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Multi-stakeholder perspectives on the strengthening and embedding of mandatory Continuing Medical Education in Georgia: a qualitative study

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PAPER

Title page

**Multi-stakeholder perspectives on the strengthening and embedding of mandatory
Continuing Medical Education in Georgia: a qualitative study**

Authors

Ekaterine Ruadze - Global Fund Projects' Implementation Unit, The National Center for Disease Control and Public Health, Tbilisi, Georgia; Department of Public Health, Faculty of Medicine, Iv. Javakhishvili Tbilisi State University, Tbilisi, Georgia

Ekaterine Cherkezishvili, - Country Implementation Lead, BMJ Clinical Decision Support Training Initiative, Tbilisi, Georgia

Elisa Roma - Senior Programmes and Partnerships Manager, Global Health, BMJ, London, UK.

Kieran Walsh - Clinical Director, BMJ, London, UK

Tamar Gabunia - First Deputy Minister of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs, Tbilisi, Georgia

Amiran Gamkrelidze - Director General. The National Center for Disease Control and Public Health, Tbilisi, Georgia

Corresponding author

Kieran Walsh

BMJ

BMA House

Tavistock Sq

London WC1H 9JR

1
2
3 kmwalsh@bmj.com

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5 00 44 7539 656947

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Main paper

Abstract

Objectives

Continuing Medical Education (CME) is a vital component of health systems. But setting up a CME system is a complex task, requiring involvement of multiple stakeholders including educators, learners, institutions, and policy makers. The aim of the study was to conduct qualitative research involving multiple stakeholders to explore the perceived effectiveness and shortcomings of the CME system in Georgia, its place in the health system, and potential means of improving it.

Design

This was a qualitative study.

Setting

We interviewed individuals from CME providers, medical establishments, the Professional Development Board, and the Regulation Agency for Medical and Pharmaceutical Activities.

Participants

We thus interviewed 23 people (11 people from CME providers, 8 people from medical establishments, 3 Professional Development Board members and 1 person from LEPL Regulation Agency for Medical and Pharmaceutical Activities).

Results

Georgia has had experience of mandatory CME in the past, which had been criticised for its poor quality and bureaucratic processes. CME is viewed as an essential developmental process for medical professionals, the outcome of which is to deliver high-quality medical care. Our interviewees identified a clear need for high-quality CME courses. However significant challenges that need to be overcome include financial barriers, doctors' attitudes to CME, a lack of CME courses in all medical specialties, and relatively weak professional associations.

Conclusion

Continuing medical education is widely recognised as an essential pillar in providing quality medical care. Establishing high-quality CME requires a strategic and holistic approach. In order to ensure the sustainable and effective implementation of the CME process, we need to take into account stakeholders' interests and expectations, the socio-economic status and development of the country, and past experience of all relevant individuals and organisations.

Strengths and limitations of this study

CME is an international issue: even though this study was only carried out in Georgia, the themes that emerge are important to educators and learners internationally.

This was a small study that is based on the perspectives of a limited number of interviewees – however the interviewees are key stakeholders in this field

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3 Although the study provides the views of many different stakeholders on CME, we still lack the
4 views of patients and the wider public. We hope to look at this in research to be undertaken in
5 the future.
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26 **Introduction**

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28 Health systems strengthening has been defined as “any array of initiatives and strategies that
29 improves one or more of the functions of the health system and that leads to better health
30 through improvements in access, coverage, quality, or efficiency.”[1] It is being increasingly
31 recognised that health system strengthening is only possible if there are adequate human
32 resources for health who are competent to deliver care that patients and populations need.[2]
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34 However countries will not have high-quality human resources for health without a robust
35 system of Continuing Medical Education (CME) or Continuous Professional Development
36 (CPD).
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47 Continuing Medical Education (CME) is a vital component of all health systems. But setting up a
48 CME system is a complex task. It involves balancing the needs of multiple stakeholders
49 including educators, learners, institutions, and policy makers. The first step in setting a system
50 of CME is legislative change so that CME is recognised, and providers are accredited. The next
51 phase involves the implementation and roll out of the newly established system. During this
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3 phase, all those involved in CME will need a lot more detail on how CME will work in practice.
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5 As Filipe et al have written “of all medical education stages, CME is the least formally structured
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7 and can be the most complex to create and assess given the diversity of curricula, educators,
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9 regional healthcare needs, professional aspirations, complexity of working environment and
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11 multiple stakeholders”. [3]
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16 This highlights the importance of multi-stakeholder involvement when setting up CME
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18 programmes. This is vital to ensure that CME is more than just a “top down” directive and that it
19
20 is transformed into an active programme that will make a real difference to healthcare
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22 professionals’ practice. It will also ensure that barriers to the implementation of CME are
23
24 overcome. These barriers might include doctors’ resistance to change, the culture of learning,
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26 uniprofessional learning, lack of infrastructure for CME, technological barriers (in the case of e-
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28 learning), time, and financial incentives - at the individual and institutional levels. The
29
30 perspectives of multiple stakeholders are also necessary to ensure that accredited CME is
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32 valued, and that mandatory CME is actually implemented.
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37 These perspectives are not always sought out, and this qualitative study was developed to help
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39 address this gap by carrying out in-depth interviews with representatives of these groups within
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41 Georgia. However before explaining what and how we did this, we give a brief outline below of
42
43 the background to CME in Georgia.
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46 47 **Background to CME in Georgia**

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49 The CME system of the independent state of Georgia started in 2001.[4] From 2001 until
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51 2006, the Georgia State Medical Academy (GSMA), founded in 1935, was responsible for
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53 doctors’ residency programs and CME courses.[5, 6] From 2001 to 2007 CME was compulsory,
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55 and the country's strategy based on recertification and accumulation of CME points was
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3 developed. But in a 2008 reform, the re-certification mechanism for doctors was cancelled;
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5 doctors were awarded lifetime certificates; and CME was no longer mandatory.[7] Nowadays,
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7 physicians in Georgia obtain their certificate of independent medical activity for their lifetime and
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9 participate in CME activities only on a voluntary basis.[6,7] The only exception relates to
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11 perinatal service providers. A ministerial order amendment issued on 2nd of September 2020 on
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13 “The Levels of Regionalization of Perinatal Services and Patient Referral Criteria” stipulates that
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15 obstetrician-gynecologists, neonatologist, radiologists, anesthesiologists, and specialists in
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17 resuscitation working for antenatal and perinatal service providers should participate in CME
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19 activities.[8] According to a ministerial decree issued on 15th of August 2018, a ‘Professional
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21 Development Board’ (PDB) was established at the Ministry of Health.[9] Secretarial and
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23 technical support to the Professional Development Board (PDB) is provided by the Legal Entity
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25 under Public Law (LEPL): Regulation Agency for Medical and Pharmaceutical Activities. Among
26
27 many other functions related to medical education, the Board: (1) develops criteria and rules for
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29 accreditation of post-diploma CME programs and submits them to the Minister for approval; (ii)
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31 provides accreditation for higher medical establishments, and (iii) monitors accredited
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33 organisations, and, based on the results of monitoring, continues or cancels their
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35 accreditation.[9]
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41 To qualify as CME providers, organisations need to submit an application with at least two
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43 recommendations from field experts to the PDB. Face-to-face CME course providers must: (i)
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45 inform the PDB about the date and place of planned courses during the last week of each
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47 month; (ii) inform the board about the number of participants, their names, and specialties as
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49 well as the names of the trainers and the number of hours they spent preparing the training - all
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51 no later than 3 days before the start of the course; (iii) keep a registry of the course and
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53 participants, (iv) implement the course internal quality assessment procedures, and (v) assess
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55 participants in a final exam. Assessment methods during the final exam can be in different
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formats. If the assessment method is a multiple-choice test, more than 75.5% of questions must be answered correctly.[10, 11]

Aim of the study

The aim of the study was to conduct qualitative research involving multiple stakeholders that will explore the perceived effectiveness and shortcomings of the CME system in Georgia, its place in the health system, and potential ways to improve it.

Methodology

This was a qualitative study gauging the views of several stakeholders involved in CME in Georgia.

Sample

We selected individuals from CME providers, medical establishments (hospitals and ambulatory clinics), the Professional Development Board, and the LEPL Regulation Agency for Medical and Pharmaceutical Activities.

Selection of CME providers

At present there are about 60 CME providers in Georgia, offering over 200 courses in different specialties. The number of courses offered per provider ranges from 1 to 52. (see table 1)

Table 1: Description of selection of CME providers

Number of courses	Number of providers	Method of selecting	Number of interviews

≤4	52	Convenience sampling	6*
5	2	We selected 1 out of 2	1
7	2	We selected 1 out of 2	1
≥8	4	All 4 providers	4

*We selected two providers which organise courses for family medicine doctors.

Due to the COVID-19 pandemic we were unable to interview one CME provider, which initially agreed to participate. Even after 4 follow-up calls, we were unable to agree on a time. We interviewed 11 CME providers out of the selected 12.

Selection of medical establishments

Based on the specialties “most covered” by the CME courses, we decided to interview the medical directors or quality managers of the following establishments: maternity homes, ambulatories, children’s hospitals, and ambulance services.

We took two interviews per medical establishment (eight interviews in total).

Professional Development Board (PDB) members

We used convenience sampling to select three PDB members.

LEPL Regulation Agency for Medical and Pharmaceutical Activities

We used convenience sampling to interview one person from the LEPL Regulation Agency for Medical and Pharmaceutical Activities.

We thus interviewed 23 people (11 people from CME providers, 8 people from medical establishments, 3 Professional Development Board members and 1 person from LEPL Regulation Agency for Medical and Pharmaceutical Activities)

Data collection method

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3 The data collection method was in-depth interviews. Initially we telephoned the potential
4 respondents. If they agreed to participate in the study, we emailed them a consent form and
5 agreed on the date of an interview. Based on the respondents' preference (taking into account
6 the COVID-19 pandemic), we had either face-to-face, video conference, or telephone
7 interviews. All interviews were recorded.
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13 14 15 **Data analysis methods**

16 From all recorded interviews we prepared transcripts. We applied thematic analysis to the
17 transcripts. Analysis was applied separately to the interviews of the CME providers,
18 accreditation board members, representatives of medical establishments and the LEPL
19 Regulation Agency for Medical and Pharmaceutical Activities.
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28 **Approval**

29 This study was approved by the Institutional review board IRB (IRB00002150) at the National
30 Center for Disease Control and Public Health on 23rd of September 2020 (letter # 2020-057).
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37 **Patient and Public Involvement**

38 Patients or the public were not involved in this study.
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45 **Results**

46 The following themes emerged from the interviews.
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51 **The existing practice of CME**

52 At present CME is not compulsory for all specialties. However, the fact that the country has
53 managed to keep the CME accreditation process up and running was viewed positively by all
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3 respondents. The continuing medical education course accreditation process is considered to
4 be appropriately designed and well managed. There is an exact list of documents that need to
5 be submitted; deadlines are clear; and the whole process is straightforward.
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9 There are two aspects of CME courses: technical and contextual. The LEPL Regulation Agency
10 for Medical and Pharmaceutical Activities monitors the course's technical aspects (e.g. the
11 format of the course, who is the lecturer, number of course attendees, do they have a
12 questionnaire or not, venue of the course), and the assessment of course content rests with
13 professional associations.
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16 Some respondents felt that a few aspects of this process could be improved.
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19 One was the need to have better access to the list of ongoing CME courses. i.e. for these to be
20 easier to find. The website describing CME courses should be user-friendly, and information
21 about upcoming CME courses should be well described, e.g. lecturers, dates of the course,
22 fees, and credit scores. Support services should be developed.
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30 The provider is currently mandated to submit the list of attendees three days in advance of the
31 accredited CME course. This poses a number of challenges as doctors are often not able to
32 accurately predict their availability. Thus, this requirement poses challenges both for the
33 providers and potential learners.
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38 Obtaining references from professional associations might be challenging if the association
39 provides a rival course.
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45 **Quality monitoring of existing CME courses**

46 Quality monitoring of existing CME courses starts during the accreditation process when the
47 provider submits the documents. The course quality relies on the professional associations'
48 references, but according to one respondent "how professional associations assess the quality
49 is difficult to say". The monitoring of the actual implementation of CME courses needs to be
50 improved. This would become more challenging if CME were to be mandatory for every
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3 specialty. The increased number of courses will increase the demand for quality monitoring. The
4 course quality monitoring process could be further improved by involving more professional
5 associations during the course assessment process at the stage of accreditation. One provider
6 mentioned that the accreditation board refused accreditation of their course, as they could not
7 see the course's necessity, and she thinks that the board should be able to think "out of the box"
8 or that they could seek expert opinion on this subject. Strengthening of the professional
9 associations is viewed as crucial in developing high-quality CME courses.
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20 **Attitude to CME**

21 Attitudes to CME are not homogeneous. Whilst all respondents recognise the importance of
22 CME, they also mentioned that not all doctors see CME as a crucial activity for their
23 professional growth. There are practitioners who have not attended any CME course in the last
24 10-15 years of their professional life. Some of these doctors think that they have enough
25 experience and knowledge, and say that they do not expect to learn anything new from courses.
26 According to our respondents, doctors working and living in the regions find it financially
27 challenging to attend face-to-face courses in the capital, as they have additional costs for
28 accommodation. In such cases online courses are particularly important as they save both time
29 and money. Alternatively, more CME courses could be offered at doctors' workplaces. In-
30 country CME events as well as international conferences are more affordable and accessible for
31 doctors living in the capital than those in the regions.
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48 **Mandatory CME**

49 According to the majority of our respondents there is a clear need for mandatory high-quality
50 CME courses to be made available in the country. Most respondents felt that mandatory CME
51 would ensure that all doctors were continually learning and thus improving their standards.
52 However, this was not universal. Some respondents thought that voluntary CME courses based
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3 on competition between providers are of higher quality than mandatory courses. They felt that if
4 a doctor participates in CME because they are motivated of their own free will to develop further
5 and get updated knowledge, then they will only go to high-quality courses. As a result, the
6 demand for high-quality courses increases. If the doctor is not motivated and cannot see their
7 professional growth with career progress, they do not seek high-quality courses, and the
8 demand for high-quality courses decreases.

