Society for Academic Continuing Medical Education Intervention Guideline Series: Guideline 4, Interprofessional Education

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Abstract: The Society for Academic Continuing Medical Education commissioned a study to clarify and, if possible, to standardize the terminology for a set of important educational interventions. In the form of a guideline, this article describes one such intervention, interprofessional education (IPE), which is a common intervention in health professions education. IPE is an opportunity for individuals of multiple professions to interact to learn together, to break down professional silos, and to achieve interprofessional learning outcomes in the service of high-value patient care. Based on a review of recent evidence and a facilitated discussion with US and Canadian experts, we describe IPE, its terminology, and other important information about the intervention. We encourage leaders and researchers to consider and to build on this guideline as they plan, implement, evaluate, and report IPE efforts. Clear and consistent use of terminology is imperative, along with complete and accurate descriptions of interventions, to improve the use and study of IPE.

Keywords: interprofessional education, interprofessional learning, continuing education, continuing medical education, performance improvement, quality improvement, Innovative educational interventions, leadership

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The Society for Academic Continuing Medical Education (SACME) commissioned the Terminology Project to shed light on four major educational interventions for which terminology may be a source of confusion, and, as such, may interfere with progress in research and in application. Based on published evidence reports, systematic reviews, expert opinion,

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and an earlier foundational project that established the extent to which terminology is a barrier among professionals and researchers in the field of continuing medical education,[1] the current project selected four interventions with the goal of creating guidelines to assist leaders and researchers in their ongoing use and study of the selected educational interventions. The purpose of each guideline is to standardize terminology and to generate additional discussion to advance the field. This article describes the findings from one of the educational interventions considered: interprofessional education (IPE).

The project team used the Chaffee framework, known as "explication,"[2] to establish a clearer scientific meaning for each intervention, to the extent that current research and thinking allow. Explication strengthens ties between theory, observation, and research by helping experts to use words (terms) in more disciplined ways.[2] Through concept explication, experts are able to communicate more precisely by having explicit, shared understandings of key terms, which in this project include terms associated with common evidence-based interventions. Once a term is selected, explication includes identifying and reviewing relevant literature, drafting definitions or descriptions, and applying and revising definitions.[2] The team modified the Chaffee framework by following it to the point of developing a guideline that SACME and article authors will promote for application and revision throughout the continuing education community.

The internal project team (T.V.H., R.E.G., J.S., and S.K.) operationalized the Chaffee framework through a consensus process with a group of US and Canadian experts, who were leaders and/or researchers in continuing education. The project team used a series of biweekly surveys to interact virtually with the experts throughout four consecutive 3-month cycles, with each cycle devoted to a single intervention. Based on a review of evidence, the project team drafted an initial survey in each cycle to introduce the intervention of focus, common terms associated with it, sources of recent evidence, and other key articles and resources. With input from the experts, the team developed a second survey and used a modified Delphi technique[3] in this and in subsequent survey rounds to solicit feedback about key aspects of the intervention. The Delphi-style surveys continued until the experts either came to consensus on each item or until responses were not moving toward agreement. The Delphi technique is a virtual strategy to generate discussion while minimizing nonproductive group dynamics.[3] We modified the typical Delphi technique using the same expert group members across all four cycles of the project. Although not every person had expertise in each intervention, collectively the project team and expert group had specific expertise in, and a general appreciation for, the history, culture, and application of this area of research.

As per the Delphi technique, experts who provided timely feedback (within 8 days) in the Delphi rounds were provided results (personal and aggregate responses) and asked to reconsider their previous responses in the next survey for any items for which the group had not reached consensus. In this way, the team facilitated the experts coming to consensus (defined either as $\geq$70% agreement on any single response or as $\geq$80% agreement on the combination of two adjacent responses at either end of a 5-point Likert scale, when applicable) about different facets of the intervention. Based on the final Delphi results, the project team drafted and sent a guideline to the experts as the fifth and final survey of the cycle with a request for additional feedback that informed the final version described in this article.

