ORIGINAL ARTICLES

Exploring Interprofessional Education in the Family Medicine Clerkship: A CERA Study

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BACKGROUND AND OBJECTIVES: The need for interprofessional education (IPE) to improve teamwork skills has been recognized by several national organizations. The purpose of this study was to investigate IPE integration in family medicine clerkships and factors associated with IPE's success.

METHODS: A survey of clerkship directors at US allopathic medical schools was conducted through the Council of Academic Family Medicine Educational Research Alliance (CERA). Respondents were asked (1) whether IPE was part of the curriculum, (2) the educational methods used, (3) which health professions students and faculty participated in IPE, (4) what outcomes were measured, (5) the types of faculty development provided, and (6) the barriers encountered when implementing IPE.

RESULTS: The response rate was 66% (88/134), and 38% reported incorporating IPE into the clerkship with most offering IPE in clinical activities. A wide variety of health professions students and faculty participated in clerkship IPE activities. One third of the respondents offered faculty development. Most agreed that third party funding (85%), IPE team training (94%), clearly defined roles (94%), and dedicated time during clinical care for team meetings (93%) were vital for IPE to succeed. Many programs did not measure IPE-specific outcomes (49%). Eighty percent reported at least one barrier to implementing IPE. The most common barriers were scheduling conflicts (46%) and lack of IPE experience (40%). No one reported a lack of institutional support for IPE.

CONCLUSIONS: Few clerkships offered IPE. However, family medicine is in a unique position to highlight the value of interprofessional teamwork for students and should recognize and promote IPE opportunities.

(Fam Med 2014;46(6):419-22.)

Many advocates, including the Institute of Medicine, call for changes in health care practice and health professions education to include an emphasis on interprofessional teamwork as a means to improve the health care system and reduce medical errors.[1-4] The need to educate health professions students to effectively collaborate in interprofessional teams has been recognized by several national organizations. The Association of American Medical Colleges (AAMC),[5] the Liaison Committee on Medical Education,[6] the Interprofessional Education Collaborative (IPEC: consisting of the American Association of Colleges of Nursing, American Association of Colleges of Osteopathic Medicine, American Association of Colleges of Pharmacy, American Dental Education Association, and the Association of Schools of Public Health)[7] all have recommendations to include IPE. Consistent with scholarly consensus and that used with the IPEC report, we refer to IPE as a situation in which "two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes."[3]

Substantive focus on IPE has a longer history in the United Kingdom and Canada than in the United States.[8,9] Still, a variety of IPE courses and student activities within US schools are reported in the

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literature,[7,10] providing evidence that such work appears to be increasing in frequency and scope. A national survey by Blue et al in 2008[11] indicated that IPE was evolving as a formal component of medical school curricula. A recent survey of internal medicine clerkship directors concluded that while a majority of respondents indicated a belief that IPE is important, there has been little integration of interprofessional learning within core internal medicine clerkships and sub-internships.[12]

Given the recent increase in IPE interest and IPE in health professions education, we need to examine how we are training future physicians to be effective interprofessional team members. The family medicine clerkship is a commonly required clerkship within medical education, giving it unique positioning to provide IPE to prepare future physicians for interprofessional teamwork in a primary care setting. This study examined how family medicine clerkship directors are integrating IPE into the clerkship, including any associated challenges with integration of IPE into clerkship activities.

Methods

An omnibus survey was conducted as part of the Council of Academic Family Medicine Educational Research Alliance (CERA). CERA is a joint initiative of all four major US academic family medicine organizations (Society of Teachers of Family Medicine [STFM], North American Primary Care Research Group, Association of Departments of Family Medicine, and Association of Family Medicine Residency Directors). We embedded questions within the omnibus survey regarding interprofessional education in the family medicine clerkship. Family medicine clerkship directors at allopathic medical schools were identified for participation. Because there is no centralized list of clerkship directors, the following strategy was used to identify potential respondents. Names and contact information of clerkship directors were solicited through communication within the STFM Group on Medical Student Education. These were updated through the American Association of Medical Schools website. There were 134 active unique individuals with valid email addresses. The study was approved by the American Academy of Family Physicians Institutional Review Board.