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11 Some of our respondents mentioned that, in past years when CME was mandatory, some
12 doctors did not even attend the courses, but paid money to get certificates. Their motivation
13 was just to get certificates and credits and not to achieve real professional development.

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16 Respondents stated that if CME becomes mandatory again, it should be more than a formality.
17 Instead it should be a means whereby doctors can truly develop and grow. All respondents think
18 that any mandatory CME implementation process should be transparent for doctors, and
19 therefore constant and consistent communication with medical professionals is essential.

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22 Doctors should know what to expect and in what time frame. Enough time should be given to
23 doctors to prepare. They should be informed at least a year ahead about the beginning of the
24 process. The preparatory process for re-introducing mandatory CME should be thorough and
25 should take into consideration the many challenging aspects of CME. According to our
26 respondents the main problem is mindset and mentality, i.e., doctors' vision of their professional
27 development. "We have lost the middle generation of doctors. Young and senior professionals
28 are very active but not middle-aged professionals. We need better communication with doctors."

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31 CME course fees should be regulated. CME course providers should not be motivated by the
32 number of course attendees. i.e., more attendees should not increase income. Academic staff
33 should not be able to opt out of the CME process: if they work as doctors, they should earn
34 CME credits and be involved in the recertification process. Each doctor involved in the CME
35 process should have their own online portfolio to plan and monitor their participation in CME

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3 The language barrier is yet another problem. There are areas populated mainly by ethnic Azeris
4 and Armenians who do not speak any Georgian. The re-introduction of mandatory CME and re-
5 certification should consider Azeri and Armenian doctors' requirements - some may not be
6 familiar with the Georgian language.
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11 Mandatory CME will enable regulatory bodies to know the correct number of practicing doctors.
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13 At present the number of certified doctors is known, but this does not necessarily correspond to
14 the number of practicing doctors.
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20 21 22 **Discussion**

23 24 **Principle findings**

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26 Georgia has had experience of mandatory CME in the past, which had been criticised for its
27 poor quality and bureaucratic processes. CME is viewed as an essential developmental process
28 for medical professionals, the outcome of which is to deliver high-quality medical care. Our
29 interviewees identified a clear need for high-quality CME courses. However significant
30 challenges that need to be overcome include financial barriers, doctors' attitudes to CME, a lack
31 of CME courses in all medical specialties, and relatively weak professional associations.
32
33 Furthermore, on a broader political level, Georgia is looking to align the quality and breadth of
34 its medical practice and continuing professional development to European standards. The
35 European Union of Medical Specialties (UEMS) is a representative organisation for specialist
36 doctors from the national associations of all European Union/European Economic Area
37 (EU/EEA) states and a number of non-EU/EEA countries. Georgia and its neighbouring
38 countries Armenia, Azerbaijan, and Turkey are members of UEMS. The policy of the UEMS on
39 continuous professional development relies on the Basel Declaration, issued on 20th of October
40 2001.[12] Basel's declaration context is in line with the challenges and needs identified in the
41 Georgian context. According to the Basel Declaration, the goal of CME is to improve all aspects
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3 of the medical practitioner's performance, incorporating the principles of adult learning. It is
4 expected that the doctor should assess their educational needs and identify the means of
5 addressing these needs. CME is described as a part of quality improvement "that ensures that
6 good doctors remain good and get better".[12] Funding, time, and continuous peer support are
7 identified as resources required for CME and viewed as pillars without which the implementation
8 process of CME will fail. A range of educational activities must be made available to doctors.
9 The learning culture in medicine must be developed further, and doctors' educational activities
10 must be valued and supported.
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22 **Strengths and weaknesses**

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24 This was a small study that is based on the perspectives of a limited number of interviewees.
25 However, despite its relatively small size, the themes that emerged from the interviews were
26 consistent and saturation was reached in the themes we analysed. Although the study provides
27 the views of many different stakeholders on CME, we still lack the views of patients and the
28 wider public. We hope to look at this in research to be undertaken in the future.
29
30 CME is an international issue. Even though this study was only carried out in Georgia, the
31 themes that emerge are important to educators and learners internationally. Many countries are
32 looking at their systems of CME and considering reforms and so might be able to learn from this
33 country's experience. CME is also an issue that is important to generalists. CME regulations
34 usually apply to all doctors and so generalists should find the outcomes of this study of interest.
35
36 Lastly this is a topical subject. The COVID-19 pandemic has made accessing CME courses an
37 even greater challenge for many doctors and so seeking the views of different stakeholders on
38 CME is likely to be relevant and timely.
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54 **Meaning of the study**

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3 Continuing medical education is widely recognised as an essential pillar in providing quality
4 medical care. High-quality CME is a challenging process and requires a strategic and holistic
5 approach. In order to ensure the sustainable and effective implementation of the CME process,
6 stakeholders' interests and expectations, the socio-economic status and development of the
7 country, and past experience of all stakeholders should be taken into consideration.
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17

18 19 20 **Acknowledgements**

21
22
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24
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26
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28
29

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33
34
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36
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38
39

40 41 42 **Competing interests**

43
44
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46
47 for CME. Ekaterine Cherkezishvili leads the country implementation efforts of BMJ in Georgia.
48
49 Ekaterine Ruadze was contracted as consultant for the duration of the study.
50
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Authors' contributions

EKR conducted the interviews, analysed the data, wrote the first draft, and approves the final version.

KW contributed to the design of the work, critically revised the drafts, and approves the final version.

ELR contributed to the design of the work, critically revised the drafts, and approves the final version.

EC contributed to the design of the work, critically revised the drafts, and approves the final version.

AG contributed to the conception of the work, revised the drafts, and approves the final version.

TG contributed to the conception of the work, revised the drafts, and approves the final version.

Working title - PROTOCOL

Protocol for a qualitative study to gain multi-stakeholder perspectives into the strengthening and embedding of mandatory Continuous Professional Development in Georgia

Introduction

Health systems strengthening has been defined as “any array of initiatives and strategies that improves one or more of the functions of the health system and that leads to better health through improvements in access, coverage, quality, or efficiency.” (1) It is increasingly being realized that health system strengthening will only be possible if there are adequate human resources for health who are competent to deliver care that patients and populations need. However, countries will not have high quality human resources for health without a robust system of Continuing Professional Development (CPD) or Continuing Medical Education (CME).

Continuing professional development (CPD) is a vital component of all health systems. It is essential for all doctors and other healthcare professionals to engage in lifelong learning so that they will be able to deliver the best possible care to their patients. However, setting up a CPD system is a complex task. It involves balancing the needs of multiple stakeholders including educators, learners, patients, and responsible institutions. The first step in setting a system of continuing professional development is legislative change so that CPD is recognised and CPD providers can be accredited. However, this is merely the first step in the process of setting up a system of CPD. The next phase is the implementation phase where the system is rolled out. During this phase, all those involved in CPD (including learners, educators, and institutions) will need a lot more detail on how CPD will work in practice. As Filipe et al have

1
2
3 written “of all medical education stages, CPD is the least formally structured and can be the
4 most complex to create and assess given the diversity of curricula, educators, regional
5 healthcare needs, professional aspirations, complexity of working environment and multiple
6 stakeholders.” (2)
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13 This highlights the importance of multi stakeholder involvement when setting up CPD
14 programmes. This is vital to ensure that CPD is more than just a “top down” directive and that it
15 is transformed into an active programme that will make a real difference to healthcare
16 professionals’ practice. It will also ensure that barriers to the implementation of CPD are
17 overcome. These barriers might include resistance to change, the culture of learning,
18 uniprofessional learning, lack of infrastructure for CPD, technological barriers (in the case of e-
19 learning), time for CPD, and finances and financial incentives for CPD - at the individual and
20 institutional levels. The perspectives of multiple stakeholders are also necessary to ensure that
21 accredited CPD is valued and that mandatory CPD is actually implemented. The perspectives
22 should be multidisciplinary and should include CPD providers, policy makers and beneficiaries.
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37 These perspectives are not always sought out, and this qualitative study will help to redress
38 these shortcomings by carrying out in depth interviews and focus groups with representatives of
39 these groups within Georgia.
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44

45 The health system in Georgia

46
47 The health system in Georgia underwent numerous changes after the country gained its
48 independence in 1990 and moved away from the Soviet “Semashko” model. (3). The changes
49 included the privatization and decentralization of the service providers, offering health insurance
50 to the poor and improving healthcare infrastructure. (4) The intensive privatization also led to the
51 creation of networks of medical service providers owned by pharmaceutical or private insurance
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3 companies, making these stakeholders highly influential in the system. (3). The state still
4
5 remains the biggest purchaser of medical services through its flagship “Universal Health Care”
6
7 program and other vertical programs. According to the National Statistics Office there were
8
9 approximately 32,000 licensed doctors in Georgia in 2019. (5) The percentage of the doctors
10
11 per 100,000 population is the highest EU or CIS. (6)
12
13

14
15
16 The country also moved away from the Semashko model of CPD: centralized development,
17
18 financing of qualification courses that were mandatory for all health professionals. The country
19
20 introduced the CPD requirements and recertification process in 2001. However, the state
21
22 certificate became lifelong in 2008. (3) However, in the recent years the Government is using
23
24 selective contracting for the publicly funded programs (e.g.: Universal Health Care Program) as
25
26 a mechanism to increase the demand for CPD. In order to participate in the program and be
27
28 able to provide the services covered, the medical providers need to show that all their eligible
29
30 doctors completed the CPD requirements set by the program. (7) .
31
32

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34
35 The ministerial decree on CPD adopted in 2018 updates the accreditation process and
36
37 recognizes the accredited CPD activities in certain developed countries. These resources are
38
39 considered valid and don't need accreditation in Georgia. (8)
40
41

42 43 44 45 **Aim and objectives of the study** 46 47

48
49 The aim of the study is to conduct qualitative research involving multiple stakeholders that will
50
51 explore the perceived effectiveness and shortcomings of the CPD system in Georgia, its place
52
53 in the health system and way to move forward and how best to overcome these shortcomings.
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55
56 This aim will be fulfilled by carrying out the following tasks:
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- 1
- 2
- 3 1. Describing the existing structure of CPD by means of desk review.
- 4
- 5 2. Conducting interviews to describe current CPD practices (including its funding mechanisms),
- 6
- 7 perceived strengths and weaknesses, the drivers, and barriers to their institutionalization at
- 8
- 9 organizational and national level.
- 10
- 11 3. Exploring the perceived effectiveness of the existing accreditation process in Georgia faced
- 12
- 13 by providers and the Ministry of Health.
- 14

15 The study focuses on interviewing providers of both face-to-face and online CPD in the country

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20 **CPD Stakeholders**

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24 Medical education policy is defined by the Policy Department at the Ministry of Health (MOH)

25 and the CME regulations are defined by the 'Professional Development Board' at the MOH.

26

27 According to the ministerial decree #01-9/6, 15th of August 2018, the main functions of the

28

29 'Professional Development Board (PDB)' (among many others) are:

30

- 31
- 32
- 33 • to develop criteria and regulations for accreditation of postgraduate CME courses,
- 34
- 35 • to accredit high medical educational establishments for CME,
- 36
- 37 • to monitor accredited organizations and,
- 38
- 39 • based on the monitoring results, to continue or cancel the accreditation.
- 40

41 Secretarial and technical support to the PDB is provided by the State Regulation Agency for

42

43 Medical Activities at the MOH. The PDB meetings are called by the chairman or by one third of

44

45 PDB members.

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50 **Figure 1: Stakeholder Chart**

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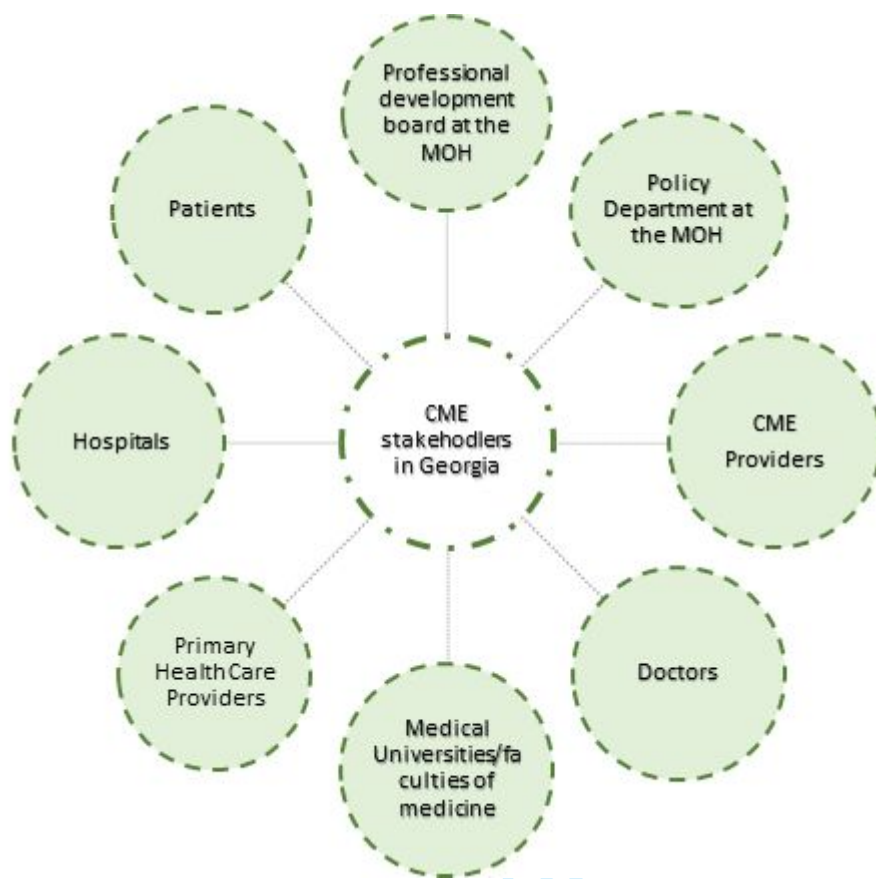
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At present there are 60 CME providers in Georgia, offering >200 courses in different specialties. The number of courses offered per provider ranges from 1 to 52 (table 1).

