



#### RESEARCH ARTICLE



# A post-Soviet Republic in Transition: A Novel Amplification Programme to Address the Crisis of Continuing Medical Education and Challenges Facing Regional Physicians in the Republic of Armenia

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#### **ABSTRACT**

Background: After the fall of the Soviet Union in 1991, the existing process of Continuing Medical Education (CME) was decimated. The Fund for Armenian Relief (FAR) was able to leverage competitive educational fellowship programmes in existence, and harness new knowledge gained by returning fellows thus amplifying the impact on education and patient care in the regions of the republic of Armenia.

Aims: This manuscript describes a replicable novel amplification programme using a "train the trainer" model for CME in the republic of Armenia. We sought to identify challenges specific to physicians from the regions, and to examine the strengths of the CME programme that can serve as a model for programme development and improvement in countries facing similar challenges. Methods: The manuscript details a descriptive and mixed method study that includes in-depth interviews and focus group discussions from 2015–2016. Conceptual content analysis was used to identify major themes from the transcripts.

Results: Challenges facing regional physicians in post-Soviet counties in transition, exemplified by Armenia, are profound. Exploration of themes related to perceived barriers to care in the regions included, physicians' personal financial constraints, lack of up-to-date knowledge and equipment, lack of confidence, fear of criticism and of making incorrect diagnoses.

Conclusions: The FAR/CME programme presents an innovative way to amplify the knowledge of Armenian physicians upon their return from educational programme participation abroad in order to address challenges facing regional physicians.

#### **ARTICLE HISTORY**

Received 16 June 2020 Revised 7 August 2020 Accepted 23 August 2020

#### **KEYWORDS**

Continuing medical education; continuing professional development; post-soviet republic; postsoviet transition; programme development

#### Introduction

### **Continuing Medical Education Globally**

The rapid pace of evolving medical knowledge makes Continuing Medical Education (CME) after residency and fellowship essential. Worldwide, CME has been adopted widely but not universally [1,2]. A recent study comparing 27 European Union (EU) countries revealed the presence and standardisation of CME across the majority of the countries. CME is mandatory for physicians in over half of European countries surveyed [3,4]. In the USA, CME is mandatory in effect as most states require it for relicensing. [1,2]

### **Current Situation in Armenia**

After the collapse of the Soviet Union in 1991 and during the transition to independence, there have been many organisational challenges to the public sector in Armenia including the entire healthcare system. During the Soviet period, relicensing for physicians was mandatory every 5 years. Dedicated institutes were charged with administering CME programmes that were 2-6 months in length[5]. In the transition period without centralised enforcement and organisation, systems of CME fell by the wayside in the former Soviet republics (FSR) including Armenia.

In 1994 a new CME system was instituted in Armenia requiring 175 hours of CME over each 5-year period. This correlated with a period of deep economic uncertainty in the country. In many cases, the costs associated with obtaining these credits, which frequently involves transportation and lodging costs for those from the regions of Armenia, were not affordable for physicians. Consequently, many physicians in the regions of Armenia did not participate in CME training for many years. [6] Concomitantly there was a decrease in enforcement of CME requirements for relicensing



by the certifying authorities. Lack of participation in CME should theoretically decrease the quality of knowledge and thus the quality of healthcare provided, negatively affect health outcomes in the long run and thus making this a critical issue[7]. Recent updates to relicensing protocols include the introduction of an order by the Ministry of Health (MOH) of Armenia in 2015 requiring working physicians to earn 220 credits every 5 years in order to recertify.

### Fund for Armenia Relief CME Programme

In 2005, in order to address the dearth of accessible CME, the Fund for Armenian Relief (FAR) developed a grassroots CME programme for physicians working in the provinces of Armenia. The CME project leverages existing programmes such as FAR's Medical Fellowship. FAR first provided support in the medical field after the earthquake of 1988 with the establishment of its Medical Fellowship Programme in the early 1990s. Over the next decade, 96 young Armenian physicians attended training at leading North American medical schools and became the first preceptors for the FAR/CME programme. A "train the trainer" model was employed to amplify within Armenia, knowledge gained abroad, specifically for physicians in the regions. Funding for the programme was maintained by FAR, a not-for-profit organisation with largely Armenian diasporan donors.

