Incorporating Interprofessional Education into a VA Optometric Residency

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Abstract

The U.S. Department of Veterans Affairs (VA) conducts the largest education and training effort for healthcare professionals in the nation. The integrated, multidisciplinary training environment provides an ideal forum for interprofessional education (IPE) to occur. In this paper, IPE in the Optometric Residency in Primary Eye Care and Ocular Disease at VA Maine is described. Elements for effective IPE, barriers to program success and areas for growth are discussed.

Key Words: interprofessional education, optometry, optometric residency, multidisciplinary health care

Background

According to the World Health Organization, interprofessional education (IPE) occurs when students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes.[1] A primary goal of IPE is to produce healthcare providers capable of providing team-based care that meets the health needs of an aging population with a rising incidence of long-term chronic and complex conditions.[2] Over the past 30 years IPE has steadily grown and is now a common element in many health and social care training programs across the country.

The incorporation of IPE into healthcare professional training has been shown to lead to improvements in several areas, including patient safety, health outcomes and interdisciplinary team functioning.[3] Further research is needed to augment the evidence base and to identify key components and best practices for IPE. Education and training on IPE principles for healthcare providers are integral to the development of attitudes, knowledge and skills needed for effective collaboration.[3] Optometry is responsible for more than two-thirds of the primary eye care delivered in the United States, and the involvement of optometry in IPE is important for all healthcare professions.[4] Currently, nearly all the schools and colleges of optometry have implemented IPE into their curriculum.[5] In this paper, the components, approach, barriers and future plans for IPE in a primary care and ocular disease-based U.S Department of Veterans Affairs (VA) residency are discussed.

Interprofessional Education in the VA

The VA is the largest integrated healthcare system in the United States. One of the statutory missions of VA is to conduct an education and training program for health professions students and residents that helps meet its own needs and those of the nation.[6] Most healthcare providers spend a portion of their training rotating through at least one of the more than 1,500 VA Medical Centers and Community Based Outpatient Clinics located throughout the country. At VA Maine, more than 750 trainees in disciplines including medicine, dentistry, nursing, optometry, pharmacy, physical therapy, psychology and occupational therapy rotate through the medical center annually. This setting provides an inclusive forum where health providers can learn together.

Incorporating IPE into the Optometry Residency

During the Primary Care and Ocular Disease residency at VA Maine, residents spend a significant portion of the academic year participating in various IPE activities. The commitment to IPE is reflected in two of the program goals: 1) residents are integrated into an interdisciplinary, hospital-based healthcare team and 2) the clinical and didactic skills of the residents are enhanced by working with trainees from other healthcare disciplines.

In the clinical setting, optometry residents work alongside second- and third-year ophthalmology residents on a daily basis in a high volume outpatient clinic providing comprehensive surgical and nonsurgical eye care. The clinical work environment involves trainees coordinating care for patients seen independently who require care from both disciplines, as well as trainees from both disciplines working side by side seeing patients jointly in ophthalmology subspecialty clinics. Residents in both disciplines also present weekly didactic seminars for eye clinic staff and other hospital personnel. These IPE interactions help establish identities and roles for the respective trainees, improve their communication skills and foster teamwork and team-based care. Exposure to IPE in the clinical and didactic settings during training for residents in optometry and ophthalmology helps prepare them to provide effective team-based care post-training, which has long been the norm for these professions.

Another integral IPE experience for optometry residents at VA Maine is regular rotations by medical, nurse practitioner and physician assistant students through the optometry clinic. Visiting trainees are paired with optometry residents for several days. During this period, they see patients presenting for eye care as a team. Prior to the rotation, visiting trainees are provided an outline of learning objectives to be covered. On rotation days, patient charts are jointly reviewed in advance by faculty and trainees to identify topics for further discussion. This preparation provides a framework for the interprofessional interaction and primes the trainees for the experience.

In this IPE activity, trainees act as both pupil and educator. Visiting trainees are taught basic eye examination techniques by the optometry residents, including entrance testing, the core components of an eye exam, how to read eye records and the essentials of commonly encountered eye diseases. They also gain a better understanding of optometry and how optometric care relates to a patient's overall health. In exchange, they educate the optometry residents about their respective professions and many of the systemic considerations of the patients that are seen in clinic. The goals of these interactions are for the trainees to gain knowledge and to improve communication skills with providers from different disciplines. These abilities will be used throughout their careers to optimize patient care and to foster healthy working relationships, whether they practice in a multidisciplinary setting or in stand-alone practices located in the community.