Table 1. Number of courses offered per provider

# of providers	# of courses	
26	1	
10	2	

12	3	
4	4	
2	5	Georgian obstetrics and gynecology perinatology association; Safe Schools Alliance with other institutions
2	7	Albius Dental Center; Georgian Scientists and Specialists Association Department of Medicine
1	8	David Tvildiani medical university
1	13	Emergency Coordination and Urgent Assistance Center
1	16	EVEX Medical Corporation/EVEX hospitals
1	52	Tbilisi State Medical University

These providers offer online learning (theoretical course, clinical case) or/and face - to - face courses (short term courses up to 10 days, professional conferences, congresses, and forums).

At present more than 90% of courses are conducted face-to-face.

Methods

To establish enablers of and barriers to the institutionalization and implementation of CME we will collect information from the CME providers as well as the Professional Development Board and the Policy Department at the MOH.

CME providers

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5 The reason for interviewing is to understand the general attitude to CME, identify technical
6 problems and barriers for preparation, accreditation, and implementation of CME courses as
7 well as obtaining their perspectives on establishing mandatory CME and how online CME could
8 be a recognized and accredited form of CME.
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13 The research method will be in-depth face-to-face interviews with a number of CME leads in
14 order to cover the majority of specialties. We envisage conducting a maximum of 20 interviews,
15 until we reach saturation.
16
17
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19 Interviews will be arranged in various ways or a combination of ways: by personal contacts, by
20 emailing or by telephone, based on availability of respondents and depending on the ongoing
21 epidemiological COVID-19 situation.
22
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25 Interviews will be collected from hospital and primary health care CME providers, and from
26 online as well as face-to-face CME providers.
27
28
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30 *Selection criteria for CME providers*

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32
33 • Four institutions, providing 8 and more CME courses such as Tbilisi State Medical
34 University, EVEX Medical Corporation/EVEX hospitals, Emergency Coordination, and
35 Urgent Assistance Center and David Tvildiani medical university: one interview per each
36 institution will be held. (4 interviews in total)
37
38
- 39 • Two institutions: Albius Dental Center and Georgian Scientists and Specialists
40 Association Department of Medicine have 7 CME courses each. From these two we will
41 interview Albius Dental Center as dentists are one of the most engaged specialties in
42 CME (1 interview)
43
44
- 45 • Two institutions: the Georgian obstetrics and gynecology association and Safe Schools
46 Alliance offer 5 courses each. From these two we will interview the Georgian obstetrics
47 and gynecology association as the obstetricians and gynecologists represent one of the
48 most engaged specialties in CME (1 interview)
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- The National family medicine training center and Georgia pediatrics association will be also interviewed (one interview per each provider). The reasoning behind interviewing them is the following: both of them provide courses for family medicine doctors and the National family medicine training center also has online courses as well for family medicine doctors (2 interviews)
- Other institutions that conduct four or fewer CME courses will be randomly sampled from the list (by simple random sampling). Initially, we will sample 4 institutions (4 interviews)
- If saturation is not reached at that point (at the point of 12th interview) we will continue random sampling of up to 20 interviews.

Comments on saturation

Saturation is viewed in qualitative research as a criterion for discontinuing data collection. As identified by Saunders et al.[9]. , there are four models of saturation, described in table 2.

Table 2 Models of saturation and their principal foci in the research process

Model	Description	Principal focus
Theoretical saturation	Related to the development of theoretical categories; related to grounded theory methodology	Sampling
Inductive thematic saturation	Related to the emergence of new codes or themes	Analysis

A priori thematic saturation	Related to the degree to which identified codes or themes are exemplified in the data	Sampling
Data saturation	Relates to the degree to which new data repeat what was expressed in previous data	Data collection

We will use the data saturation model and saturation will be determined in relation to themes across participants. The data saturation approach is based on the notion of informational redundancy and saturation can be identified at an early stage in the process, and decisions about when further data collection is unnecessary are made before coding and category development.

Professional Development Board and the Policy Department at the MOH

The reason for interviewing is to identify barriers and possible solutions for institutionalizing CME and to obtain the views of high-level policymakers about the further development of CME.

The research method will be in-depth face-to-face interviews.

Two interviews will be collected from the heads/deputy heads of the department and professional development board.

Three interviews will be collected from the professional development board members.

No further sampling is planned for this group. The judgement of saturation will be made within each participant's responses.

Medical directors

Medical directors of hospitals and primary health care providers will also be interviewed. They will be included in the study in order to obtain a view of CME beneficiaries.

Selection criteria for medical directors:

The starting selection point of medical establishments (hospitals and primary health care providers) is “the specialties mostly covered” by the CME courses. We identified the following specialties: obstetricians and gynecologists, family medicine doctors, pediatricians and neonatologists, emergency physicians, and dentists. Based on this finding we decide to approach the medical directors of the following establishments: 1. maternity homes, 2. polyclinics/ambulatories; 3. children’s hospitals; 4. stomatological polyclinics, and 5. ambulance services.

We will use a data saturation model as above, and the saturation will be determined in relation to themes across participants.

Initially, we will perform two interviews per each identified establishment, in a total of 610 interviews. If saturation is not reached at this point, we will continue sampling up to 105 interviews

Interviews will be audio-recorded, and recordings will be kept for 6 months.

Annex 1: Questions

Questions for CME/CPD providers

1. What is the range of educational CME/CPD opportunities offered by your organization?
2. How many CME/CPD courses do you organize per year (approximately)?

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3. How many CME/CPD courses do you have online and how many face-to-face?
 4. Are courses provided by you free-of-charge?
 5. How many CME/CPD attendees do you have per course (approximately)?
 6. How many CME/CPD attendees do you have per year (approximately)?
 7. How do you identify the need for specific CME/CPD?
 8. What is the process of CME/CPD course accreditation?
 9. How long does the process of CME/CPD course accreditation take (on average)?
 10. What are the characteristics of your organization's CME/CPD target audience?
 - o Gender
 - o Age
 - o Profession
 - o Place of work (hospital vs. ambulatory)
 11. Do you have any methodology to evaluate the effectiveness of CME/CPD courses?
 12. Is there a demand for CME/CPD courses?
 13. How is the demand for CME/CPD courses created?
 14. Is the demand for CME/CPD changing (increasing or decreasing)?
 15. Would mandatory CME/CPD ensure quality of medical services?
 16. Could you tell us the negative and positive sides for mandatory CME/CPD
 17. What are the barriers to mandatory accredited online CME/CPD? How could we overcome these barriers?
 18. How do you see future developments of the CME/CPD process in Georgia?
 19. According to you, how will success be measured?
 20. How is CME/CPD financed? By whom? Do you have more than one mechanism of financing?

Additional questions for online CME providers

21. How many online courses do you have?
22. How many participants do you have per course?
23. According to you, what are the disadvantages of online courses in the Georgia context and how can they be solved?
24. Did the accreditation process go differently for face-to-face courses and for online courses?
25. Why did you decide to develop an online CME course?
26. How do you see future online CME courses in the Georgia context?
27. How is CME financed? Does the learner pay or the institution or the government?

Questions for the 'Professional Development Board' members at the MOH

1. Could you tell us briefly about the CME/CPD courses accreditation process?
2. How successful is the CME/CPD process implementation in Georgia?
3. What type of monitoring do you implement for CME/CPD providers? And for how often?
4. How often do you have cases of disqualification of CME/CPD providers?
5. Do you think CME/CPD is important for medical professionals?
6. Are accreditation requirements different for CME/CPD online and face-to-face courses? Do they have to have different procedures/requirements?

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4 7. What is the attitude of medical professionals towards CME/CPD? Do they see
5 CME/CPD courses as an important educational opportunity for their career?
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8 8. How do you see the future developments of the CME/CPD process in Georgia?
9

10 9. Is mandatory CME/CPD the future of Georgia's medical education?
11

12 10. How can the process of CME/CPD become mandatory?
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16 o By whom?
17

18 o In what time frame?
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20 11. Will mandatory CME/CPE courses be supported by the medical professionals?
21
22

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24 12. What are the barriers to mandatory accredited online CME/CPD? How could we
25 overcome these barriers?
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27
28 13. How CME/CPD is financed? By whom? Do you have more than one mechanism of
29 financing?
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33 *Additional questions for Online CME*
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35 14 According to you, what are the advantages of online courses in the Georgia context and
36 how they can be solved? According to you, what are the disadvantages of online courses in
37 the Georgia context and how they can be solved?
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39 15. Did the accreditation process go differently for face-to-face courses and for online
40 courses?
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43 16. How do you see the future of online CME courses in the Georgia context?
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52 **Questions for the Policy Department at the MOH and**
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3 1. What are your thoughts on the existing CPD system in Georgia? How do you rate the
4 acceptance of gradual re-introduction of mandatory CPD using different mechanisms like
5 selective contracting?
6
7
8
 - 9 • Does the government support development and implementation of CPD courses? Can
10 you describe the process? Can you share approximate costs of CPD covered from the
11 budget in 2019?
12
 - 13 • How do you see the future developments of the CME/CPD process in Georgia?
14
- 15 2. Is mandatory CME/CPD the future of Georgia's medical education?
16
- 17 3. How can the process of CME/CPD become mandatory?
18
 - 19 o By whom?
 - 20 o In what time frame?
 - 21
 - 22
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 - 25
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 - 27
- 28 4. Will you be supportive of online CME/CPD courses and can they play an important role in
29 CME/CPD development in Georgia?
30
- 31 5. Will mandatory CME/CPD courses be supported by the medical professionals?
32
- 33 6. What are the barriers to mandatory accredited online CME/CPD? How could we overcome
34 these barriers?
35
- 36 7. How do you see the future development of the CME/CPD process in Georgia?
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- 38 8. How do you measure success?
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43 *Additional questions for Online CME*
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- 45 9. According to you, what are the advantages of online courses in the Georgia context and how
46 they can be solved? According to you, what are the disadvantages of online courses in the
47 Georgia context and how they can be solved?
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- 49 10. Did the accreditation process go differently for face-to-face courses and for online courses?
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- 51 11. How do you see the future online CME course in the Georgia context?
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3 12. How CME/CPD is financed? By whom? Do you have more than one mechanism of
4 financing?
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9 **Question for medical directors**
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- 11
12
13
14 1. What is your personal vision of the place of CPD in the health system? What is the
15 current culture of learning at this institution? Do you have institutional policies regarding
16 CPD? If yes, please describe. If not, what is the primary reason?
17
18
19
20 2. Do you provide the resources to your doctors to help them with their continuing medical
21 education? If yes, please specify
22
23
24 3. Are there any incentives for doctors at this institution to engage in CPD (Promotions,
25 recognition, performance related pay etc.)?
26
27 a. If Yes, please explain what they are
28
29
30 4. Approximately, how many doctors/residents from your hospital/ambulatory participated
31 in CME/CPD during the last year 2019?
32
33
34 5. Do you know mainly what kind of CME/CPD courses they participated in: face-to-face
35 and/or online?
36
37
38 6. How do you assess your employees' attitudes towards CME/CPD in terms of willingness
39 to participate? Do they consider that these courses are important for their professional
40 development?
41
42
43 7. Which specialties are more actively participating in CME/CPD courses?
44
45
46 8. Do you think that CME/CPD courses increase the quality of services that your
47 hospital/ambulatory care system offers to patients?
48
49
50 9. How do you measure the quality of doctors'/residents' performance? Do you have
51 indicators? If so, is participation in CME/CPD one of the indicators?
52
53
54 10. Do you think that CME/CPD should be mandatory? Why?
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3 11. How often can you afford your doctors/residents to be absent from duties due to
4 CME/CPD courses? Does it have a financial effect on your hospital/ambulatory care
5 system?
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9
10 12. Do you consider the possibility of paying (at least partially) for your doctors for
11 participation in CME/CPD courses? Why? Why not?
12
13 13. In which specialties and to what extent do you consider that online CME/CPD is or will
14 be effective?
15
16
17 14. If your facility participates in the state programs with recently added CPD components,
18 how did the introduced mandatory requirements (selective contracting) influence
19 participation of your providers in CPD? Is meeting these requirements the responsibility
20 of individual doctors, or the management selects and plans these activities? Can you
21 share the approximate costs per doctor per year? Are these costs covered by the
22 doctors or by the employer?
23
24
25 15. What kind of online courses (content-wise) do you wish to have? Can you give us an
26 example?
27
28
29 16. What is the major challenge the Georgia CME/CPD is facing now?
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Multi-stakeholder perspectives on the strengthening and embedding of mandatory Continuing Medical Education in Georgia: a qualitative study

Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

No	Item	Guide questions/description
Domain 1: Research team and reflexivity		
Personal Characteristics		
1.	Interviewer/facilitator	Which author/s conducted the interview or focus group? Ekaterine Ruadze
2.	Credentials	What were the researcher's credentials? <i>E.g. PhD, MD</i> MD, MSc, Project Management Professional
3.	Occupation	What was their occupation at the time of the study? BMJ consultant
4.	Gender	Was the researcher male or female? Female
5.	Experience and training	What experience or training did the researcher have? Researcher has an MSc in epidemiology and has extensive experience in conducting interviews, data collection and analysis. Researcher has experience of qualitative and quantitative studies.
Relationship with participants		
6.	Relationship established	Was a relationship established prior to study commencement? Researcher knew some respondents before the interview.