The pool of preceptors was augmented with the institution of the Soros Foundation's Open Medical Institute (OMI) Salzburg Medical Seminars which sponsors physicians from eastern bloc countries to travel to Salzburg for week long speciality-based seminars. Organisations such as the Fulbright and OMI stipulate that upon their return, physicians must share knowledge gained from their international experiences, but neither organisation explicitly specifies how this is to be done. FAR developed a programme to leverage these trainings abroad and invited alumni to precept. Other preceptors with superior pedagogic reputations were also invited to apply. This group of preceptors became key to the rapid advancement of medical knowledge in Armenia and the establishment of the FAR CME programme. There are approximately 20 FAR fellow alumni and 25 OMI-Salzburg Seminar Alumni who serve as active preceptors in the FAR-CME programme.

# **Description of Programme Aims and Structure**

The programme offers advanced knowledge to regional doctors without leaving the country and without burdensome additional expenses. Physicians from the regions are chosen via a competitive application process. Training-related travel and lodging expenses are covered by the programme. The physicians undergo hands-on training in medical centres located in the capital city of Yerevan, supervised by the programme preceptors. Lectures geared towards broad topics are given longitudinally over four weeks. Weekly meetings facilitate networking. The Republican Medical Library organises computer literacy courses to develop familiarity with on-line resources. The programme has been certified by the National Accreditation Centre of MOH, so that each participant receives 93 Continuing Professional Development (CPD) credits upon course completion.

Since 2005, the CME programme has trained more than 800 regional physicians from Armenia and more than 200 physicians from the ethnically Armenian Republic of Artsakh. These 1000 plus physicians returned to the regions to share their new knowledge and skills, thus amplifying the impact of the programme many-fold.

#### **Methods**

#### Aims

The study aims to understand the experience of different stakeholders related to the CME project. We explore qualitative data to uncover challenges specific to doctors from the regions. We examine the strengths of the programme from the point of view of the participants and other stakeholders including physicians who participated in FAR CME programme, nurses and hospital administrators who work with the physicians and the preceptors involved in FAR CME project.

### **Study Design**

The study uses a quantitative approach, which includes a conventional cross-sectional, qualitative content analysis examining both individual in-depth interviews (IDI) and focus group discussions (FGD) with various stakeholders. The research team conducted semistructured IDIs and FGDs in 2015-2016 with each stakeholder group. A qualitative cross-sectional conventional content analysis design and methodology were employed. [8]

#### **Data Collection**

A convenience sample of stakeholders was recruited. Investigators obtained telephone consent from participants and obtained oral consent from the directors of 6 regional hospitals to perform the study. Interviews were conducted in the interviewees' workplaces in the



regions from 2015-2016. Data collection was done in medical centres of Abovyan, Artashat, Talin and Vagharshapat, Arabkir and Mouratsan medical centres and in the FAR office in the fall of 2015.

IDIs and FGDs were conducted using pre-piloted guides until saturation was reached. In total, 41 CME doctors, 12 nurses, 3 CME trainers and 4 hospital supervisors participated in the study for a total of 60 participants. Confidentiality about the interviewees and their workplaces was assured.

### **Data Management**

Interviews were audio recorded and notes were taken, with the knowledge of the interviewees. The recordings were subsequently transcribed and translated into English using standard transcription guidelines. [9] Only the research team had access to the transcripts.

### **Data Analysis**

Transcripts of IDIs and FGDs were read through and coded[10]. Transcripts of IDIs and FGDs were analysed independently. The transcripts were uploaded and analysed in ATLAS-ti7, using inductive conventional content analysis. Codes were abstracted into broader categories and subcategories to derive higher order themes in keeping with the aim of the study. [10]

### **Results and Discussion**

#### Perceived and Actual Barriers

Several themes emerged from the discussions around perceived and actual challenges faced by regional doctors.