This article describes the information contained in the guideline for IPE. In this cycle (November 2014 to January 2015), 18 experts began the process with universal participation in all three Delphi rounds for an overall response rate of 100%. Providing yet another opportunity for interaction and discussion, the authors of this article include both the project team and the 18 experts who 1) completed all three Delphi rounds, 2) met criteria for authorship, and 3) agreed to authorship. Additional information is available about the cycle and the project's methods.[4]

WHAT IS INTERPROFESSIONAL EDUCATION?

IPE is an intervention used to develop collaborative competencies required to deliver high-value patient care. Within a continuing education or clinical learning context, IPE is often used for quality improvement purposes. The essence of the intervention is that multiple professions, reflecting health or social care disciplines, are involved in the educational activity. The participants convene, in-person, virtually, or both (blended learning), to learn together. Through such activities as role playing, simulation, problem-based learning, case discussion, and experiential work, the learning process necessarily involves interaction between participants and across professions, with no single profession dominating the learning process. The intervention serves to break down professional silos to promote better role understanding, that is what different professions can bring to better achieve high-value care. The intervention focuses, at least in part, on interprofessional learning outcomes, such as teamwork, collaboration, and communication, which a profession-specific activity could not accomplish well, if at all.

WHAT IS THE BEST PUBLISHED DESCRIPTION OF IPE?

Among several options, most of the experts agreed that the following description of IPE best captures current thinking:

"An [IPE] intervention occurs when members of more than 1 health or social care (or both) profession learn interactively together, for the explicit purpose of improving interprofessional collaboration or the health/well-being (or both) of patients/clients."[5]

Noted by some project experts as either missing from this description or warranting clarification are the importance of 1) different professions being involved in the planning of the activity and the teaching, and 2) different participants bringing back what they have learned to their own patient care teams, if different from the team with which they learned through the activity.

WHAT OTHER TERMS DO PEOPLE USE TO DESCRIBE IPE?

The experts readily came to consensus on the term IPE to describe this intervention, but the term interprofessional learning also received some attention. Across the literature, variation exists both in the terms used and in their component descriptions, which are often incomplete.[6] Any term used to describe an intervention should include a complete description of what precisely constitutes the intervention strategy.[7] This advice certainly applies to IPE, which is a complex intervention.

WHAT ARE SOME INTERVENTIONS THAT MAY BE CONFUSED WITH IPE?

Two circumstances may be confused with IPE. In 1 instance, an educational meeting or other intervention may have an interprofessional audience, but the planning or implementation of the intervention does not leverage the benefits (e.g., discussing more than one profession's perspective on care) of that interprofessional audience, so the intervention is not truly IPE. The other instance that falls short of IPE is an activity that has and uses an interprofessional audience, but the educational outcomes being pursued do not advance interprofessional collaboration or any patient outcomes associated with such collaboration. Rather, the focus is on learning outcomes, such as knowledge and skill, with each professional leaving with an idea about what they individually (professionally speaking) could do differently, but not with any idea about what their team (interprofessionally and collectively) could do differently to improve patient care.

WHAT ARE SOME IMPORTANT CHARACTERISTICS OF IPE?

Despite the findings from the most recent systematic review that reported an absence of rigorous evidence of key characteristics of IPE,[5] experts agreed that the following characteristics might be important to IPE:

1. Using an interprofessional team to develop an interprofessional activity
2. Using an interprofessional team to facilitate an interprofessional activity
3. Using IPE throughout education, training, and practice
4. Using IPE to address educational needs that are common to the professions involved in the activity.

Additional research is necessary to initially explore, then confirm or refute these characteristics and to identify new ones. Because no precise formula will likely ever exist, the best strategy is careful assessment of each educational or quality improvement initiative with important characteristics in mind.[8]

HOW IS IPE BELIEVED TO WORK?