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2			
3			
4	7.	Participant knowledge of the interviewer	What did the participants know about the researcher? <i>e.g. personal goals, reasons for doing the research</i> During the first contact with the respondents, participants were given the goals of and reasons for the research, and informed consent forms were sent out.
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12	8.	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? <i>e.g. Bias, assumptions, reasons and interests in the research topic</i> The interviewer has been interested in continuing medical education since 2001. When CME was first introduced in Georgia 2001, the interviewer was working at the Ministry of Health.
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22	Domain 2: study design		
23	design		
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29	9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? <i>e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis</i> Content analysis
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39	10.	Sampling	How were participants selected? <i>e.g. purposive, convenience, consecutive, snowball</i> Initially we choose the stakeholder groups to be interviewed such as: CME providers, medical establishments, Professional Development Board and LEPL Regulation Agency for Medical and Pharmaceutical Activities. And within each group we used convenience sampling to choose individuals.
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49	11.	Method of approach	How were participants approached? <i>e.g. face-to-face, telephone, mail, email</i> Telephone and email.
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51			
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53	12.	Sample size	How many participants were in the study?
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		23 (11 CME providers, 8 people from medical establishments, 3 Professional Development Board members and 1 person from LEPL Regulation Agency for Medical and Pharmaceutical Activities)
13.	Non-participation	How many people refused to participate or dropped out? Reasons? We did not manage to interview one CME provider. Due to the COVID-19 pandemic we did not manage to agree on a time, even after 4 follow-up calls.
Setting		
14.	Setting of data collection	Where was the data collected? <i>e.g. home, clinic, workplace</i> Zoom, Viber, telephone and face-to-face.
15.	Presence of non-participants	Was anyone else present besides the participants and researchers? No
16.	Description of sample	What are the important characteristics of the sample? <i>e.g. demographic data, date</i> The sample consisted of the following stakeholders: CME providers, Medical establishments, Professional Development Board members and LEPL Regulation Agency for Medical and Pharmaceutical Activities
Data collection		
17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested? Yes
18.	Repeat interviews	Were repeat interviews carried out? If yes, how many? No
19.	Audio/visual recording	Did the research use audio or visual recording to collect the data? Yes, for all interviews
20.	Field notes	Were field notes made during and/or after the interview or focus group?

		No
21.	Duration	What was the duration of the interviews or focus group? 30 - 40 minutes
22.	Data saturation	Was data saturation discussed? Yes
23.	Transcripts returned	Were transcripts returned to participants for comment and/or correction? No
Domain 3: analysis and findings		
Data analysis		
24.	Number of data coders	How many data coders coded the data? N/A
25.	Description of the coding tree	Did authors provide a description of the coding tree? N/A
26.	Derivation of themes	Were themes identified in advance or derived from the data? Themes were identified before as well as after the data collection
27.	Software	What software, if applicable, was used to manage the data? N/A
28.	Participant checking	Did participants provide feedback on the findings? No
Reporting		
29.	Quotations presented	Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? e.g. <i>participant number</i> No
30.	Data and findings consistent	Was there consistency between the data presented and the findings? Yes

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4	31.	Clarity of major themes	Were major themes clearly presented in the findings? Yes
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7	32.	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes? No
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Multi-stakeholder perspectives on the strengthening and embedding of mandatory Continuing Medical Education in Georgia: a qualitative study

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1

PAPER

Title page

Multi-stakeholder perspectives on the strengthening and embedding of mandatory Continuing Medical Education in Georgia: a qualitative study**Authors**

Ekaterine Rudadze - Global Fund Projects' Implementation Unit, The National Center for Disease Control and Public Health, Tbilisi, Georgia; Department of Public Health, Faculty of Medicine, Iv. Javakhishvili Tbilisi State University, Tbilisi, Georgia

Ekaterine Cherkezishvili, - Country Implementation Lead, BMJ Partnership Team, Tbilisi, Georgia

Elisa Roma - Senior Programmes and Partnerships Manager, Global Health Team, BMJ, London, UK.

Kieran Walsh - Clinical Director, BMJ Partnership Team, BMJ, London, UK

Tamar Gabunia - First Deputy Minister of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs, Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs, Tbilisi, Georgia

Amiran Gamkrelidze - Director General, Director General's Office, The National Center for Disease Control and Public Health, Tbilisi, Georgia

Corresponding author

Kieran Walsh

BMJ

BMA House

Tavistock Sq

2

London WC1H 9JR

kmwalsh@bmj.com

00 44 7539 656947

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3

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Abstract

Objectives

Continuing Medical Education (CME) is a vital component of health systems. Setting up a CME system is a complex task, requiring involvement of stakeholders including educators, learners, institutions, and policy makers. The aim of the study was to conduct qualitative research involving multiple stakeholders to explore the perceived effectiveness and shortcomings of the CME system in Georgia, its place in the health system, and potential means of improving it.

Design

This is a qualitative study. All data was collected using semi-structured individual interviews. The questions were derived from the relevant literature. Data analysis was conducted using comparative strategy.

Setting

We interviewed individuals from CME providers, medical establishments, the Professional Development Board, and the Regulatory Agency for Medical and Pharmaceutical Activities.

Participants

4

We interviewed 23 people (11 people from CME providers, 8 people from medical establishments, 3 Professional Development Board members and 1 person from LEPL Regulatory Agency for Medical and Pharmaceutical Activities).

Results

Georgia has had experience of mandatory CME in the past, which had been criticised for its poor quality and bureaucratic processes. CME is viewed as an essential developmental process for medical professionals, the outcome of which is to deliver high-quality medical care. Our interviewees identified a clear need for high-quality CME courses. However significant challenges that need to be overcome include: financial barriers, doctors' attitudes to CME, a lack of CME courses in all medical specialties, and relatively weak professional associations.

Conclusion

Continuing medical education is widely recognised as an essential pillar in providing quality medical care. Establishing high-quality CME requires a strategic and holistic approach. In order to ensure the sustainable and effective implementation of the CME process, we need to take into account stakeholders' interests and expectations, the socio-economic status and development of the country, and past experiences of all relevant individuals and organisations.

Strengths and limitations of this study

The methodology chosen for this study meant that the research was carried out on stakeholders from a diverse range of backgrounds.

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Semi-structured individual interviews provided time and scope for participants to give detailed information about their opinions regarding their CME experience, barriers to mandatory CME, and future visions.

Although the study provides the views of many different stakeholders on CME, we did not seek the views of patients and the wider public.

Introduction

Health systems strengthening is defined as “any array of initiatives and strategies that improves one or more of the functions of the health system and that leads to better health through improvements in access, coverage, quality, or efficiency.”[1] It has been increasingly recognised that health system strengthening is only possible if there are adequate human resources for health who are competent to deliver care that patients and populations need.[2]

However, countries will not have high-quality human resources for health without a robust system of Continuing Medical Education (CME) or Continuous Professional Development (CPD).

CME may be defined as “any activity that is intended to maintain, develop or increase the knowledge, skills, and professional performance and relationships that a physician uses to provide services for patients, the public, or the profession”.[3] Continuing Medical Education (CME) is a vital component of health systems. A CME system is a system whereby CME is regulated and made available to healthcare professionals. Setting up a CME system is a complex task. It involves balancing the needs of multiple stakeholders including educators, learners, institutions, and policy makers. The first step in setting a system of CME is legislative change so that CME is recognised, and providers are accredited. The next phase involves the implementation and roll out of the newly established system. During this phase, all those

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involved in CME will need a lot more detail on how CME will work in practice. As Filipe et al have written “of all medical education stages, CME is the least formally structured and can be the most complex to create and assess given the diversity of curricula, educators, regional healthcare needs, professional aspirations, complexity of working environment and multiple stakeholders”. [4] This highlights the importance of multi-stakeholder involvement when setting up CME programmes. This is vital to ensure that CME is more than just a “top down” directive and that it is transformed into an active programme that will make a real difference to healthcare professionals’ practice. There is increasing evidence of the effectiveness of CME [5]. Also, the attempts to align CME with quality improvement have been promoted by professional organizations [6]. This will also ensure that barriers to the implementation of CME are overcome. [7] These barriers might include doctors’ resistance to change, the culture of learning, uniprofessional learning, lack of infrastructure for CME, technological barriers (in the case of e-learning), time, and financial incentives - at individual and institutional levels. The perspectives of multiple stakeholders are also necessary to ensure that accredited CME is valued, and that mandatory CME is actually implemented.

CME systems in developed countries have been extensively studied [8], but there is much less information on the same issue in low and middle countries.

These perspectives are not always sought out, and this qualitative study was developed to help address this gap by carrying out in-depth interviews with representatives of these groups within Georgia. However, before explaining what and how we did this, we give a brief outline below of the background to CME in Georgia.

Background to CME in Georgia

The Georgian health system has undergone major changes in the past three decades - one of these included the privatisation of 90% of health facilities [9]. The CME system in Georgia has

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2
3 experienced similar changes. The CME system of the independent state of Georgia started in
4 2001.[10] From 2001 until 2006, the state entity Georgia State Medical Academy (which later
5 merged with the Tbilisi State Medical University) was responsible for doctors' residency
6 programs and CME courses.[9 11] From 2001 to 2007 CME was compulsory, and the country's
7 CME system based on recertification and accumulation of CME points was
8 developed. However, in a 2008 reform, the re-certification mechanism for doctors was
9 cancelled; doctors were awarded lifetime certificates; and CME was no longer mandatory.[12]

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20 Nowadays, physicians in Georgia obtain their certificate of independent medical activity for their
21 lifetime and participate in CME activities only on a voluntary basis. The only exception relates
22 to perinatal service providers. A ministerial order amendment issued on 2nd of September 2020
23 on "The Levels of Regionalization of Perinatal Services and Patient Referral Criteria" stipulates
24 that obstetrician-gynaecologists, neonatologists, radiologists, anaesthesiologists, and specialists
25 in resuscitation working for antenatal and perinatal service providers should participate in CME
26 activities.[13] According to a ministerial decree issued on 15th of August 2018, a 'Professional
27 Development Board' (PDB) was established at the Ministry of Internally Displaced Persons
28 from the Occupied Territories, Labour, Health and Social Affairs (hereafter the "Ministry")
29 .[14] Secretarial and technical support to the Professional Development Board (PDB) is
30 provided by the Legal Entity under Public Law (LEPL): Regulatory Agency for Medical and
31 Pharmaceutical Activities. Among many other functions related to medical education, the Board:
32 (1) develops criteria and rules for accreditation of post-diploma CME programs and submits
33 them to the Minister for approval; (ii) provides accreditation for higher medical establishments,
34 and (iii) monitors accredited organisations, and, based on the results of monitoring, continues or
35 cancels their accreditation.[14]

8

To qualify as CME providers, organisations need to submit an application with at least two recommendations from field experts to the PDB. Face-to-face CME course providers must: (i) inform the PDB about the date and place of planned courses during the last week of each month; (ii) inform the board about the number of participants, their names, and specialties as well as the names of the trainers and the number of hours they spent preparing the training - all no later than 3 days before the start of the course; (iii) keep a registry of the course and participants, (iv) implement the course internal quality assessment procedures, and (v) assess participants in a final exam. Assessment methods during the final exam can be in different formats. If the assessment method is a multiple-choice test, more than 75.5% of questions must be answered correctly.[15 16]

Aim of the study

The study aimed to explore multiple stakeholder perspectives of the perceived effectiveness and shortcomings of CME in Georgia as well as attitudes to future developments.

The following research questions were investigated:

1. What are the shortcomings of the existing practice of CME in Georgia from different stakeholders' perspectives?
2. How do different stakeholders perceive voluntary CME and mandatory CME?
3. How different stakeholders see the future of CME and what barriers to CME should be addressed?

