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A Model of Global Pediatric Medical Education-CHOP-OMI Seminars

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Abstract

Background: Since 1996 the Open Medical Institute (OMI) of the American Austrian Foundation (AAF) and the Children's Hospital of Philadelphia (CHOP) have worked in partnership to conduct an innovative pediatric medical education program.

Objective: To describe the program, summarize the evaluation of the program by its participants and suggest the factors for its success.

Methods: A surveyof international participants in the program over two time periods 2008-2012 (N=822) and 2013-2017 (N=871). The survey was conducted in 2018. Response rates for the two time periods were 48% and 60%.

Results: Participants from both time periods found the methods of this educational effort beneficial to their gain in knowledge, advancement of their careers, capacity to network and tendency to remain in their home country. There were no significant differences between the two time periods.

Conclusion: This model of short term intensive educational interaction has benefit to participants and represents an innovative global medical educational model.

Keywords: Pediatric Medical Education; Pediatric anesthesiology; General pediatrics; Neonatology

Introduction

With the fall of the Soviet Union it was apparent that health care in many Eastern European countries was not up to the standards of the Western European countries, the United Kingdom and the United States despite the dedicated work of many physicians and health care providers. The OMI was introduced in order to assist in repairing the deficit. The goal of this program initially was to increase the knowledge base of physicians in Eastern European countries. A secondary goal was to introduce western methods of education that more closely followed adult learning principles. It was also noted that many physicians were leaving their home countries to seek better opportunities abroad. Thus the third goal

was to increase the local prestige of the physician learners and encourage them to remain in their home countries.

Program Description - Although pediatrics was recognized as a specialty in many countries there was not a foundation for pediatric sub-specialization. There were no certification requirements for individuals or accreditation requirements for training programs. The Children's Hospital was a world-renowned pediatric center with a wide variety of specialists and sub-specialists working on behalf of child health. We have been engaged in a number of Global Health Education Programs [1].

For this project we developed a modular education program and a curriculum that spanned a three-year timeframe and was refreshed every three years. The topics included all the pediatric and child related sub-specialties. Each module included a one

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weeklong course in a particular topic area. The topics were chosen by the expert faculty with input from experts, new trends and discoveries, evidence base, and local need assessments. (For example, general pediatrics, neonatology, pediatric anesthesiology and intensive care or pediatric emergency medicine.)There were six modules per year and eighteen in the three–year curriculum.

The pedagogy included lectures, small group sessions, workshops, case presentations, simulations, and other interactive teaching methods. The style of teaching was foreign to most participants whose learning had primarily been through the lecture format only. The didactic methods used by the CHOP faculty and the additional invited Austrian faculty were unique to these learners. The formal curriculum also included case presentations and critiques presented by the learners in order to improve their presentation skills. Besides the formal curriculum there was also an informal curriculum as faculty (usually four or five) and participants (usually 30-35 practicing physicians) resided in the same conference center in Salzburg, Austria, had meals together and attended some social events. There was always a great deal of individualized learning through questions and discussion on an informal basis.

Each participant, called a "fellow," was encouraged to apply within their home country and applications were screened and selected by the OMI. An ideal candidate was in the early to midstages of their career, had good command of the English language, and had the potential to become a future leader at home. Each was given a scholarship to attend the Salzburg seminar. There was a pretest and post-test given in order to assess knowledge acquisition, and daily sign-in sheets to document full participation.

At the conclusion of the seminar each participant received a graduation certificate and a compact disc (CD) containing recordings of all the lectures given during the week. They were encouraged to use the CD at home to disseminate the information to their colleagues and to improve their presentation skills. In recent years we have also posted these lectures on as free open access education for anyone who wishes to view the lectures. And sees the details of the curriculum course by course.

Over time there were two modifications to the program. The participants were drawn from a broader global area moving from Eastern Europe to Africa and Mexico. Also, we expanded beyond the topical seminars being strictly based on sub-specialties to more broad cross cutting topics that we called Leadership Seminars [2] such as Medical Education, Applied Clinical Research Skills, Medical Informatics, Quality Improvement and Safety, and Leadership. These topics were deemed important to building health care leaders of the future. The original program was sponsored by the American Austrian Foundation and in recent years we have gained generous support from the Leir Foundation to make the expansions noted above and to form a Center for International Pediatric Medical Education. Beyond the foundational program of seminars (Figure 1), the graduates of the program could then apply to sponsor a satellite symposium in their home institution. This would allow them to become a course director in their home institution hosting the American and Austrian Faculty in order to enhance the prestige goal. They were also eligible to have a longer duration "observer-ships" in an Austrian or U.S. medical center. In this tier of the project they could gain deeper levels of contact,

learning, and in some cases embark on combined research projects. The fourth tier of the project involves leadership development with the goal of preparing the next generation of pediatric leaders by introducing topics necessary for leadership roles. Long lasting relationships were formed and many continued relationships resulted in additional contacts and occasionally scholarly activity [3].



Figure 1 Steps in the OMI-CHOP Education Program

Figure 1: Levels of Program Involvement.

