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EDITORIAL

Measuring the impact of interprofessional education on collaborative practice and patient outcomes

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Introduction

Interest in interprofessional education (IPE) and collaborative practice continue to grow (Frenk et al., 2010; Cox & Naylor, 2013) but whether IPE improves clinical outcomes is uncertain. A recent report from the Institute of Medicine (IOM)¹ is another step toward building a solid evidence base linking IPE to patient, population, and health system outcomes (IOM, 2015). The report lays out general guidelines for designing, analysing, and reporting studies of IPE across the health professional learning continuum. The report contains recommended actions that a broad spectrum of interprofessional stakeholders, including health profession educators, academic and health system leaders, and funders and policy makers, can take to better measure the impact of IPE beyond the classroom in actual clinical practice. Through a critical analysis of the currently available literature and from examples for how to conduct studies of IPE, the authors believe the report could provide a new conceptual framework for thinking about IPE across the entire learning continuum (foundational education, graduate education, and continued professional development) and be a catalyst for additional well-designed studies that confirm connections between IPE and patient, population, and health system outcomes.

This editorial briefly describes the key findings of the IOM (2015) report. It begins with a description of the consensus committee that wrote the report, the committee's charge, and some examples of the type of evidence reviewed. The report provided the rationale for the committee's selection of key routes for strengthening the evidence base, which include better alignment of health professions education and the health care delivery system, development of a conceptual framework encompassing IPE and learning and clinical outcomes, and employment of a mixed-methods approach for analysing these outcomes. The final section offers some additional suggestions in the area of study design.

Consensus committee report on measuring interprofessional education

In 2014, the IOM brought together six health professions education and research experts to examine the evidence linking IPE

to patient, population, and health system outcomes. Although documenting learning is important for building a competent, collaborative workforce, this was not the focus of the committee's task. Instead, it was charged to recommend a range of approaches for measuring the impact of IPE on more distal outcomes, such as individual and population health and the function of the health care delivery systems and to identify the gaps where further research is needed.

The report the committee produced offered a series of findings based on extensive literature searches conducted by its members and their consultants (Brashers, Phillips, Malpass, & Owen, 2015; Reeves, Palaganas, & Zierler, 2015). Based on the literature, it became evident that IPE can improve learners' knowledge, skills, and understanding of interprofessional practice but that establishing a firm empirical relationship between IPE and patient, population, and health system outcomes has proven more difficult (IOM, 2010; Reeves et al., 2011; Thistlethwaite, 2012; Zwarenstein, Goldman, & Reeves, 2009; Brashers et al., 2015; Reeves et al., 2015). This finding mirrors the evidence base for other innovations in health professions education, which similarly have limited empirical data linking their adoption with enhanced patient, population, and health systems outcomes (e.g. Chen, Bauchner, & Burstin, 2004; Forsetlund et al., 2009; Lowrie, Lloyd, McConnachie, & Morrison, 2014; Marinopoulos et al., 2007; Swing, 2007).

The committee's background work also revealed the absence of a commonly agreed-upon taxonomy and conceptual model tying educational interventions to specific learning, health, and systems outcomes. Further complicating research efforts is the multifaceted environment in which IPE is conducted and the relatively long lag time between some interventions and the health and system outcomes that allow many confounding variables to obfuscate results. Analysis of the IPE literature also uncovered numerous inconsistencies in study design and a lack of full reporting on the methods employed.

Key routes forward to strengthen the evidence base

These findings formed the basis for the report's conclusions and recommendations. The committee felt strongly that if existing

gaps or barriers were strategically addressed by key stakeholders, the ability to more effectively measure the impact of IPE on collaborative practice and patient outcomes would be greatly advanced. Importantly, the committee also felt that these gaps and barriers were universal and not country or site specific.

The first conclusion focuses on the lack of purposeful alignment between the education and health delivery systems. This gap affects health care systems around the world. For example, it could be interpreted as a gap between the health professions education and health care delivery systems, a gap between health professions education and public health, or a gap between education and health ministries. Lack of alignment in any of these areas inevitably affects the types and numbers of the health professions workforce and where and how that workforce is trained. The committee felt that without better alignment reshaping the clinical workforce for effective interprofessional learning and practice will be difficult. Better alignment requires that funders and regulators act to strengthen collaborative partnerships in support of interprofessional learning. Alignment could be fostered by research demonstrating a positive return on investment, the provision of joint economic incentives to educators and health system leaders, and the adoption of interprofessional competency-based expectations for accreditation.