Methodology

Our research is within the constructionist research paradigm. In this paradigm, knowledge is constructed, and reconstructed and resides in the interactions of social, cultural, and interpersonal factors [17 18 19]. Accordingly, multiple realities exist, and these are dependent on mutual

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3 interactions between researchers, respondents, and the context of the research. In our research
4 on CME in Georgia, the researchers' assumptions and experience as well as what influence they
5 have on data collection and analysis is important and so is shared below to facilitate interpretation
6 of the research findings [20].
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13 ER has a background in epidemiology and had experience in conducting qualitative and
14 quantitative study. She also teaches in the faculty of medicine. EC has a great deal of experience
15 in implementing CME programmes in Georgia. ER and KW have a great deal of experience in
16 implementing CME programmes internationally. TG and AG have experience in senior leadership
17 positions in healthcare and in implementing policy in medical education and public health.
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26 **Setting, participants and procedures**

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30 We adopted a non-probability purposive sampling to select study participants.
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35 As a first step, we identified CME stakeholders: the professional development board at the
36 Ministry, LEPL Regulatory Agency for Medical and Pharmaceutical Activities, CME providers and
37 medical universities/faculties of medicine, primary healthcare providers, hospitals, and medical
38 doctors.
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43 In the next step, we selected participants from each stakeholder group. Sample size was mainly
44 determined by the study aim - i.e., we wanted to give multiple stakeholder perspectives, which by
45 themselves were highly specific. For example, we aimed to explore the study questions with CME
46 providers of varying sizes as we judged that their experience and vision of CME might be different
47 and so might bring additional information. We also planned to employ good interview time
48 management allowing enough time and space for respondents, by choosing the preferred date
49 and period of day for the respondents [21].
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Selection of CME providers

At present, in Georgia there are about 60 CME providers, offering more than 200 courses in different specialties. The number of courses offered per provider ranges from 1 to 52. As we wanted to hear from the CME providers that run 52 courses as well as CME providers that run only a few courses, we developed the following approach: 1. For CME providers with more than 8 CME courses per year, one interview per provider was held. We had four such providers, therefore 4 interviews in total were collected; 2. Out of four CME providers with 5 to 7 CME courses per year, we interviewed 2. 3. From 52 CME providers with four or fewer courses we sampled 4 CME providers with simple random sampling. 4. There are only two providers mainly conducting CME courses for family medicine doctors. As we wanted to obtain their point of view as well, we selected both of them. So, in total we selected 12 CME providers.

Selection of primary health care and hospital providers

The starting selection point of medical establishments (hospitals and primary health care providers) is the specialties mostly covered by the CME courses. We identified the following specialties: obstetricians and gynaecologists, family medicine doctors, paediatricians and neonatologists, emergency physicians, and dentists. Based on this finding we decided to approach the medical directors of the following establishments: 1. maternity homes, 2. polyclinics/ambulatories; 3. children's hospitals; 4. ambulance services. With convenience

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3 sampling we selected two medical establishments from each domain. In total there were 8
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5 interviews.
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9 **Professional Development Board**

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13 From the Professional Development Board at the Ministry with convenience sampling we selected
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15 three members.
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18 **LEPL Regulatory Agency**

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21 From the LEPL Regulatory Agency for Medical and Pharmaceutical Activities, we interviewed one
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24
25 person.
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28 **Ethics**

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31 ER contacted all prospective participants through telephoning or e-mailing them. During the initial
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34 contact, the purpose of the study was explained, and participants were informed that the interview
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36 will be audio-recorded. Participants were assured of the confidentiality of the recordings and ER
37
38 explained that their participation was voluntary and that they could stop the interview at any time.
39
40 If they agreed to participate (after verbal consent) in the study, we emailed them a consent form
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42 and agreed on the date of an interview. The interview took place only after we received the signed
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44 form.
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49 Based on the respondents' preference (taking into account the COVID-19 pandemic), we had
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51 either face-to-face, video conference, or telephone interviews.
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54 The institutional review board of the National Center for Disease Control and Public Health
55
56 approved the research protocol on 23rd of September 2020 (letter # 2020-057).
57
58

Interviews

All data was collected using semi-structured individual interviews. Semi-structured interviews are frequently used in qualitative research. Semi-structured interviews provide researchers the flexibility to diverge in order to pursue an idea or response in more detail [22 23].

All interviews were conducted by ER to ensure uniformity. Interviews provided time and scope for participants to give detailed information about their opinions regarding their CME experience, barriers to mandatory CME, and future visions. The questions were derived from the literature [24 25]. During the interviews, ER probed and sought clarification or elaboration of participants' responses as needed. The questions were evaluated by all members of the team who have different levels of experience in qualitative research and medical education (including CME).

Data analysis methods

From all recorded interviews we prepared transcripts. Data analysis was conducted using comparative strategy. By highlighting similarities and differences, we formed concepts as the basic units of analysis. Open coding was performed by ER who initially applied as many codes as needed and gave conceptual labels. Conceptually similar experiences were grouped together to form categories [26].

Such an approach was used within stakeholder analysis as well as across stakeholder analysis. To move from categories to concepts, axial coding, consisting of intense analysis done around

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one category at time, was performed [27 28]. This is how we identified dominating themes. All members of the research team discussed and agreed on the results. Data collection and analysis were conducted simultaneously. We observed that there was no need to increase the initial sample size as we reached the saturation.

In the beginning of the research the stakeholder analysis was done. As we aimed to explore the perceived effectiveness and shortcomings of the CME system from different perspectives, we interviewed the following stakeholders: Regulatory Agency for Medical and Pharmaceutical Activities , professional development board, CME providers, and primary health care and hospital care providers. As they all play their own specific role in CME, we decided to analyse them separately.

Ethics approval

This study was approved by the Institutional review board IRB (IRB00002150) at the National Center for Disease Control and Public Health on 23rd of September 2020 (letter # 2020-057).

Participants gave informed consent before taking part.

Data availability statement

Data are available upon reasonable request

Patient and Public Involvement

Patients or the public were not involved in this study.

Results

Twenty-three respondents from five stakeholder institutions participated in semi-structured interviews lasting 30-40 minutes each during the study period, October to December 2020. As we wanted to obtain multiple stakeholder perspectives, 24 was the initial planned number of respondents. We did not manage to interview one CME provider. Due to the COVID-19 pandemic, we did not manage to agree on a time, even after 4 follow-up calls. Further data collection and/or analysis was unnecessary as saturation was reached at this point. Table 1 presents the demographic characteristics of study participants.

Table 1: Demographic characteristics of study participants (n=23)

Variable	Frequency	%
Age category		
30-40	8	35
41-50	2	8
Above 50	13	57
Gender		
Female	11	47
Male	12	53

15

Stakeholder category		
Professional development board	3	13
Regulatory Agency for Medical and Pharmaceutical Activities	1	4
CME provider (different specialties)	11	47.6
Head of the maternity home	2	8.6
Head of the emergency services	2	8.6
Children's hospitals	2	8.6
Head of ambulatory service	2	8.6

Theme 1: The existing practice of CME and its challenges

At present CME is not mandatory for all specialties. However, the fact that the country has managed to keep the CME accreditation process up and running was viewed positively by all respondents. The continuing medical education course accreditation process is considered to be appropriately designed and well managed. There is an exact list of documents that need to be submitted; deadlines are clear; and the whole process is straightforward.

“This is a very positive point - the country managed to maintain the CME. The CME courses accreditation process is easy to follow.”

Professional development board

Some respondents talked about problems obtaining up-dated information about CME courses.

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3 “It is not easy to find the CME course you need. The website is not user-friendly, and information
4 about forthcoming CME courses not well described, i.e., lecturers, dates of the course, fees,
5 Professional Development Unit (PDU) scores, etc. There are no support services at all”.

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9 CME provider
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14 The provider is currently mandated to submit the list of attendees three days in advance of the
15 accredited CME course. This poses a number of challenges as doctors are often not able to
16 accurately predict their availability. Thus, this requirement poses challenges both for the
17 providers and potential learners.
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24 “I have to submit the list of participants in advance, during the CME application submission
25 process. You have to apply at least ten days before the course. Doctors are very busy, and if
26 some doctors cannot attend, and some places became vacant, I cannot offer this place to
27 another doctor. ..Well, they can attend, but they cannot earn scores.”
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32
33 CME provider
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37 Obtaining references from professional associations might be challenging for some CME
38 providers, especially if the association provides a rival course.
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43 “One of the documents to be submitted to the accreditation board is the letter of recommendation
44 (two letters of recommendation). One letter should be from a professional association, which
45 might be problematic if this professional association considers you a rival.”
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49
50 CME provider
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One provider mentioned that the accreditation board refused accreditation of their course, as they could not see the course's necessity, and she thinks that the board should be able to think “out of the box” or that they could seek expert opinion on this subject.

"Accreditation committee members should represent more fields of medicine as they are right now. If they see the submitted course is not within their competency, they should invite experts in the field to evaluate the course's necessity. There should be small committees based on the course that needs to be accredited. The committee should be multi-discipline and be able to evaluate specific courses. "

CME provider

One major challenge that was mentioned by almost all respondents was lack of quality monitoring of existing CME courses.

There are two aspects of CME courses: technical and contextual. The LEPL Regulatory Agency for Medical and Pharmaceutical Activities monitors the course's technical aspects (e.g., the format of the course, who is the lecturer, number of course attendees, do they have a questionnaire or not, venue of the course), and the assessment of course content rests with professional associations.

Technical aspects have improved over the years and now are better managed than the quality monitoring of the CME courses.

“...Technical aspects are important to be checked. When we first started the CME many years ago, providers did not know how to write; they had no idea that it needed aims and objectives, methods, Etc. These are skills which we learned, and this is important”.

18

Professional development board

The majority of respondents felt that the monitoring of the actual implementation of CME courses needs to be improved. This would become more challenging if CME were to be mandatory for every specialty. The increased number of courses will increase the demand for quality monitoring.

“...How associations assess the content of the CME course is difficult to say.”

Professional development board

“...We do not have quality monitoring of the CME courses. To do quality monitoring of face-to-face courses requires many resources.”

Professional development board

All respondents felt that the course quality monitoring process could be further improved by involving more professional associations during the course assessment process at the stage of accreditation.

Theme 2: Attitude to CME

Attitudes to CME are not homogeneous. Whilst all respondents recognize the importance of CME, they also mentioned that not all doctors see CME as a crucial activity for their professional growth.

According to some respondents, such views are age dependent.

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3 “I know doctors who did not attend any educational course in the last 10-15 years of their
4 professional life. They say that they know enough and have enough experience and knowledge,
5 and say that they do not expect to learn anything new from courses.”
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8

9 Head of hospital
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13 “Younger doctors are much eager to attend CME courses and to learn more than middle-aged or
14 old-aged doctors. They say: “... I know everything, it is elementary, I do not need to learn more.”
15
16

17 Head of ambulatory services
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21 “.. They always try to postpone the participation in training/CME course, they always have an
22 excuse. They say: “...I'll do after the annual leave”.
23
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25 Head of ambulatory services
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29 According to our respondents, financial barriers are yet another problem especially for doctors
30 living outside of the capital - online CME courses as well as in-house CME courses are viewed
31 as a good solution to the problem.
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39 “Medical doctors working and living in the regions find it financially challenging to attend face-to-
40 face courses in the capital, as they have additional costs for accommodation. In such cases online
41 courses are particularly important as they save both time and money. Alternatively, more CME
42 courses could be offered at doctors' workplaces. In-country CME events as well as international
43 conferences are more affordable and accessible for doctors living in the capital than those in the
44 regions.”
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49

50 CME provider
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3 "Online education is the future of education. However, online cannot replace colleagues' face-to-
4 face meetings and discussions"
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7 Professional development board member
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10 11 12 13 **Attitudes to mandatory CME** 14

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18 According to the majority of our respondents, there is a clear need for mandatory high-quality
19 CME courses to be made available in the country. Most respondents felt that mandatory CME
20 would ensure that all doctors were continually learning and thus improving their standards.
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22

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25
26 "...A doctor can practice many years without getting new information, without participating in CME
27 courses."
28

29
30 Head of children's hospital
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35 "CME should be mandatory, as there is a severe lack of willingness of self-education."
36

37
38 Head of children's hospital
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42 Some of our respondents mentioned that, in past years when CME was mandatory, some doctors
43 did not even attend the courses, but paid money to get certificates of attendance. Their motivation
44 was just to get certificates and credits and not to achieve real professional development.
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49 "...The old system of mandatory CME was good for such inert doctors. It is clear that if you are
50 not interested in the course, you will not get much. However, you will get something. Motivation
51 is important. The motivation for them to participate in CME courses was to earn PDUs and renew
52 the certificate."
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Head of children's hospital

Some respondents fear that if CME becomes mandatory again, it could just be a formality and low quality. Instead, it should be a means whereby doctors can truly develop and grow.

Some respondents argued that voluntary CME courses based on competition between providers are of higher quality than mandatory courses.

“ If a doctor participates in CME because they are motivated of their own free will to develop further and get updated knowledge, then they will only go to high-quality courses. As a result, the demand for high-quality courses increases. If the doctor is not motivated and cannot see their professional growth with career progress, they do not seek high-quality courses, and the demand for high-quality courses decreases”

CME provider

Theme 3: Future of CME

For the majority of respondents, mandatory CME is an absolute must, which requires a step-by-step approach.

"We cannot make mandatory CME for all specialties at once, as we do not have enough accredited CME programs in many fields of medicine. Not only new programs should be created but also the existing programs should be renewed".

Regulatory Agency for Medical and Pharmaceutical Activities

22

All respondents think that any mandatory CME implementation process should be transparent for doctors, and therefore constant and consistent communication with medical professionals is essential.

"Doctors should know what to expect and in what time frame. Enough time should be given to doctors to prepare. They should be informed at least a year ahead about the beginning of the process."

Professional development board member

The preparatory process for re-introducing mandatory CME should be thorough and should take into consideration the many challenging aspects of CME. According to our respondents the main problem is mindset and mentality, i.e., doctors' vision of their professional development.

"We have lost the middle generation of doctors. Young and senior professionals are very active but not middle-aged professionals. We need better communication with doctors."

Professional development board member

Some respondents mentioned that academic staff should not be able to opt out of the CME process: if they work as doctors, they should earn CME credits and be involved in the recertification process. Each doctor involved in the CME process should have their own online portfolio to plan and monitor their participation in CME.

"The major protests against the mandatory CME in 2001 came from the academic staff because the PDU accumulation process was not well explained for them. They did not realize that the fact that they supervise the Ph.D. candidate, or when they teach or prepare presentations can earn PDUs."