### **Financial Concerns**

"Let's talk about my salary. I serve a town and surrounding villages. There are 13,000 inhabitants and my salary is 56,000 AMD (approximately 120 USD) only". (Trainee 5-2)

"First of all, in the state CME programmes the doctors have to pay, and it is a large amount of money if compared with their income. This programme gives us the opportunity to participate in such a programme for free. That is a huge advantage. Secondly, they were following how the doctors were performing. In case of any difficulties, they solved it quickly. In state programmes, no one follows how your training is going." (Trainee 3-4)

### Lack of Confidence and Feeling of Vulnerability

"What is most important, is media - newspapers, television. There is programmed anti-doctor, and antihealthcare system agitation. The news on the television started neglecting the problems in the country and started to speak about medical mistakes in some polyclinic in the regions." (Trainee 4-9)

"There is agitation among people not to be respectful towards the doctors. Different TV channels are working on this issue just for their shows to gather more audience. So, people's emotions are already negative towards doctors because of the information they receive. The result of all this is daily conflicts with patients." (Trainee 4–7)

"In Yerevan each hospital has developed their protocols." (Trainee 1-1)

"But there is no universal guideline/protocol to work with and to be protected from a medical mistake." (Trainee 1-9)

### Lack of Equipment in the Regions

"Today our challenges are shortage of medicine, insufficiency of laboratory devices, very old medical equipment." (Trainee 1-2)

"We don't have medical devices, which causes a lot of difficulties and medical mistakes and end with losing our patients, who chose to go to capital (Yerevan) for diagnostics and treatment." (Trainee 3-4)

### **Nursing Education**

"The only thing I would change in the programme is that I would include nurses. It would be good if they train the nurses. Because, they can gain a lot from the professional approach of the programme." (Hospital Chief 3-1)

"It will be better if the nurses participate in the trainings. When they work together with the doctors it will be more effective." (Hospital Chief 4-1)

# Variation in Implementation/incorporation of Knowledge on Return to the Regions

"The implementation of the knowledge gained by the trainees in their working places is very individual sometimes we are having e.g. 5 trainees - one of them understands everything and changes everything in the regional hospital, three of them understands a little and change a little and one of them does not understand and change anything. This depends on individuals." (Trainer 1)

"My colleagues tell me to forget the new modern techniques I have learnt during my training. If everyone is trained, the new methods will be easier to implement. There are people who do not want to accept the new things. There are only some rare things

that we (CME trainees) managed to change." (Trainee 1–1)

"There, they gave it to us (information and skills about new medical devices), we learned, and it was introduced to us. However, when we came back, we did not have all those things here and over time we forget, the knowledge and skills are gone because of not using them." (Trainee 3–4)

### **Perceived Strengths of CME Programme**

### **Enhanced Networking**

"The trainees later turn to us, they send patients, call us for opinion. They often say that the training is also useful, as we know now where we can send our patients. I am very glad that the doctor from the region was trained twice and I am glad that she covers the service. She often calls us for advice, and which is the most important – she knows she will receive a full response. And all the trainees know this." (Trainer 2)

"I think the network works very well. A lot of doctors call me and tell that they have a patient and ask whom they can turn to. Or sometimes they already know whom to turn to and they send their patients to him." (Trainer 1)

### Improved Access to Up-to-date Materials

"They are sending us all the news via email. And we can also use their website to find out the availability of a book. We can communicate with them and find out whether we can take the book." (Trainee 2–4)

# Improved Confidence and Improved Care of Patients

"I have heard from pharmaceutical company representatives, that the regional doctors, trained here, are more confident with prescription of new medicine." (Trainer 2)

"You know now doctors are not in very good social conditions and the fact that the programme is free of charge, is very helpful for them. One of the advantages is that the doctors are really being trained. They attend their training every day and return back impressed, and not just wasting their time. This is the most important thing. The doctors really gain results from the programme." (Hospital chief 1–1)

### Desire for More Knowledge

"I have only one suggestion – whenever I am going to training abroad along with the practical classes, we are having lectures – first of all we had lectures then are disseminated in different clinics. We need modern medical information. We want to learn what changes are there in the protocols of treatments. I would like to

suggest providing some additional lectures during the trainings." (Trainee 1–1)

### Limitations

IDI and FGD were performed only in 2015–2016. The discussion centres around the themes of these qualitative interviews but we may have failed to capture concerns of earlier programme participants. The themes elicited may be incomplete or not representative of all of our participants' experiences.