Although no specific theory has emerged to provide definitive guidance on IPE, ideas from psychology, social psychology, sociology, and systems theory have been helpful to understand its development and implementation.[9] If IPE is being used as part of a multifaceted strategy delivered over time to improve care (recommended), Solberg's framework for practice improvement[10] may help support the work of an IPE planning group in designing an effective intervention. Solberg[10] describes quality improvement as a combination of identifying a priority and promoting both change process capability and care process content to leverage facilitators and to overcome barriers in practice. If appropriately facilitated and modeled by a set of experts, an interprofessional group can plan, implement, and evaluate efforts to improve patient care, especially if the audience breaks into small interprofessional teams, which also work together in clinical settings. After working in small groups with members sharing different perspectives, the audience can reconvene to discuss ideas, questions, concerns, and solutions that emerged from such dialog. When carried over into the workplace through authentic activities, IPE can function in much the same way as quality improvement collaboratives,[11] which also promotes teamwork.

UNDER WHAT CIRCUMSTANCES SHOULD ONE CONSIDER USING IPE?

Although an intervention with some promise in continuing education, the context of focus in this project, insufficient evidence presently exists about the key elements that comprise IPE and about how to implement this approach to ensure its effectiveness as a distinct intervention.[5] However, even if only viewed as complementary strategy to augment a more commonly accepted intervention, IPE represents an appropriate vehicle to maintain or extend the competencies (i.e., attitudes, knowledge, skills, and behaviors) for collaborative practice[12] and/or to improve outcomes (e.g., professionalism and patient-centered care) that are tied to collaborative practice.[13]

WHAT OTHER INTERVENTIONS COMPLEMENT IPE?

IPE could complement many interventions that seek to change clinician performance and/or improve patient outcomes, as such goals require that clinicians work together effectively with staff and other professionals in complex social and clinical systems. Some common interventions that are perhaps the most complementary to IPE include educational meetings, practice facilitation, and performance measurement and feedback. IPE can augment meetings by leveraging different perspectives and by providing practice opportunities. Given that practice facilitation visits often focus on team care, workflow, and system redesign, IPE is a natural strategy to maximize the value of visits and the discussions and changes that occur through them. Finally, IPE is necessary to understand and to act on performance measurement and feedback of patient care data, which always reflect the strengths and weaknesses of any team in a system.

WHAT IS THE EVIDENCE ASSOCIATED WITH IPE'S EFFECTIVENESS?

Authors of the most recent systematic review of IPE concluded that "Although these [15] studies reported some positive outcomes, because of the small number of studies and the heterogeneity of interventions and outcomes measures, it is not possible to draw generalizable inferences about the key elements of IPE and its effectiveness. To improve the quality of evidence relating to IPE and patient outcomes or health care process outcomes, the following three gaps will need to be filled: first, studies that assess the effectiveness of IPE interventions compared with separate, profession-specific interventions; second, [well-designed quantitative] studies with qualitative strands examining processes relating to the IPE and practice changes; third, cost-benefit analyses."[5]

WHAT ARE SOME BEST PRACTICES ASSOCIATED WITH IPE?

Despite the absence of rigorous empirical evidence, experts suggest a variety of best practices, starting with the importance

of IPE activities being both planned and implemented by an interprofessional team, ideally facilitating interactive, work-focused sessions with participants in different professional groups.[14] Additionally, IPE should begin at the very outset of health care professionals' undergraduate education and continue into training and throughout professional practice.[5] Finally, IPE activities should focus on common educational needs, such as teamwork, collaboration, coordination, communication, and role understanding,[15] in the service of high-value patient care.

WHAT ARE SOME IMPORTANT RESEARCH ISSUES CONCERNING IPE?