23

Professional development board member

If CME becomes mandatory, the re-certification process should be reintroduced.

"...I reckon that the recertification process should become part of the culture. The recertification process should be smooth and flexible. Re-certification should be automatic based on the accumulated PDUs."

Professional development board member

The language barrier for some ethnic groups living in Georgia is yet another problem that should be solved. There are areas populated mainly by ethnic Azeris and Armenians who do not speak any Georgian.

"The re-introduction of mandatory CME and re-certification should consider Azeri and Armenian doctors' requirements - some may not be familiar with the Georgian language."

Professional development board member

One major challenge to the future development of CME is the financial barrier. From the data we could not generate a uniform approach as to how this should be solved. However, respondents feel that CME course fees should be regulated. CME course providers should not be motivated by the number of course attendees and the doctors' participation in CME courses should be financially supported not for all but at least for some doctors.

"Clinics at least periodically should financially support doctors' participation in CME courses."

Regulatory Agency for Medical and Pharmaceutical Activities

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“Financial support should be given to doctors in low-income specialties, doctors from rural mountainous regions, primary health care or public health professionals.”

CME provider

“The financial scheme of CME should be mixed. Course fees should be affordable for doctors. Exceptional financial support may be needed for medical personnel from low-income and mountainous region.”

Professional development board member

Strong professional associations are viewed as a crucial point for providing high-quality CME courses.

“On the one hand, professional associations should play a key role in developing CME in Georgia. They should create accredited programs and be involved and lead the CME process, much more actively than they currently are.”

Regulatory Agency for Medical and Pharmaceutical Activities

According to many respondents, CME should focus on strengthening primary health care services. Some respondents argued that primary health care doctors lack updated knowledge and skills, especially primary health care doctors working in the regions.

“Primary health care is relatively weak. If primary health care were more robust than it is now, patients do not accumulate in the capital. The burden of care will be shared. Fortunately, we have a well-developed medical infrastructure in regions, and if doctors are well trained, the quality of care can be high in regions as well. The quality of health care will be improved, and step by step, we will move towards decentralization.”

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CME provider

"... Primary health care doctors should know how to monitor their patients as 3/4th of the job should be done by the patient. For example, in diabetes, the patient should take good care at home to not develop blood vessels, kidney, and heart problems. Primary health care doctors cannot monitor patients' behavior at home. Doctors should know their competency limits in patients' management and up to what extent they can intervene, and who and what can help. They need training."

Head of maternity home

Discussion

Principle findings

Georgia has had experience of mandatory CME in the past, which had been criticized for its poor quality and bureaucratic processes. CME is viewed as an essential developmental process for medical professionals, the outcome of which is to deliver high-quality medical care. Our interviewees identified a clear need for high-quality CME courses. However significant challenges that need to be overcome include financial barriers, doctors' attitudes to CME, a lack of CME courses in all medical specialties, relatively weak professional associations, and language barriers for some ethnic groups. Furthermore, on a broader political level, Georgia is looking to align the quality and breadth of its medical practice and continuing professional development to European standards. According to the European commission report accreditation of programs in Europe is more common than accreditation of providers (48% vs 30%) [5]. It may be that Georgia should consider reforming its systems so that it accredits providers. With the challenges of the accreditation process mentioned above, this also might be the direction that needs to be explored

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3 - coming with the obvious advantages such as decreasing the administration expenses and
4 making the process much more efficient. The European Union of Medical Specialties (UEMS) is
5 a representative organisation for specialist doctors from the national associations of all European
6 Union/European Economic Area (EU/EEA) states and a number of non-EU/EEA countries.
7 Georgia and its neighbouring countries Armenia, Azerbaijan, and Turkey are members of UEMS.
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9 The policy of the UEMS on continuous professional development relies on the Basel Declaration,
10 issued on 20th of October 2001.[29] The Basel declaration is in line with the challenges and needs
11 identified in the Georgian context. According to the Basel Declaration, the goal of CME is to
12 improve all aspects of the medical practitioner's performance, incorporating the principles of adult
13 learning. It is expected that the doctor should assess their educational needs and identify the
14 means of addressing these needs. CME is described as a part of quality improvement "that
15 ensures that good doctors remain good and get better".[29] Funding, time, and continuous peer
16 support are identified as resources required for CME and viewed as pillars without which the
17 implementation process of CME will fail. A range of educational activities must be made available
18 to doctors. The learning culture in medicine must be developed further, and doctors' educational
19 activities must be valued and supported.
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39 **Strengths and weaknesses**

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43 The themes that emerged from the interviews were consistent and saturation was reached in the
44 themes we analysed. Although the study provides the views of many different stakeholders on
45 CME, we still lack the views of patients and the wider public. We hope to look at this in research
46 to be undertaken in the future.
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54 CME is an international issue. Even though this study was only carried out in Georgia, the themes
55 that emerge are important to educators and learners internationally. Many countries are looking
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at their systems of CME and considering reforms and so might be able to learn from this country's experience. CME is also an issue that is important to generalists. CME regulations usually apply to all doctors and so generalists should find the outcomes of this study of interest. Lastly, this is a topical subject. The COVID-19 pandemic has made accessing CME courses an even greater challenge for many doctors and so seeking the views of different stakeholders on CME is likely to be relevant and timely.

Conclusion

Continuing medical education is widely recognized as an essential pillar in providing quality medical care. High-quality CME is a challenging process and requires a strategic and holistic approach. In order to ensure the sustainable and effective implementation of the CME process, stakeholders' interests and expectations, the socio-economic status and development of the country, and past experience of all stakeholders should be taken into consideration. This study and the broader literature suggest that Georgia should reform its system of CME so that it is high quality, accessible, low cost, comprehensive, based on learner needs, and part of wider initiatives that will drive quality improvement. Practical reforms that enable this to happen will likely also address doctors' attitudes to CME and make them more willing to take up the CME opportunities that are available.

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მნიშვნელობა საქართველოში; გიორგი ბერია, ვახტანგ სურგულაძე, თეა გიორგაძე.

მედიცინისა და ჯანდაცვის მენეჯმენტის სკოლა, კავკასიის უნივერსიტეტი. ჯანდაცვის

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Competing interests

Kieran Walsh and Elisa Roma are employees of BMJ which produces resources that are used for CME. Ekaterine Cherkezishvili leads the country implementation efforts of BMJ in Georgia. Ekaterine Ruidze was contracted as consultant for the duration of the study.

Authors' contributions

EKR conducted the interviews, analysed the data, wrote the first draft, and approved the final version.

KW contributed to the design of the work, critically revised the drafts, and approved the final version.

ELR contributed to the design of the work, critically revised the drafts, and approved the final version.

EC contributed to the design of the work, critically revised the drafts, and approved the final version.

AG contributed to the conception of the work, revised the drafts, and approved the final version.

TG contributed to the conception of the work, revised the drafts, and approved the final version.

Multi-stakeholder perspectives on the strengthening and embedding of mandatory Continuing Medical Education in Georgia: a qualitative study

Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

No	Item	Guide questions/description
Domain 1: Research team and reflexivity		
Personal Characteristics		
1.	Interviewer/facilitator	Which author/s conducted the interview or focus group? Ekaterine Ruadze
2.	Credentials	What were the researcher's credentials? <i>E.g. PhD, MD</i> MD, MSc, Project Management Professional
3.	Occupation	What was their occupation at the time of the study? BMJ consultant
4.	Gender	Was the researcher male or female? Female
5.	Experience and training	What experience or training did the researcher have? Researcher has an MSc in epidemiology and has extensive experience in conducting interviews, data collection and analysis. Researcher has experience of qualitative and quantitative studies.
Relationship with participants		
6.	Relationship established	Was a relationship established prior to study commencement? The researcher knew some respondents before the interview.

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4	7.	Participant knowledge of the interviewer	What did the participants know about the researcher? <i>e.g. personal goals, reasons for doing the research</i> During the first contact with the respondents, participants were given the goals of and reasons for the research, and informed consent forms were sent out. p.11 - ethics
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13	8.	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? <i>e.g. Bias, assumptions, reasons and interests in the research topic</i> The interviewer has been interested in continuing medical education since 2001. When CME was first introduced in Georgia 2001, the interviewer was working at the Ministry of Health.
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23	Domain 2: study design		
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30	9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? <i>e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis</i> Our research is within the constructionist research paradigm. p.8
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41	10.	Sampling	How were participants selected? <i>e.g. purposive, convenience, consecutive, snowball.</i> We adopted a non-probability purposive sampling to select study participants. As a first step, we identified CME stakeholders. In the next step, we selected participants from each stakeholder group. Sample size was mainly determined by the study aim - i.e. we wanted to give multiple stakeholder perspectives, which by themselves were highly specific. p.9
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54	11.	Method of approach	How were participants approached? <i>e.g. face-to-face, telephone, mail, email</i>
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Telephone and email. p.11

12.	Sample size	How many participants were in the study? 23 (11 CME providers, 8 people from medical establishments, 3 Professional Development Board members, and 1 person from LEPL Regulation Agency for Medical and Pharmaceutical Activities) p.14
13.	Non-participation	How many people refused to participate or dropped out? Reasons? We did not manage to interview one CME provider. Due to the COVID-19 pandemic, we did not manage to agree on a time, even after 4 follow-up calls. p.15
Setting		
14.	The setting of data collection	Where was the data collected? <i>e.g. home, clinic, workplace</i> Zoom, Viber, telephone and face-to-face. P.11
15.	Presence of non-participants	Was anyone else present besides the participants and researchers? No
16.	Description of sample	What are the important characteristics of the sample? <i>e.g. demographic data, date</i> Main characteristic of our sample is that they represent various stakeholders. P.14
Data collection		
17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot-tested? Yes
18.	Repeat interviews	Were repeat interviews carried out? If yes, how many? No
19.	Audio/visual recording	Did the research use the audio or visual recording to collect the data? Yes, for all interviews P 11
20.	Field notes	Were field notes made during and/or after the interview or focus group?

After interview		
21.	Duration	What was the duration of the interviews or focus group? 30 - 40 minutes P.14
22.	Data saturation	Was data saturation discussed? Yes P.14
23.	Transcripts returned	Were transcripts returned to participants for comment and/or correction? No
Domain 3: analysis and findings		
Data analysis		
24.	Number of data coders	How many data coders coded the data? 5 P12
25.	Description of the coding tree	Did authors provide a description of the coding tree? YesP.12
26.	Derivation of themes	Were themes identified in advance or derived from the data? Themes were identified before as well as after the data collection; P.8
27.	Software	What software, if applicable, was used to manage the data? N/A
28.	Participant checking	Did participants provide feedback on the findings? No
Reporting		
29.	Quotations presented	Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? e.g. <i>participant number</i> Yes
30.	Data and findings consistent	Was there consistency between the data presented and the findings? Yes

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4	31.	Clarity of major themes	Were major themes clearly presented in the findings? Yes
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7	32.	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes? No
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Working title - PROTOCOL

Protocol for a qualitative study to gain multi-stakeholder perspectives into the strengthening and embedding of mandatory Continuous Professional Development in Georgia

Introduction

Health systems strengthening has been defined as “any array of initiatives and strategies that improves one or more of the functions of the health system and that leads to better health through improvements in access, coverage, quality, or efficiency.” (1) It is increasingly being realized that health system strengthening will only be possible if there are adequate human resources for health who are competent to deliver care that patients and populations need. However, countries will not have high quality human resources for health without a robust system of Continuing Professional Development (CPD) or Continuing Medical Education (CME).

Continuing professional development (CPD) is a vital component of all health systems. It is essential for all doctors and other healthcare professionals to engage in lifelong learning so that they will be able to deliver the best possible care to their patients. However, setting up a CPD system is a complex task. It involves balancing the needs of multiple stakeholders including educators, learners, patients, and responsible institutions. The first step in setting a system of continuing professional development is legislative change so that CPD is recognised and CPD providers can be accredited. However, this is merely the first step in the process of setting up a system of CPD. The next phase is the implementation phase where the system is rolled out. During this phase, all those involved in CPD (including learners, educators, and institutions) will need a lot more detail on how CPD will work in practice. As Filipe et al have

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3 written “of all medical education stages, CPD is the least formally structured and can be the
4 most complex to create and assess given the diversity of curricula, educators, regional
5 healthcare needs, professional aspirations, complexity of working environment and multiple
6 stakeholders.” (2)
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13 This highlights the importance of multi stakeholder involvement when setting up CPD
14 programmes. This is vital to ensure that CPD is more than just a “top down” directive and that it
15 is transformed into an active programme that will make a real difference to healthcare
16 professionals’ practice. It will also ensure that barriers to the implementation of CPD are
17 overcome. These barriers might include resistance to change, the culture of learning,
18 uniprofessional learning, lack of infrastructure for CPD, technological barriers (in the case of e-
19 learning), time for CPD, and finances and financial incentives for CPD - at the individual and
20 institutional levels. The perspectives of multiple stakeholders are also necessary to ensure that
21 accredited CPD is valued and that mandatory CPD is actually implemented. The perspectives
22 should be multidisciplinary and should include CPD providers, policy makers and beneficiaries.
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37 These perspectives are not always sought out, and this qualitative study will help to redress
38 these shortcomings by carrying out in depth interviews and focus groups with representatives of
39 these groups within Georgia.
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45 The health system in Georgia