Outside the clinic environment, optometry residents participate either in person or by teleconference in biweekly didactic IPE seminars with pharmacy residents, psychology post-doctoral fellows and students in medicine, nursing and social work. The goals of these seminars are for trainees to gain a better understanding of various healthcare professions, to improve interprofessional communication and to explore the challenges of providing patient-centered interdisciplinary health care to veterans living in a rural setting. The optometry residents lead approximately eight seminars during the academic year. Eye-specific presentations on topics such as cataracts, dry eyes, diabetic retinopathy, macular degeneration and herpetic eye disease are tailored to engage the diverse group of participants to offer multidisciplinary perspectives on care considerations that cannot be replicated in a single-profession educational setting.

Elements of Effective IPE at VA Maine

IPE has been linked to the provision of better health services and a range of positive outcomes, including improvements in patient clinical outcomes,[7] interdisciplinary clinical collaboration,[8] provider communication[9] and patient safety.[10] As IPE has evolved at VA Maine and in the optometric residency program, we have identified several keys to program development.

Strong institutional support both at the national and local level has greatly assisted IPE at VA Maine and the optometric residency program. VA Maine is one of seven rural and highly rural institutions participating in the Rural Health Training Initiative (RHTI), a joint program sponsored by the Veterans Health Administration Office of Rural Health and the VA Office of Academic Affiliations. The goal of RHTI is to establish training programs in the VA system dedicated to educating health professions trainees in rural health delivery. IPE occupies a central role in RHTI with trainees from medicine and nurse practitioner, optometry, psychology, pharmacy and social work programs regularly collaborating to learn about effective team-based healthcare delivery. Program funding has provided invaluable IPE infrastructure, including clinic and didactic equipment, faculty IPE training and salaries for trainees and administrative support staff.

TABLE 1
IPE Seminar Outline: Age-Related Macular Degeneration

1. Background
a. anatomy
b. epidemiology
c. manifestations of disease
d. visual impairment and legal blindness
2. Management and Treatment
a. Age-Related Eye Disease Studies
b. AREDS vitamins (with pharmacy residents)
i. AREDS1 vs. AREDS2 studies
ii. evidence for efficacy
iii. pharmaceutical considerations
1. contraindications for use
2. drug interactions (Coumadin, other)
3. implications of high dosages (USPSTA)
4. vitamin E and beta carotene
c. anti-VEGF (with pharmacy residents)
i. evidence for efficacy
ii. Lucentis vs. Avastin
1. compounding medicines
2. off-label use
3. medication cost
3. Psychological Implications of Disease (with psychology fellows)
a. loss of independence (activities of daily living, driving, etc.)
b. impact on family/caregivers
c. depression, other
d. hallucinations (Charles Bonnet)
4. Rehabilitation and Support (with social work students)
a. visual impairment services
b. consultation and service delivery processes
c. other resources

Click image to enlarge

Time must be protected for IPE. The typical resident schedule is very busy at VA Maine. There are a number of activities in the program that compete for resident time, not the least of which is direct patient care. In the absence of dedicated time, other aspects of the residency can interfere with scheduled IPE learning activities. Designating time and schedule carve-outs guarantee residents will be available to participate in IPE. Resident schedules, posted in a shared calendar accessible by both staff and trainees, are reviewed at least weekly to ensure potential conflicts are identified and resolved before IPE learning activities take place.

Faculty must be actively involved and cultivate an environment that promotes IPE. In the clinical setting, learning opportunities may not be readily apparent to healthcare trainees, so involvement of staff is essential to ensure learning topics are identified and explored. In multidisciplinary didactic IPE seminars, team facilitation guides the learning process. Experienced clinicians from diverse backgrounds provide their perspectives during seminars that both further the IPE learning experience of trainees and serve as a demonstration of effective interdisciplinary collaboration.

IPE is more effective when educators define the learning outcomes expected from activities.[11] At VA Maine, faculty discuss didactic seminar topics in advance to identify educational opportunities. Topics are shared with trainees from the various disciplines prior to presentation so that learning material can be prepared to share for a seminar. As an example, an outline from a recent didactic seminar on macular degeneration describing the contributions of the various disciplines in attendance is provided in **Table 1**. When the subject matter experts (both faculty and trainees) are prepared for the seminar, the discussion and learning opportunities for everyone in attendance are enhanced. These activities require advanced planning by faculty and trainees.