The second conclusion encourages the development and adoption of a comprehensive conceptual model for providing a consistent taxonomy and framework for strengthening the evidence base linking IPE with health and system outcomes. Conceptual models provide a common language and framework for analysing educational interventions and their outcomes. Without a generally agreed upon model, designing and executing studies of IPE to fill the existing research gaps will be impossible. Development and adoption of a consistent and comprehensive model of IPE will be fostered by international collaboration across the health professions and appropriate research funding. One example of such a model including both profession-specific and interprofessional learning opportunities across the learning continuum was developed by the committee. Using the expanded Kirkpatrick model (IOM, 2015) to categorize possible outcomes linked to purposefully designed IPE, the committee identified and differentiated outcomes as intermediate (learning) and more distal (health and system) outcomes. The model also demonstrates the factors (culture, context, people, and policy) that either enable or interfere with learning and health and systems outcomes.

An important aspect of this model is that it illustrates the opportunities for IPE across the entire learning continuum. These opportunities are greatest as learners move into the practice environment, where new interdependencies and relationships are formed and utilized. In contrast, the majority of IPE occurs today at the foundational level, in classrooms, where interdependencies are weak or non-existent. Likewise, at the present time, learning outcomes focus on learner reaction, changes in attitudes/perceptions, and changes in collaborative knowledge/skills. Collaborative behaviour and performance in practice are not readily impacted by such efforts. Moreover, when IPE is not occurring within a practice environment there

is no way to connect IPE to health or systems outcomes. Were there stronger alignment between the health professions education system and the health care delivery system, where the majority of IPE occurs would likely shift to the practice environment. At the present time, education and health system leaders generally fail to consider the importance of workplace learning as an effective means of promoting collaborative practice throughout the learning continuum.

The third and final conclusion deals with the need for better designed and reported studies to show the linkage between IPE, collaborative practice, and patient, population, and health system outcomes. Without such evidence it is unlikely that funders and policymakers will invest in complex and expensive clinical workforce redesign efforts. The committee also noted that the way in which studies are reported in the literature is as important as study design and execution. Without adequate reports, critical analysis and dissemination of findings are seriously degraded. Appropriate reporting is a joint responsibility of authors, reviewers, and editors.

This conclusion led directly to the committee's two recommendations. The first recommendation emphasizes the need to commit resources to a coordinated series of well-designed studies to demonstrate the association between IPE and collaborative behaviour, especially performance in practice. Without dedicated resources for conducting robust evaluations or research studies, the field will continue to be dominated by one-off reports of isolated, non-generalizable descriptive studies. Greater investment in IPE will be facilitated by enhanced alignment between education and health delivery systems, which will promote joint investment by the academic and practice communities. For work early in the learning continuum, health professions education systems should take the lead, but later in the learning continuum, when trainees are in practice settings, the investment should shift from educators to health delivery systems. External support, from private foundations and other organizations, will also be important. Ultimately, however, this work will require an infusion of public funds based on documented societal benefits (Institute for Healthcare Improvement, 2014).

The second recommendation, which addresses the optimal design of IPE studies, emphasizes that a mixed-methods approach, utilizing both quantitative and qualitative approaches, will be necessary to successfully evaluate the effect of IPE on individual and population health and health system outcomes. In this recommendation the committee also focused on the need for including an economic analysis (e.g., comparative effectiveness, return on investment), whenever possible. Without clearly defining a return on investment, including both quality and cost outcomes, there will be little incentive for health system leaders, funders, or policy makers to support interprofessional, collaborative care models. Optimally, such studies will need to be conducted by interprofessional teams, including individuals with expertise in the complex economic analyses required.

Additional suggestions

The IOM report (2015) offered a series of additional suggestions in the area of study design. First, studies that identify

and evaluate collective (i.e., team, group, network) outcomes are at least as important, arguably more important, as those focused on individual outcomes. Second, exploring the “how and why” of the intervention in addition to the “what” using a realist evaluation approach (Pawson & Tilley, 1997) might provide more in-depth understanding of IPE interventions beyond outcomes themselves. Third, the use of comparative effectiveness research and return on investment analyses could be particularly useful for documenting the need for additional resources to more fully explore the value of IPE. Fourth, the inclusion of patient, family, and caregiver experiences could be especially helpful in promoting better alignment between education and practice as well as for impacting person- and community-centered outcomes. The committee also outlined a potential program of research for better connecting IPE to health and system outcomes (see IOM, 2015, p. 55). By providing a cohesive research agenda, including attention to identifying and securing key program elements and selecting a robust evaluation design, adopting such a program would avoid many of the pitfalls of the existing literature.

Concluding comments

An implicit but important element of this IOM consensus study is the value the committee placed on collaboration and on elevating the profile of IPE in a rapidly changing world. By strengthening the evidence base, the committee hopes to encourage stronger partnerships among educators, researchers, practitioners, patients, families, and communities. Following the guidelines laid out in the report is a small but significant step toward achieving this goal and for demonstrating the impact of IPE and collaborative care on health and health care worldwide.

Note

1. For a free, downloadable copy of this report go to: <http://iom.nationalacademies.org/Reports/2015/Impact-of-IPE.aspx>

Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the writing and content of this article.

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