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47 The health system in Georgia underwent numerous changes after the country gained its
48 independence in 1990 and moved away from the Soviet “Semashko” model. (3). The changes
49 included the privatization and decentralization of the service providers, offering health insurance
50 to the poor and improving healthcare infrastructure. (4) The intensive privatization also led to the
51 creation of networks of medical service providers owned by pharmaceutical or private insurance
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3 companies, making these stakeholders highly influential in the system. (3). The state still
4 remains the biggest purchaser of medical services through its flagship “Universal Health Care”
5 program and other vertical programs. According to the National Statistics Office there were
6 approximately 32,000 licensed doctors in Georgia in 2019. (5) The percentage of the doctors
7 per 100,000 population is the highest EU or CIS. (6)
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16 The country also moved away from the Semashko model of CPD: centralized development,
17 financing of qualification courses that were mandatory for all health professionals. The country
18 introduced the CPD requirements and recertification process in 2001. However, the state
19 certificate became lifelong in 2008. (3) However, in the recent years the Government is using
20 selective contracting for the publicly funded programs (e.g.: Universal Health Care Program) as
21 a mechanism to increase the demand for CPD. In order to participate in the program and be
22 able to provide the services covered, the medical providers need to show that all their eligible
23 doctors completed the CPD requirements set by the program. (7) .
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35 The ministerial decree on CPD adopted in 2018 updates the accreditation process and
36 recognizes the accredited CPD activities in certain developed countries. These resources are
37 considered valid and don't need accreditation in Georgia. (8)
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45 **Aim and objectives of the study**

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49 The aim of the study is to conduct qualitative research involving multiple stakeholders that will
50 explore the perceived effectiveness and shortcomings of the CPD system in Georgia, its place
51 in the health system and way to move forward and how best to overcome these shortcomings.
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54 This aim will be fulfilled by carrying out the following tasks:
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- 1
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- 3 1. Describing the existing structure of CPD by means of desk review.
- 4
- 5 2. Conducting interviews to describe current CPD practices (including its funding mechanisms),
- 6
- 7 perceived strengths and weaknesses, the drivers, and barriers to their institutionalization at
- 8
- 9 organizational and national level.
- 10
- 11 3. Exploring the perceived effectiveness of the existing accreditation process in Georgia faced
- 12
- 13 by providers and the Ministry of Health.
- 14

15 The study focuses on interviewing providers of both face-to-face and online CPD in the country

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20 **CPD Stakeholders**

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24 Medical education policy is defined by the Policy Department at the Ministry of Health (MOH)

25 and the CME regulations are defined by the 'Professional Development Board' at the MOH.

26

27 According to the ministerial decree #01-9/6, 15th of August 2018, the main functions of the

28

29 'Professional Development Board (PDB)' (among many others) are:

30

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- 32
- 33 • to develop criteria and regulations for accreditation of postgraduate CME courses,
- 34
- 35 • to accredit high medical educational establishments for CME,
- 36
- 37 • to monitor accredited organizations and,
- 38
- 39 • based on the monitoring results, to continue or cancel the accreditation.
- 40

41 Secretarial and technical support to the PDB is provided by the State Regulation Agency for

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43 Medical Activities at the MOH. The PDB meetings are called by the chairman or by one third of

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45 PDB members.

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50 **Figure 1: Stakeholder Chart**

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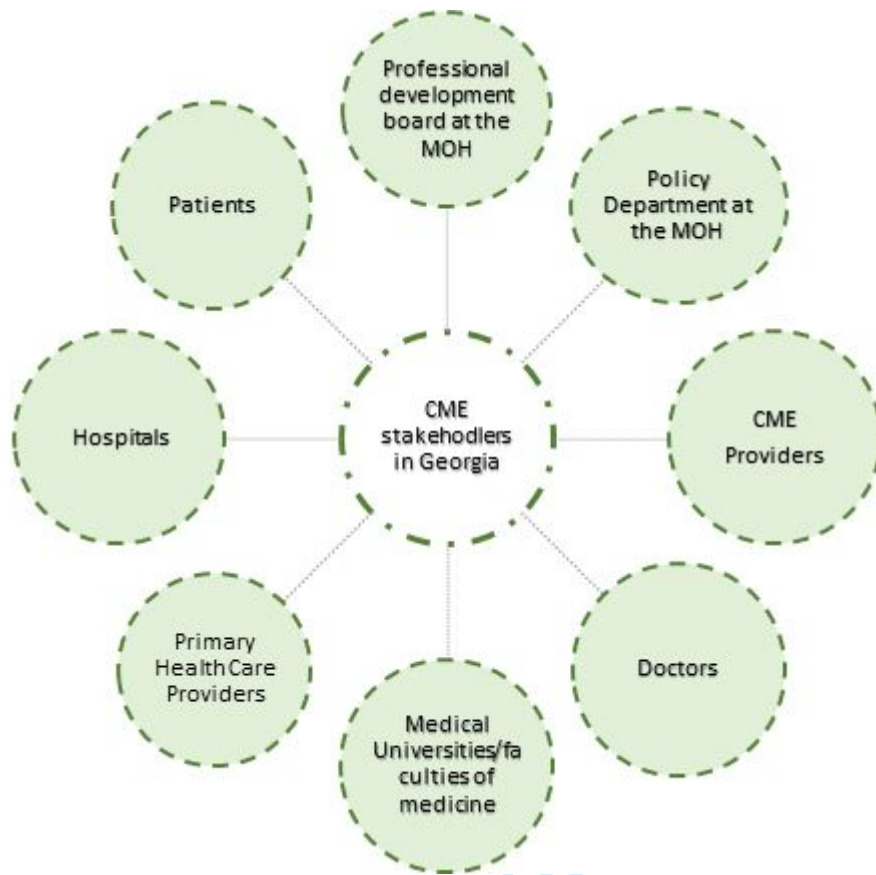
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At present there are 60 CME providers in Georgia, offering >200 courses in different specialties. The number of courses offered per provider ranges from 1 to 52 (table 1).

Table 1. Number of courses offered per provider

# of providers	# of courses	
26	1	
10	2	

12	3	
4	4	
2	5	Georgian obstetrics and gynecology perinatology association; Safe Schools Alliance with other institutions
2	7	Albius Dental Center; Georgian Scientists and Specialists Association Department of Medicine
1	8	David Tvildiani medical university
1	13	Emergency Coordination and Urgent Assistance Center
1	16	EVEX Medical Corporation/EVEX hospitals
1	52	Tbilisi State Medical University

These providers offer online learning (theoretical course, clinical case) or/and face - to - face courses (short term courses up to 10 days, professional conferences, congresses, and forums).

At present more than 90% of courses are conducted face-to-face.

Methods

To establish enablers of and barriers to the institutionalization and implementation of CME we will collect information from the CME providers as well as the Professional Development Board and the Policy Department at the MOH.

CME providers

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5 The reason for interviewing is to understand the general attitude to CME, identify technical
6 problems and barriers for preparation, accreditation, and implementation of CME courses as
7 well as obtaining their perspectives on establishing mandatory CME and how online CME could
8 be a recognized and accredited form of CME.
9

10
11
12 The research method will be in-depth face-to-face interviews with a number of CME leads in
13 order to cover the majority of specialties. We envisage conducting a maximum of 20 interviews,
14 until we reach saturation.
15

16 Interviews will be arranged in various ways or a combination of ways: by personal contacts, by
17 emailing or by telephone, based on availability of respondents and depending on the ongoing
18 epidemiological COVID-19 situation.
19

20 Interviews will be collected from hospital and primary health care CME providers, and from
21 online as well as face-to-face CME providers.
22

23 *Selection criteria for CME providers*

- 24 • Four institutions, providing 8 and more CME courses such as Tbilisi State Medical
25 University, EVEX Medical Corporation/EVEX hospitals, Emergency Coordination, and
26 Urgent Assistance Center and David Tvildiani medical university: one interview per each
27 institution will be held. (4 interviews in total)
 - 28 • Two institutions: Albius Dental Center and Georgian Scientists and Specialists
29 Association Department of Medicine have 7 CME courses each. From these two we will
30 interview Albius Dental Center as dentists are one of the most engaged specialties in
31 CME (1 interview)
 - 32 • Two institutions: the Georgian obstetrics and gynecology association and Safe Schools
33 Alliance offer 5 courses each. From these two we will interview the Georgian obstetrics
34 and gynecology association as the obstetricians and gynecologists represent one of the
35 most engaged specialties in CME (1 interview)
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- The National family medicine training center and Georgia pediatrics association will be also interviewed (one interview per each provider). The reasoning behind interviewing them is the following: both of them provide courses for family medicine doctors and the National family medicine training center also has online courses as well for family medicine doctors (2 interviews)
- Other institutions that conduct four or fewer CME courses will be randomly sampled from the list (by simple random sampling). Initially, we will sample 4 institutions (4 interviews)
- If saturation is not reached at that point (at the point of 12th interview) we will continue random sampling of up to 20 interviews.

Comments on saturation

Saturation is viewed in qualitative research as a criterion for discontinuing data collection. As identified by Saunders et al.[9]. , there are four models of saturation, described in table 2.

Table 2 Models of saturation and their principal foci in the research process

Model	Description	Principal focus
Theoretical saturation	Related to the development of theoretical categories; related to grounded theory methodology	Sampling
Inductive thematic saturation	Related to the emergence of new codes or themes	Analysis

A priori thematic saturation	Related to the degree to which identified codes or themes are exemplified in the data	Sampling
Data saturation	Relates to the degree to which new data repeat what was expressed in previous data	Data collection

We will use the data saturation model and saturation will be determined in relation to themes across participants. The data saturation approach is based on the notion of informational redundancy and saturation can be identified at an early stage in the process, and decisions about when further data collection is unnecessary are made before coding and category development.

Professional Development Board and the Policy Department at the MOH

The reason for interviewing is to identify barriers and possible solutions for institutionalizing CME and to obtain the views of high-level policymakers about the further development of CME.

The research method will be in-depth face-to-face interviews.

Two interviews will be collected from the heads/deputy heads of the department and professional development board.

Three interviews will be collected from the professional development board members.

No further sampling is planned for this group. The judgement of saturation will be made within each participant's responses.

Medical directors

Medical directors of hospitals and primary health care providers will also be interviewed. They will be included in the study in order to obtain a view of CME beneficiaries.

Selection criteria for medical directors:

The starting selection point of medical establishments (hospitals and primary health care providers) is “the specialties mostly covered” by the CME courses. We identified the following specialties: obstetricians and gynecologists, family medicine doctors, pediatricians and neonatologists, emergency physicians, and dentists. Based on this finding we decide to approach the medical directors of the following establishments: 1. maternity homes, 2. polyclinics/ambulatories; 3. children’s hospitals; 4. stomatological polyclinics, and 5. ambulance services.

We will use a data saturation model as above, and the saturation will be determined in relation to themes across participants.

Initially, we will perform two interviews per each identified establishment, in a total of 610 interviews. If saturation is not reached at this point, we will continue sampling up to 105 interviews

Interviews will be audio-recorded, and recordings will be kept for 6 months.

Annex 1: Questions

Questions for CME/CPD providers

1. What is the range of educational CME/CPD opportunities offered by your organization?
2. How many CME/CPD courses do you organize per year (approximately)?

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3. How many CME/CPD courses do you have online and how many face-to-face?
 4. Are courses provided by you free-of-charge?
 5. How many CME/CPD attendees do you have per course (approximately)?
 6. How many CME/CPD attendees do you have per year (approximately)?
 7. How do you identify the need for specific CME/CPD?
 8. What is the process of CME/CPD course accreditation?
 9. How long does the process of CME/CPD course accreditation take (on average)?
 10. What are the characteristics of your organization's CME/CPD target audience/
 - o Gender
 - o Age
 - o Profession
 - o Place of work (hospital vs. ambulatory)
 11. Do you have any methodology to evaluate the effectiveness of CME/CPD courses?
 12. Is there a demand for CME/CPD courses?
 13. How is the demand for CME/CPD courses created?
 14. Is the demand for CME/CPD changing (increasing or decreasing)?
 15. Would mandatory CME/CPD ensure quality of medical services?
 16. Could you tell us the negative and positive sides for mandatory CME/CPD
 17. What are the barriers to mandatory accredited online CME/CPD? How could we overcome these barriers?
 18. How do you see future developments of the CME/CPD process in Georgia?
 19. According to you, how will success be measured?
 20. How is CME/CPD financed? By whom? Do you have more than one mechanism of financing?

Additional questions for online CME providers

21. How many online courses do you have?
22. How many participants do you have per course?
23. According to you, what are the disadvantages of online courses in the Georgia context and how can they be solved?
24. Did the accreditation process go differently for face-to-face courses and for online courses?
25. Why did you decide to develop an online CME course?
26. How do you see future online CME courses in the Georgia context?
27. How is CME financed? Does the learner pay or the institution or the government?

Questions for the 'Professional Development Board' members at the MOH

1. Could you tell us briefly about the CME/CPD courses accreditation process?
2. How successful is the CME/CPD process implementation in Georgia?
3. What type of monitoring do you implement for CME/CPD providers? And for how often?
4. How often do you have cases of disqualification of CME/CPD providers?
5. Do you think CME/CPD is important for medical professionals?
6. Are accreditation requirements different for CME/CPD online and face-to-face courses? Do they have to have different procedures/requirements?