The survey was conducted between July, 2012 and September, 2012. The potential respondents were surveyed electronically with an initial email invitation for participation. The survey was conducted through the infrastructure of STFM. The survey included a personalized greeting, a letter signed by the presidents of each of the four participating organizations urging participation, and a link to the survey. Nonrespondents were sent up to two follow-up emails encouraging participation. We provided the following definition of IPE: Interprofessional education refers to educational experiences when students from two or more health professions learn about each other, with each other, and from each other to improve collaboration and quality of patient care. We then asked respondents about the importance of interprofessional teamwork to the practice of family medicine, factors associated with successful interprofessional teamwork, and whether their clerkship was engaged in the delivery of interprofessional education. For those who were engaged in IPE, we asked about the health professions students who participated, health professionals who taught IPE, outcomes measured, educational methods used to teach IPE, and barriers encountered when trying to implement IPE. We summarized responses to these questions using descriptive statistics. We used Pearson chi-square to examine structural factors and attitudinal factors that might be associated with providing IPE in the family medicine clerkship.

Results

Of the 134 surveys sent, 88 were returned, for a response rate of 66%. Two thirds of the medical schools were public. The clerkships at these schools were typically mandatory (97%), occurred in one block of time (91%), occurred during the third year (99%), and lasted from 4 to 6 weeks (81%).

All of the clerkship directors surveyed felt interprofessional teamwork was important to the practice of family medicine, and 61% said that interprofessional teamwork was common in the clinics in which their students rotate. Most agreed that third party funding, interprofessional team training for practitioners, dedicated time during clinical care for team meetings, and clearly defined roles within the team are factors that were somewhat or very important for the success of interprofessional teamwork in family medicine practices (Table 1).

Of the 88 clerkship directors responding, 38% of them offered interprofessional education as part of the clerkship. IPE was offered more frequently in clinical training (91%) than in didactics (49%), with 46% offering IPE in both. The educational methods used to teach IPE were lectures (49%), case-based learning (29%), case review (26%), OSCE (20%), seminars (17%), morbidity and mortality conferences (17%), grand rounds (14%), and standardized patients (9%). A third of the clerkships that offered IPE also offered faculty development for teaching IPE. Nearly half of the clerkship directors who indicated they offer IPE in the clerkship did not measure IPE-specific outcomes (49%). Those clerkships that did measure IPE-specific outcomes measured knowledge of roles and responsibilities (29%), attitudes toward interprofessional care (23%), and teamwork skills (23%).

The health professions students who participated in IPE with the clerkship students were from pharmacy (51%), nursing (43%), social work (31%), physician assistant (29%), physical therapy (17%), dietetics (14%), and public health programs (9%). One clerkship had

Table 1: Important Factors for the Success of Interprofessional Teamwork in Family Medicine Practices

	Not At All Important	Somewhat Important	Very Important
Third party funding	12 (14.5%)	43 (51.8%)	28 (33.7%)
Interprofessional team training for practitioners	5 (5.9%)	45 (52.9%)	35 (41.2%)
Dedicated time during clinical care for team meetings	6 (7.1%)	32 (38.1%)	46 (54.8%)
Clearly defined roles within the team	5 (5.9%)	31 (35.2%)	49 (55.7%)

students from an occupational therapy program. Thirty percent of clerkship students were intentionally paired with students from other health professions. The health professionals who taught IPE as part of the clerkship were dieticians (100%), physicians (83%), nurses (57%), pharmacists (51%), social workers (34%), physician assistants (31%), community health workers (20%), and physical therapists (9%).

Eighty percent of the clerkship directors who offer IPE in the clerkship reported at least one barrier to implementing IPE, with an average of two barriers each (SD=1.6). The two most common barriers were scheduling conflicts (46%) and lack of IPE experience among faculty (40%). Lack of perceived value of IPE (34%), lack of physical space in clinics (29%), lack of interprofessional collaborative practice rotations (17%), rigid curriculum (11%), turf wars (11%), and faculty resistance (9%) were among the other barriers. All of the clerkship directors who offer IPE in the clerkship reported that IPE was supported by their institution.

To determine if clerkship directors' attitudes or organizational infrastructure differed between those clerkships that include IPE and those that didn't, we examined several variables (eg, perceptions of interprofessional (IP) teamwork in clinical settings, perceptions of factors associated with successful IP teamwork, class size, length of clerkship, and protected time of clerkship director). Responses to questions were dichotomized to conduct the crosstabs analyses. We recoded strongly agree and agree into "agree" and strongly disagree, disagree, and undecided into "disagree." Very important and somewhat important were recoded into "important," and not at all important was recoded into "not important." Clerkship directors who offered IPE in their clerkships were no different from those who did not offer IPE in terms of whether IPE was common in practice sites (64% versus 60%, *P*=.71), nor were there differences by their belief in the importance of third party funding for IPE (87% versus 85%, *P*=.76), IPE training for practitioners (100% versus 90%, *P*=.07), dedicated time during clinical care (94% versus 93%, *P*=.76), or clearly defined roles (97% versus 92%, *P*=.37). Clerkships with and without IPE were not different in terms of whether they had 100 or fewer students (39% versus 21%), 101 to 150 students (33% versus 38%), or more than 150 students (27% versus 42% [*P*=.15]) or whether the clerkship was less than 6 weeks (36% versus 45%), 6 weeks (39% versus 41%), or more than 6 weeks (25% versus 12% [*P*=.34]). Clerkship directors who offered IPE in their clerkships had less protected time for clerkship administration than those who did not offer IPE. Twenty-eight percent of clerkship directors who offered IPE had 20% or less time for the clerkship administration. Only 8% of those who didn't offer IPE had 20% or less time for being the clerkship director (*P*=.01).