Challenges with IPE and Avenues for Growth

A well-defined curriculum with measurable goals and objectives is important in academic program design. Periodic review of these goals and objectives is used to guide program improvement and plan future activities. In their current state, learning goals and objectives for the optometry residency and RHTI at VA Maine do not fully measure competencies considered essential for effective IPE, such as interprofessional communication, patient-centered care, role clarification and team functioning. Current program measures, including the number of patient encounters and lectures attended, need to be expanded if better assessment of IPE competence is to occur and the program is to foster trainee attributes that will enable them to be effective members of healthcare teams in their future careers.

A significant hindrance to optimizing IPE is the lack of a cohesive evidence base to guide program design, assessment and regulation. Due to highly variable study designs and methodological limitations in the literature, the effectiveness of IPE remains unclear. The number of studies examining IPE has expanded significantly over the past 10 years, but long-term investigations utilizing large sample sizes and strong randomization are needed to measure IPE's effects on teamwork, healthcare patient processes and well-defined health outcomes.[12] The 2011 report "Attributes of Graduates of the Schools and Colleges of Optometry" by the Association of Schools and Colleges of Optometry offers an overview of IPE competencies for the profession. According to this report, graduates of schools and colleges of optometry are expected to be able to appropriately use interprofessional collaboration and become integral members of larger interprofessional healthcare teams to improve patient care outcomes and ensure the best quality patient care. This skill set includes the ability to recognize, initiate and coordinate patient care requiring advanced medical, systemic, interprofessional or specialty care, and the ability to work in cooperation with those who receive care, those who provide care and others who contribute to or support the delivery of prevention and health services.[13]

While the goals of IPE have been defined, how to best achieve them has not. There is a lack of information regarding IPE syntheses and how learning outcomes can be successfully accomplished.[14] At VA Maine, the resident activity and patient logs are reviewed monthly for participation in multidisciplinary activities and residents are asked to self-reflect on their experiences. RHTI staff meets quarterly to review program performance and plan future activities. Annual reviews for both programs are also conducted. The results of analyses help identify best program practices and are used to modify goals and objectives for IPE.

Another practical challenge to IPE at VA Maine is geographic separation between training sites. The medical center is one of only two VA hospitals in the country located in a rural setting according to U.S. Census Bureau statistics. Additional outpatient clinics are also found in rural locations scattered throughout the state. RHTI trainees are typically working in at least four of these sites with several hundred miles collectively separating them. In this environment, traveling for face-to-face meetings is not feasible, so video teleconferencing is used to bridge the distance. VA has a robust teleconferencing system available at any time to attendees both on and off VA campuses. Telecasts providing both audio and video feeds allow attendees to interact during didactic IPE meetings. While teleconferencing promotes participation and allows for broader interdisciplinary involvement in IPE, it can also present unanticipated challenges when the technology is not functioning properly.

Early incorporation of IPE into educational curriculums impacts learner attitudes, knowledge and ability to collaborate.[15] At VA Maine, fourth-year optometry externs have begun to be incorporated into the IPE setting. This exposes trainees to IPE principles and may serve as the only exposure for those who do not pursue residency training. Earlier exposure to IPE would be advantageous but this is not possible at VA Maine because our first interaction with trainees does not occur until the fourth year of optometry school. Outside the VA, many optometry schools operate as stand-alone institutions, which may limit regular opportunities for interaction with healthcare trainees in other disciplines and serve as a barrier to

IPE.

The IPE experience is more stimulating and interesting when different interactive learning methods are employed.[3] IPE strategies for optometry residents at VA Maine currently involve embedded multidisciplinary clinical placements with ophthalmology residents and observation-based, problem-based and exchanged-based learning formats in both clinical and didactic settings with non-eyecare professionals. We are looking at ways to incorporate additional IPE learning opportunities, including interprofessional clinical placements with non-eyecare providers, simulation-based learning and informal activities, into the trainee experience to increase the depth of learning for those participating.

Conclusion

Interprofessional education in the optometric residency program at VA Maine is designed to help residents develop the skills and knowledge needed to work in a collaborative manner to promote patient-centered care and improve patient outcomes. Through IPE, residents gain a better understanding of their own professional identity and of other providers that make up a healthcare team. A large, multidisciplinary training environment and a patient population dealing with complex medical issues create an ideal environment for IPE. Program goals and objectives for IPE at VA Maine continue to evolve based on internal results and the incorporation of advances in learning principles. The IPE process is challenging from both logistical and conceptual standpoints. Institutional support, dedicated time and resources for IPE, and the involvement of trained and committed faculty from a wide variety of disciplines are critical for IPE to be effective.

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