly used [23-25].

DISCUSSION

Five elements of the programs were considered in all these models. But, there are other things to consider in some models such as the importance of interprofessional education. We will mention these in the following article. Characteristics of learners, clinical environment, recognition of learners’ initial knowledge, and learners’ readiness for inter-professional training should be assessed. Educators must consider both the goals of the curriculum and the context of learning including: the phases/stages of education, the setting, the participants, the learning approach, and the topics or subjects to be taught. A key requirement for effective interprofessional program was the making of a non-threatening learning environment in which learner felt psychologically safe to express themselves openly increase positive attitudes between individuals, influential support, equal status of participants, positive expectations, and successful joint work provides a safe environment [23].

Theoretical framework

Some of the models in their educational programs used theories such as sociocultural theory and the adult learning theory. Theory should be selected based on the context. Theory is integrated into educational practice by informing the development and delivery of interprofessional programs. These theories support the design and implementation of the learning objectives, learning activities, and outcome measures [26].

The challenges in implementing the programs

There are obstacles and challenges to implementing interprofessional training programs. The Inaccessibility of interprofessional members, resistance to change, Lack of knowledge of teachers than educational approach, and the time of implementing interprofessional education program are barriers or challenges that implementation of interprofessional education is faced to.

Continuity in the implementation of these programs

It is important that interprofessional training programs continue to run not just for an application The Interprofessional Education Curricula Models for Health Care Providers designed by Ontario [27]. Emphasize interprofessional CE programs. It also explains beginning steps to experts in three steps.

At the stage of primary practice, a health professional is still becoming assured in his professional role and is immersed in the reality of interprofessional communication as a registered health professional for the first time. As clinical practice and post-registration IPE experiences are shaped, the health professional changes to the developing mastery stage.

The health professional may participate in CE or post-graduate education to further practice as an interprofessional care provider for the implementation of interprofessional education in clinical setting. The following steps should be taken.

Models appropriate to clinical settings promote a culture of safety by including competencies around knowledge, skills, and behaviours that will improve communication and team working in the practice setting [28].

The ideal IPE model is related to interprofessional learning outcomes and activities, i.e., team based learning activities show the quality of IPE models [22].

CONCLUSION

This paper has been reviewed the models implemented in interprofessional post-registration education of health professionals in clinical setting. Successful CIPE requires the ability to work with multiple health professions for joint development, implementation, and evaluation of CIPE activities. The integration of a wider variety of learning theories, teaching methods, and evaluation approaches is needed more than ever. CIPE has an important role in helping practitioners enhance their knowledge, skills, and attitudes to enable them to work together in an effective collaborative manner.

CONFLICT OF INTEREST

The authors report no conflicts of interest. The authors are responsible for the writing and contents of this paper.

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