As noted previously, the most recent systematic review was neither able to establish IPE as an intervention that effectively changes collaborative practice and/or improves patient outcomes, nor was it able to identify key characteristics of an effective interprofessional intervention.[5] Carefully conducted studies comparing IPE with profession-specific interventions are needed, along with cost–benefit analyses and mixed methods studies to understand the relationship, if any, of IPE processes to practice change.[5] Other researchers echo these recommendations, noting the importance of improving the general evidence base for IPE.[16] One additional author characterizes the research need as follows: "The challenge for the interprofessional community is to demonstrate empirically, which forms of IPE are effective for the development in terms of when they take place (e.g., before or after [training]), where they occur (e.g., in classroom or clinical settings), how they are structured (e.g., as team projects or teamwork situations), to whom they are delivered (e.g., clinical or university facilitators), and why."[13]

WHERE CAN ONE LEARN MORE ABOUT IPE?

The following resources provide helpful information on IPE:

1. The most recent systematic review on IPE:
   Reeves S, Perrier L, Goldman J, Freeth D, Zwarenstein M. Interprofessional education: effects on professional practice and health care outcomes (update). *Cochrane Database of Systematic Reviews*. 2013, Issue 3. Art. No.: CD002213. DOI: 10.1002/14651858.CD002213.pub3.
2. A framework for planning and evaluating any educational intervention, including IPE:
   Moore DE, Green JS, Gallis HA. Achieving desired results and improved outcomes: integrating planning and assessment throughout learning activities. *J Cont Educ Health Prof*. 2009;29:1–15.
3. A guideline that describes elements of educational interventions that are relevant to planning and reporting:
   Davis D, Bordage G, Moores LK, et al. The science of continuing medical education: Terms, tools, and Gaps: Effectiveness of continuing medical education: American College of Chest Physicians evidence-based educational guidelines. *Chest*. 2009;135:8S–16S.
4. A web-based resource that describes the collective work and resources to strengthen interprofessional practice and education to advance quality, outcomes, and cost:
   National Center for Interprofessional Education and Practice. Available at: https://nexusipe.org/about. Accessed February 2, 2015.
5. A web-based resource that describes principles of IPE including descriptions of important values, processes, and outcomes:
   Centre for the Advancement of Interprofessional Education. Available at: http://caipe.org.uk/resources/. Accessed November 2, 2014.
6. Two resources on competencies relating to IPE:
   Interprofessional Education Collaborative Expert Panel. (2011). *Core Competencies for Interprofessional Collaborative Practice: Report of an Expert Panel*. Washington, DC: Interprofessional Education Collaborative. Available at: http://www.aacn.nche.edu/education-resources/ipecreport.pdf. Accessed November 2, 2014.
   Josiah Macy Jr. Foundation, American Board of Internal Medicine Foundation, Robert Wood Johnson Foundation. (2011). *Team-based competencies: Building a shared foundation for education and clinical practice*. Conference Proceedings. Washington, DC. Available at: http://www.aacn.nche.edu/leading-initiatives/IPECProceedings.pdf. Accessed November 2, 2014.

IPE is an increasingly common strategy to change important educational outcomes, but an established theory (or theories) that can effectively underpin its design, development, and implementation is lacking, as is rigorous evidence on its effectiveness and characteristics. We offer this guideline, which is based on a recent evidence review and an expert consensus process, as a starting point for leaders, who are planning IPE, and for researchers, who are studying it. At the very least, we encourage complete and accurate descriptions of intervention efforts, and caution educators and quality improvement experts from relying solely on terms to convey details or meaning, especially when interventions are multifaceted. Along with SACME, we welcome constructive criticism about the opinions expressed here, and we hope that this guideline will inspire better practice and research in the field.

Lessons for Practice

- IPE is a promising intervention to change clinician competencies (i.e., knowledge, attitude, skills, and behavior) and to improve patient care.
- Authors should provide complete and accurate descriptions of IPE and avoid reliance on new or established terms.
- Leaders and researchers should engage in ongoing discussion about the terminology, evidence, and theory underlying IPE.

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