#### Discussion

#### Perceived and Actual Barriers

Comments regarding low salaries in return for covering entire regions encompassing many inhabitants were common. Official salaries were quoted as being approximately 120 USD US per month. Some respondents state that it is hard for the physicians from the regions to leave their work places for a long time especially in areas where there are few specialists.

Many physicians felt that they were under scrutiny about their skills and diagnoses. This was coupled with an awareness of an anti-physician sentiment in the media and press that may not be unique to Armenia. Comments expressed fear over lawsuits or being found in the wrong due to lack of clear diagnostic protocols, or know-how. During the Soviet times, all medical services were reimbursed by the state. Now most payments must be made by the patient. Participants felt this also changes the way the patients treat doctors.

Physician respondents stressed the absence of protocols to guide their work. Many feel they are not protected legally or professionally. Perhaps due to their isolation far from their colleagues, there is a feeling that they are not able to keep up with standards of care.

The lack of modern equipment, lack of up to date publications and materials were also cited. Lack of medicines and unavailability of necessary laboratory services and tests were also mentioned. According to the participants, these can affect the precision of the diagnosis and the treatment. In many cases, physicians feel the need to transfer patients to optimise care. This comes at a loss of livelihood to the doctor and a considerable hardship to the patient and their family. Some participants expressed concern that new knowledge gained in training was negated in many cases due to the lack of equipment once they return to their regional hospitals.



There were comments regarding the need for nursing education and development. Physicians from the regions noted that without improvement in nursing, their new knowledge would not be put to good use.

One of the more concerning challenges highlighted by regional physicians is difficulty in implementing what they have learned. This is due to several reasons. First, a lack of equipment or medications, second lack of support on the part of their colleagues including nursing staff. Some suggested that training more of the staff may result in higher rates of adoption.

### Positive Aspects of the Programme

Many of the respondents mentioned that among all the advantages of the programme, networking was among the most important. They met colleagues whom they can turn to for advice or to whom they can refer their complicated patients. This unofficial network has advantages for both the trainee and the trainer as well as for the sponsoring hospital in Yerevan. Trainees have the advantage of being able to identify a mentor or physician who can provide a second opinion and the hospital and trainer gain a referral network for patients that truly need their expertise or advanced diagnostics and procedures.

Part of the programme included time at the Republican Medical Library and classes on computer and on-line resource literacy. Many participants felt this was key to keeping up to date when returning to the regions. In addition, the relationship formed with the medical librarians will continue after their return to the regions so they can continue to learn and grow in their practice.

Although some respondents felt they had a hard time enacting change at their workplaces, others including hospital administrators felt there was a positive impact on confidence, accuracy and practice.

Trainees enthusiastically expressed a desire for even more exchange of information and formal didactic teaching. There seems to be a hunger for evidence based or protocol driven medicine.

#### **Recommendations**

To address the challenges faced by the physician trainees we made the following recommendations to improve the FAR CME programme based on the suggestions of our participants and the opinions of the authors.

(1) Organise theoretical courses within the frame of the CME programme for the participants in the

- form of lectures and make the lectures accessible online so they can be revisited or shared with colleagues on return to the regions.
- (2) Increase access to and skills for accessing on-line resources.
- (3) Increase networking possibilities by frequent call backs in person in Yerevan, in the regions or virtually via tele-mentoring programmes. Develop and deepen alumni networks.
- (4) Increase pedagogic teaching and coaching of both the preceptors and the trainees.
- (5) Include nurses that work alongside the trainee physicians to support and facilitate work on return to the regions.
- (6) Increase penetration of participants by maximising participation strategically from the regions to ensure representation hospital by hospital and maximise amplification.
- (7) Follow up the implementation of the new knowledge gained by trainees when they return to the regions and strategically ensure that proper equipment is available for procedures.

#### **Conclusions**

The dissolution of the Soviet Union resulted in a deficiency of updated facilities, equipment and medications but the most significant impact during and after the Soviet period has been the isolation of Armenian physicians from their colleagues around the world. Medical journals, findings shared at medical conferences, and texts in non-native languages remained inaccessible for many years. Doctors in Armenia must choose between medical school in Russian or Armenian which may further distance them from the ever-changing body of medical knowledge around the world. [11]

Regional physicians in post-Soviet countries in transitions such as Armenia face many challenges including financial, reputational, confidence and access to updated facilities, equipment, medications and knowledge. Providing a local mechanism to address the challenges allows for an expansion of CME without a great cost to the physician. The benefits are increased access, but most importantly access to a network of physicians and colleagues ready to work towards equity in healthcare between the capital city and the regions.