Materials and Methods

In 2018 we conducted a survey of participants in the program. Participants were contacted through e-mail to complete a short survey about their OMI-CHOP Seminar experience. All participants were contacted. Data on the number of programs and the country of origin of the participants was collated.Data was aggregated for two time periods in order to determine any significant differences in the program over time or any decay in the impact of the program [4].

Results

As of May 2019 we have conducted 128 Seminars; 115 have been on sub-specialty topics and 13 leadership seminars. There have been 4143 participants in attendance coming from 66 countries. **Table 1** lists the countries of origin and the number of participants from each country who have participated in the program. **Table 2** shows the three-year curriculum of topics. Faculty participation has included 286 CHOP faculty members.

Country	Number of Participants	
Afghanistan	2	
Albania	97	
Armenia	196	
Australia	1	
Austria	121	
Azerbaijan	96	
Belarus	71	

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 Table 1: Number of Participants by Home Country 1995-2018.

Year 1	Year 2	Year 3	
Pediatric Anesthe- sia-Critical Care	Pediatric Allergy/Im- munology	Pediatric Radiol- ogy	
Pediatric Pulmonol- ogy–Cystic Fibrosis	Pediatric Hematology/ Oncology	Pediatric Cardiol- ogy	
Pediatric Neurology	Pediatric Endocrinol- ogy/Nephrology	Neonatology	
Pediatric Gastro- enterology and Nutrition	Pediatric Infectious Diseases	Pediatric Urology	
Pediatric Gastro- enterology and Nutrition	General Pediatrics	Developmental/Be- havior Pediatrics	
Pediatric Emergency Medicine	Adolescent Medicine	Pediatric Emer- gency Medicine/ Trauma	
Medical Education	Applied Clinical Research	Medical Leader- ship	

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Medical Education	Patient Safety and Quality Improvement	Medical Education
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Table 2: OMI-CHOP Three-Year Curriculum.

Recently we conducted a survey of the graduates of the pediatric program and the results were broken into two time periods 2008 to 2012, and a more recent cohort, from 2013-2017. The first group included 822 surveyed and data were collected from 400 or a 48% response rate. In the more recent cohort 871 were surveyed and 530 responded for a 60% response rate. **Table 3** shows the questions asked and the responses.

Question	Period 1	Period 2
Were you satisfied with the OMI- CHOP Seminar?	99%	99%
Would you recommend a seminar to a colleague?	100%	100%
Did the seminar meet your educational needs?	99%	98%
Did the seminar improve your knowledge, skills and attitudes?	97%	99%
Will the seminar improve your patient care outcomes?	93%	97%
Did the seminar enlarge your professional network?	72%	79%
Did the seminar further your professional career?	71%	67%
Will the seminar result in scientific collaboration/publication?	39%	44%
Will the seminar aid your colleagues?	89%	91%
Have you used the CD-ROM after the seminar?	85%	81%
Are you planning to leave your home country in the future? 25%	25%	28%

Table 3: Survey Questions and Affirmative Responses from Participants from two Time Periods 2008-2012 and 2013-2017.

Discussion

The OMI-CHOP Program has had far reaching success in meeting our goals and objectives. We believe there are several reasons for our positive outcomes. The partnership built between the two principle entities was lasting and strong (4). Over time the participants have had increasing use of the Internet, thus narrowing the knowledge gap. Early in the program participants were often unaware of the latest medical literature. Now they are often very well read. The second contributor to the positive outcomes has come with careful construction of the curriculum and the way the courses are designed as far as teaching methods. The high emphasis of interactive teaching allows for individualization of

the participants' needs. The methodology is harmonious with adult learning theory important for a culturally and medically diverse student body. The faculty members are urged to make personal connections with the fellows. These continue in the post course period through email communication and at times visits to CHOP and other U.S. and Austrian Institutions. The faculty from CHOP has also formed relationships with the Austrian Co-Faculty members. The fact that the courses are just one week long yet intensive is another important factor. Unlike long-term observer-ships they always emphasize return to home country and making adjustments in the medical systems there. OMI through the American-Austrian Foundation and the Leir Foundation has been dedicated to keeping the program going over decades. Global medical education efforts depend on long term partnerships.CHOP has been committed to providing faculty and allowing them to travel to Salzburg despite many patient care, education, and research demands at home. The faculty has shown commitment to prepare and execute outstanding curricular material and the willingness to have it spread without possessiveness. As with all surveys there were limitations of this study. Although the overall response rate was acceptable for a survey there are always concerns about the opinions of those who did not respond. There waslimitation in our ability to know if our survey actually reached all of the intended participants. All of the program participants were screened for the ability to understand English but for almost all English was not their native language. We were unable to assess the impact of this program at the patient care level as we were dealing with diverse range of health care systems and our learners were often not in a position to control broader measurement of outcomes. As individuals they clearly felt these courses made a difference to themselves to their colleagues who did not attend the sessions.

Conclusion

This report describes a unique global medical education format that has been successful and sustained over two decades. It provides knowledge, skills and attitudes in a unique setting that emphasizes individual learning, professional networking and an opportunity for expanding the learning in the participants' home countries, thus improving professional careers and ultimately improved health outcomes.

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