Discussion

Although all clerkship directors agreed that interprofessional teamwork was important to the practice of family medicine, and the majority reported that interprofessional teamwork was common in clinic rotation sites, only about a third of the clerkships reported that they offered IPE as part of their clerkship curriculum. Of those that offered IPE in the clerkship, it was primarily taught in the clinic setting. Just half of the clerkships teaching IPE included it in their didactics. Lectures and case-based learning were the most frequent methods used to teach IPE. Pharmacy, nursing, and social work students were the most frequently stated health professions students that family medicine clerkship students interacted with during IPE, similar to findings found in a recent review.[19] About half of the clerkships teaching IPE reported measuring IPE-specific outcomes.

We found no differences in the attitudes regarding factors for successful IP teamwork between clerkship directors who provided IPE in the clerkship and those who didn't. Regardless of whether IPE was in the clerkship, most of the clerkship directors agreed that third party funding, IPE training for practitioners, dedicated time during clinic, and clearly defined roles were important for the success of IP teamwork in family medicine. Organizational infrastructure issues were also not associated with the presence of IPE in the clerkship, with the exception that clerkship directors with less than 20% time for clerkship administration were more likely to have IPE as part of the curriculum.

Even with positive attitudes toward IPE, there are still barriers to its implementation. The top commonly experienced barriers encountered when trying to implement IPE into the clerkship curriculum were scheduling conflicts and lack of faculty IPE experience. The issue of scheduling IPE across programs and

academic calendars is a frequently stated barrier,[19] which would impact the scheduling of learning activities within defined clerkship rotation periods.

The reported lack of IPE experience among faculty as a barrier likely reflects the relative newness of this emphasis in health professions education. While professional organizations are advocating for its inclusion, IPE is still evolving as a component of medical education,[11] and many faculty have not been educated in an intentional IPE context; the establishment of the IPEC competencies to guide development of interprofessional education programs is recent.[7] Faculty resistance was reported less often than lack of experience as a barrier. Blue et al[11] also found little resistance to IPE, but a recent study of internal medicine clerkship directors found that about half of the respondents thought IPE should not be a part of the clerkship.[12] Our findings suggest that while family medicine faculty may have little experience with IPE, they are not resistant to it. This may reflect the nature of their clinical work in that they interact with multiple professions in patient care and, based on our results, recognize the importance of interprofessional teamwork. Also important to note is that all clerkship directors reported that IPE was supported by their institution. Institutional leadership seems aware of the importance of IPE for health professions education, even if individuals or departments are not quite on board.

Our findings indicate that in addition to faculty lacking experience teaching IPE, few programs are in place to provide faculty development in this area. Only a third of the clerkships we surveyed who offered IPE in their clerkship provided faculty development for those teaching IPE. A survey of IPE among health education programs also found little training for those teaching IPE,[19] and there are few reports in the literature about faculty development. Silver and Leslie[20] developed a conceptual framework for planning IPE faculty development that can be used with a health care team, health profession educators, and administrators; however, we found no studies citing the use of the framework. The American College of Clinical Pharmacy produced a white paper providing an IPE framework for clinical pharmacy, but it said little about faculty development other than stating educators should be trained in the theory and application of IPE.[21]

With AAMC and IOM recommendations for IPE,[2,5] discussions proposing a new Liaison Committee for Medical Education (LCME) accreditation standard focused on interprofessional teamwork, and family medicine's endorsement of this standard, the need for IPE within medical school curricula is clearly increasing.[6] Family medicine has a unique opportunity to contribute to students' development of interprofessional teamwork skills because many family medicine practices work with multiple professionals to deliver patient care, and interprofessional teamwork is viewed as important to its practice. However, IPE is not yet a common component in family medicine clerkships. Faculty development is needed to inform faculty about the importance of IPE for learners and to familiarize them with relevant concepts. Interprofessional education and interprofessional collaborative practice are needed for the future of health care.

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