The novel method of CME amplification employed by FAR to leverage the resources of in-country preceptors who have received advanced training outside the country, is unique and also reproducible. It is particularly applicable to countries in transition. It requires

willing partner organisations to leverage their influence for the greater good. In this way new knowledge can be harnessed and amplified upon their return. To our knowledge Armenia is the only post-Soviet republic to leverage the OMI-Salzburg programme in this manner despite OMI being active in most countries of the former eastern bloc. Likely these countries are facing similar challenges in providing and meeting CME requirements within the country and could consider a similar amplification programme to leverage educational exchange programmes.

#### **Author Contributions**

All authors contributed to the drafting of the manuscript and approved the final manuscript. GY conceived the programme for CME. GY and HS conceived of the study and collected the study data and oversaw the analysis of the data.

### **Acknowledgments**

The CME programme was initiated by the Fund for Armenian Relief Medical Fellowship Alumni Association with the support of the FAR Executive Director, Garnik Nanagoulian. The current CME programme would not have been possible without the dedication, determination and foresight of the late Dr. Edgar Housepian of Columbia University who was a founding and guiding force in the FAR Medical Fellowship programme.

The authors would like to acknowledge Anna Shirinyan, Director of the Republican Scientific Medical Library of Armenia for her leadership as President of the FAR fellowship alumni association, and Dr. Bella Grigoryan who led the OMI-Salzburg Medical Seminars' Alumni Association.

The technical capacity of the programme has been built on the long-term and successful collaboration with advanced clinics/hospitals in Yerevan as well as with the support of the National Scientific Medical Library, MOH and National Institute of Health of Armenia.

Thank you to the OMI-Salzburg Seminars and to Dr. Wolfgang Aulitsky of Weill Cornell for his collaboration and his support of training the doctors of the former eastern bloc. Through the auspices of OMI, over 738 Armenian doctors have attended the seminars from 1997-2019.

The true heroes of this programme were and continue to be the amazing pool of volunteer preceptors working in the leading hospitals in Yerevan. We would like to thank each and everyone one of them for their selfless contribution to the betterment of medicine in the regions and in the capital and the success of this programme.

### **Disclosure Statement**

HS is a current employee of FAR, GY is a former FAR board member and voluntarily led this programme. The authors have no additional conflicts of interest to declare.

### **Funding**

The CME programme was funded by the not for profit nongovernmental organization, Fund for Armenian Relief, from 2005 until the present and supported by the Jinishian Memorial Foundation from 2005-2008.

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#### References

- [1] Braido F, Popov T, Ansotegui IJ, et al. Continuing Medical Education: an international reality. Allergy. 2005;60:739-742.
- [2] Peck C, McCall M, McLaren B, et al. Continuing medical education and continuing professional developinternational comparisons. 2000;320:432-435.
- [3] EAHC/2013/Health/01 EUHP. Study concerning the review and mapping of continuous professional development and lifelong learning for health professionals in the European Union. Available from: https://ec.europa. eu/health/sites/health/files/workforce/docs/cpd\_map ping report en.pdf2013.
- [4]. Saita T, Dri P. Evaluation of Continuing Medical Education (CME) Systems across the 27 European countries. Creative Educ. 2014; 682-689.
- [5] Farmer RG, Sirotkin AY, Ziganshina LE, et al. The Russian health care system today: American-Russian CME programmes help? Cleve Clin J Med. 2003;70:937-8,41-2, 44.
- [6] Avakyan M, Yaghiyan G. Continuing medical education in the Republic of Armenia. Int J Med Teachers. 2012;4 (10):52-63.
- [7] Cervero RM, Gaines JK. The impact of CME on physician performance and patient health outcomes: an updated synthesis of systematic reviews. J Contin Educ Health Prof. 2015;35:131-138.
- [8] Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. Qual Health Res. 2005;15:1277-1288.
- McLellan E, MacQueen K, Neidig J. Beyond the Qualitative Interview: data Preparation Transcription. Field Methods. 2003;15(1):63-84.
- [10] Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. Nurse Educ Today. 2004;24:105-112.
- [11] Health in Russia is broke, but who is to fix it? Lancet. 1999;353:337. https://doi.org/10.1016/S0140-6736(99) 90019-3.

### **Appendix A**

### **Data Collection**

Data collection using the quantitative questionnaire were given to each physician who participated in the CME programme since 2005. The questionnaire was piloted and

Your profession——-



refined prior to administration of the study. Questionnaires were completed by each physician at the conclusion of the CME training programme. The overall response rate was 90% for the questionnaire component of the study.

### **Data Management**

Although participant information was collected initially, all the quantitative questionnaires were de-identified on data entry and responses were analysed in aggregate to prevent disclosure of personal information. The data from the completed quantitative questionnaires were entered into the database using the statistical package STATA12, cleaned by checking each 10th questionnaire in the database and running frequencies for every variable to identify missing and/or unexpected values. Any identified mistakes were corrected, and the data were analysed using the same statistical package. Only the research team had access to the transcripts and the STATA database.

#### **Data Analysis**

The quantitative questionnaires were analysed using statistical package STATA12.

### **Results Quantitative Survey**

The quantitative analysis included all completed questionnaires. The overall response rate was 90% but 100% of the questions were complete in 35% of the questionnaires making the response rate per individual question variable. More than 95% of respondents evaluated the training as "very effective" or "effective". Approximately 99% of the respondents agreed that the preceptor was knowledgeable, shared useful information in his/her sphere and was easy to work with. The majority of participants felt that the preceptor properly organised the training period (96%).

## Positive and Negative Characteristics of the **Preceptors**

Among the strengths of the trainers, the participants mentioned "being professional" (25%), "being knowledgeable" (14%), having "updated and detailed information" including, "deep computer and language knowledge" (9%), and having a "collegial attitude towards colleagues and patients" (8%). Others made note of the following positive attributes: "experienced, attentive, helpful, practical, and humorous". The majority of respondents stated that they didn't notice any weaknesses in their preceptor (76%). Weaknesses that were noted included the preceptor being "overloaded" (16%) or not being "strict enough" (3%). Books (57%) and electronic literature (45%) were identified as the most effective tools during the training programme.

### Survey tool

Name:—————	
name	surname
Training date:————	
Supervisor name————	
Hospital——————	
Department—————	

Your age
2-How did you find out about the programme?
a.[] Colleague
b.[] Ministry of Health
c.[] Social Media/Internet/
d.[] Else
3- Please evaluate the process of applying: a.[] Very clear b.[] clear c.[] complicated d.[] very complicated
4- Would you recommend the programme to your colleague? a.[] Very likely b.[] likely c.[] Not likely d.[] would not recommend:
5-How useful was participation in the program on your professional development?
a.[]very useful b.[]useful c.[] neutral d.[] useless
6-How satisfied were you with the hospital where you were trained? a.[]very satisfied b.[] satisfied c.[]dissatisfied d.[]very dissatisfied
7-How effective were the library's literature, lectures, e-searches for your professional development. a.[]very effective b.[]effective c.[]less effective d.[]ineffective
8-What was the most effective for your professional development? a.[]Books b.[]Lectures c.[]electronic searches d. else———————————————————————————————————
9- Did you participate in the computer courses? a.[] Yes b.[] No (shift to 11th question)
10- How useful were the computer courses for your professional activities? a.[]very useful b.[]useful c.[]neutral d.[]useless
11- How would you assess the organisational work in the scope of the program? Housing, transportation, food, etc. a.[] Very good b.[] Good c.[] neutral d.[] bad
13. What suggestions or remarks do you have for further improvement and development of the program?

14. -Please, indicate how much you agree with these statements:

	Question	Agree	Don't know	disagree
I	My supervisor carefully organised the			

- training
- II My supervisor was knowledgeable in his field and always provided useful information.
- III My supervisor was aware of my theoretical work and provided necessary assistance
- IV It was easy to work with my supervisor
- V Working with my supervisor make the programme more effective