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4 7. What is the attitude of medical professionals towards CME/CPD? Do they see
5 CME/CPD courses as an important educational opportunity for their career?
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8 8. How do you see the future developments of the CME/CPD process in Georgia?
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10 9. Is mandatory CME/CPD the future of Georgia's medical education?
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12 10. How can the process of CME/CPD become mandatory?
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16 o By whom?
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18 o In what time frame?
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20 11. Will mandatory CME/CPE courses be supported by the medical professionals?
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24 12. What are the barriers to mandatory accredited online CME/CPD? How could we
25 overcome these barriers?
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28 13. How CME/CPD is financed? By whom? Do you have more than one mechanism of
29 financing?
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33 *Additional questions for Online CME*
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35 14. According to you, what are the advantages of online courses in the Georgia context and
36 how they can be solved? According to you, what are the disadvantages of online courses in
37 the Georgia context and how they can be solved?
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40 15. Did the accreditation process go differently for face-to-face courses and for online
41 courses?
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44 16. How do you see the future of online CME courses in the Georgia context?
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52 **Questions for the Policy Department at the MOH and**
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3 1. What are your thoughts on the existing CPD system in Georgia? How do you rate the
4 acceptance of gradual re-introduction of mandatory CPD using different mechanisms like
5 selective contracting?
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- 8 • Does the government support development and implementation of CPD courses? Can
9 you describe the process? Can you share approximate costs of CPD covered from the
10 budget in 2019?
11
- 12 • How do you see the future developments of the CME/CPD process in Georgia?
13
14
15

16 2. Is mandatory CME/CPD the future of Georgia's medical education?
17

18 3. How can the process of CME/CPD become mandatory?
19

- 20 o By whom?
21
- 22 o In what time frame?
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24 4. Will you be supportive of online CME/CPD courses and can they play an important role in
25 CME/CPD development in Georgia?
26

27 5. Will mandatory CME/CPD courses be supported by the medical professionals?
28

29 6. What are the barriers to mandatory accredited online CME/CPD? How could we overcome
30 these barriers?
31

32 7. How do you see the future development of the CME/CPD process in Georgia?
33

34 8. How do you measure success?
35

36 *Additional questions for Online CME* 37

38 9. According to you, what are the advantages of online courses in the Georgia context and how
39 they can be solved? According to you, what are the disadvantages of online courses in the
40 Georgia context and how they can be solved?
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42 10. Did the accreditation process go differently for face-to-face courses and for online courses?
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44 11. How do you see the future online CME course in the Georgia context?
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3 12. How CME/CPD is financed? By whom? Do you have more than one mechanism of
4 financing?
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9 **Question for medical directors**
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14 1. What is your personal vision of the place of CPD in the health system? What is the
15 current culture of learning at this institution? Do you have institutional policies regarding
16 CPD? If yes, please describe. If not, what is the primary reason?
17
18
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20 2. Do you provide the resources to your doctors to help them with their continuing medical
21 education? If yes, please specify
22
23
24 3. Are there any incentives for doctors at this institution to engage in CPD (Promotions,
25 recognition, performance related pay etc.)?
26
27 a. If Yes, please explain what they are
28
29
30 4. Approximately, how many doctors/residents from your hospital/ambulatory participated
31 in CME/CPD during the last year 2019?
32
33
34 5. Do you know mainly what kind of CME/CPD courses they participated in: face-to-face
35 and/or online?
36
37
38 6. How do you assess your employees' attitudes towards CME/CPD in terms of willingness
39 to participate? Do they consider that these courses are important for their professional
40 development?
41
42
43 7. Which specialties are more actively participating in CME/CPD courses?
44
45
46 8. Do you think that CME/CPD courses increase the quality of services that your
47 hospital/ambulatory care system offers to patients?
48
49
50 9. How do you measure the quality of doctors'/residents' performance? Do you have
51 indicators? If so, is participation in CME/CPD one of the indicators?
52
53
54 10. Do you think that CME/CPD should be mandatory? Why?
55
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11. How often can you afford your doctors/residents to be absent from duties due to CME/CPD courses? Does it have a financial effect on your hospital/ambulatory care system?
12. Do you consider the possibility of paying (at least partially) for your doctors for participation in CME/CPD courses? Why? Why not?
13. In which specialties and to what extent do you consider that online CME/CPD is or will be effective?
14. If your facility participates in the state programs with recently added CPD components, how did the introduced mandatory requirements (selective contracting) influence participation of your providers in CPD? Is meeting these requirements the responsibility of individual doctors, or the management selects and plans these activities? Can you share the approximate costs per doctor per year? Are these costs covered by the doctors or by the employer?
15. What kind of online courses (content-wise) do you wish to have? Can you give us an example?
16. What is the major challenge the Georgia CME/CPD is facing now?

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Multi-stakeholder perspectives on the strengthening and embedding of mandatory Continuing Medical Education in Georgia: a qualitative study

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3 Title page4
5 **Multi-stakeholder perspectives on the strengthening and embedding of mandatory**
6
7 **Continuing Medical Education in Georgia: a qualitative study**
89 **Authors**10
11 Ekaterine Ruadze - Global Fund Projects' Implementation Unit, The National Center for
12
13 Disease Control and Public Health, Tbilisi, Georgia; Department of Public Health, Faculty of
14
15 Medicine, Iv. Javakhishvili Tbilisi State University, Tbilisi, Georgia
1617
18 Ekaterine Cherkezishvili, - Country Implementation Lead, BMJ Partnership Team, Tbilisi,
19
20 Georgia21
22 Elisa Roma - Senior Programmes and Partnerships Manager, Global Health Team, BMJ,
23
24 London, UK.25
26 Kieran Walsh - Clinical Director, BMJ Partnership Team, BMJ, London, UK27
28 Tamar Gabunia - First Deputy Minister of Internally Displaced Persons from the Occupied
29
30 Territories, Labour, Health and Social Affairs, Ministry of Internally Displaced Persons from
31
32 the Occupied Territories, Labour, Health and Social Affairs, Tbilisi, Georgia33
34 Amiran Gamkrelidze - Director General, Director General's Office, The National Center for
35
36 Disease Control and Public Health, Tbilisi, Georgia
3738
39 **Corresponding author**40
41 Kieran Walsh42
43 BMJ44
45 BMA House46
47 Tavistock Sq48
49 London WC1H 9JR50
51 kmwalsh@bmj.com52
53 00 44 7539 65694754
55 **Keywords**56
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Main paper**Abstract****Objectives**

Continuing Medical Education (CME) is a vital component of health systems. Setting up a CME system is a complex task, requiring involvement of stakeholders including educators, learners, institutions, and policy makers. The aim of the study was to conduct qualitative research involving multiple stakeholders to explore the perceived effectiveness and shortcomings of the CME system in Georgia, its place in the health system, and potential means of improving it.

Design

This is a qualitative study. All data was collected using semi-structured individual interviews. The questions were derived from the relevant literature. Data analysis was conducted using comparative strategy.

Participants

We interviewed individuals from CME providers, medical establishments, the Professional Development Board, and the Regulatory Agency for Medical and Pharmaceutical Activities. We thus interviewed 23 people (11 people from CME providers, 8 people from medical establishments, 3 Professional Development Board members and 1 person from LEPL Regulatory Agency for Medical and Pharmaceutical Activities).

Results

Georgia has had experience of mandatory CME in the past, which had been criticised for its poor quality and bureaucratic processes. CME is viewed as an essential developmental process for medical professionals, the outcome of which is to deliver high-quality medical care. Our interviewees identified a clear need for high-quality CME courses. However significant challenges that need to be overcome include: financial barriers, doctors' attitudes

3

to CME, a lack of CME courses in all medical specialties, and relatively weak professional associations.

Conclusion

Continuing medical education is widely recognised as an essential pillar in providing quality medical care. Establishing high-quality CME requires a strategic and holistic approach. In order to ensure the sustainable and effective implementation of the CME process, we need to take into account stakeholders' interests and expectations, the socio-economic status and development of the country, and past experiences of all relevant individuals and organisations.

Strengths and limitations of this study

The methodology chosen for this study meant that the research was carried out on stakeholders from a diverse range of backgrounds.

Semi-structured individual interviews provided time and scope for participants to give detailed information about their opinions regarding their CME experience, barriers to mandatory CME, and future visions.

Although the study provides the views of many different stakeholders on CME, we did not seek the views of patients and the wider public.

This was a study that was carried out in Georgia - there may be limited generalisability to other countries.

Introduction

Health systems strengthening is defined as “any array of initiatives and strategies that improves one or more of the functions of the health system and that leads to better health through improvements in access, coverage, quality, or efficiency.”[1] It has been increasingly recognised that health system strengthening is only possible if there are adequate human resources for health who are competent to deliver care that patients and populations need.[2]

However, countries will not have high-quality human resources for health without a robust system of Continuing Medical Education (CME) or Continuous Professional Development (CPD).

4

CME may be defined as “any activity that is intended to maintain, develop or increase the knowledge, skills, and professional performance and relationships that a physician uses to provide services for patients, the public, or the profession”.^[3] Continuing Medical Education (CME) is a vital component of health systems. A CME system is a system whereby CME is regulated and made available to healthcare professionals. Setting up a CME system is a complex task. It involves balancing the needs of multiple stakeholders including educators, learners, institutions, and policy makers. The first step in setting a system of CME is legislative change so that CME is recognised, and providers are accredited. The next phase involves the implementation and roll out of the newly established system. During this phase, all those involved in CME will need a lot more detail on how CME will work in practice. As Filipe et al have written “of all medical education stages, CME is the least formally structured and can be the most complex to create and assess given the diversity of curricula, educators, regional healthcare needs, professional aspirations, complexity of working environment and multiple stakeholders”.^[4] This highlights the importance of multi-stakeholder involvement when setting up CME programmes. This is vital to ensure that CME is more than just a “top down” directive and that it is transformed into an active programme that will make a real difference to healthcare professionals’ practice. There is increasing evidence of the effectiveness of CME ^[5]. Also, the attempts to align CME with quality improvement have been promoted by professional organizations ^[6]. This will also ensure that barriers to the implementation of CME are overcome.^[7] These barriers might include doctors’ resistance to change, the culture of learning, uniprofessional learning, lack of infrastructure for CME, technological barriers (in the case of e-learning), time, and financial incentives - at individual and institutional levels. The perspectives of multiple stakeholders are also necessary to ensure that accredited CME is valued, and that mandatory CME is actually implemented.

CME systems in developed countries have been extensively studied ^[8], but there is much less information on the same issue in low and middle countries.

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3 These perspectives are not always sought out, and this qualitative study was developed to
4 help address this gap by carrying out in-depth interviews with representatives of these
5 groups within Georgia. However, before explaining what and how we did this, we give a brief
6 outline below of the background to CME in Georgia.
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11 **Background to CME in Georgia**

12
13 The Georgian health system has undergone major changes in the past three decades - one
14 of these included the privatisation of 90% of health facilities [9]. The CME system in Georgia
15 has experienced similar changes. The CME system of the independent state of Georgia
16 started in 2001.[10] From 2001 until 2006, the state entity Georgia State Medical Academy
17 (which later merged with the Tbilisi State Medical University) was responsible for doctors'
18 residency programs and CME courses.[9 11] From 2001 to 2007 CME was compulsory, and
19 the country's CME system based on recertification and accumulation of CME points was
20 developed. However, in a 2008 reform, the re-certification mechanism for doctors was
21 cancelled; doctors were awarded lifetime certificates; and CME was no longer
22 mandatory.[12]
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35 Nowadays, physicians in Georgia obtain their certificate of independent medical activity for
36 their lifetime and participate in CME activities only on a voluntary basis. The only exception
37 relates to perinatal service providers. A ministerial order amendment issued on 2nd of
38 September 2020 on "The Levels of Regionalization of Perinatal Services and Patient
39 Referral Criteria" stipulates that obstetrician-gynaecologists, neonatologists, radiologists,
40 anaesthesiologists, and specialists in resuscitation working for antenatal and perinatal
41 service providers should participate in CME activities.[13] According to a ministerial decree
42 issued on 15th of August 2018, a 'Professional Development Board' (PDB) was established
43 at the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health
44 and Social Affairs (hereafter the "Ministry") .[14] Secretarial and technical support to the
45 Professional Development Board (PDB) is provided by the Legal Entity under Public Law
46 (LEPL): Regulatory Agency for Medical and Pharmaceutical Activities. Among many other
47 functions related to medical education, the Board: (1) develops criteria and rules for
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3 accreditation of post-diploma CME programs and submits them to the Minister for approval;
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5 (ii) provides accreditation for higher medical establishments, and (iii) monitors accredited
6
7 organisations, and, based on the results of monitoring, continues or cancels their
8
9 accreditation.[14]
10

11 To qualify as CME providers, organisations need to submit an application with at least two
12
13 recommendations from field experts to the PDB. Face-to-face CME course providers must:
14
15 (i) inform the PDB about the date and place of planned courses during the last week of each
16
17 month; (ii) inform the board about the number of participants, their names, and specialties as
18
19 well as the names of the trainers and the number of hours they spent preparing the training -
20
21 all no later than 3 days before the start of the course; (iii) keep a registry of the course and
22
23 participants, (iv) implement the course internal quality assessment procedures, and (v)
24
25 assess participants in a final exam. Assessment methods during the final exam can be in
26
27 different formats. If the assessment method is a multiple-choice test, more than 75.5% of
28
29 questions must be answered correctly.[15 16]
30
31

32 **Aim of the study**

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34 The study aimed to explore multiple stakeholder perspectives of the perceived effectiveness
35
36 and shortcomings of CME in Georgia as well as attitudes to future developments.
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38

39 The following research questions were investigated:

- 40
41 1. What are the shortcomings of the existing practice of CME in Georgia from different
42
43 stakeholders' perspectives?
- 44
45 2. How do different stakeholders perceive voluntary CME and mandatory CME?
- 46
47 3. How do different stakeholders see the future of CME and what barriers to CME
48
49 should be addressed?
50

51 **Methodology**

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53 Our research is within the constructionist research paradigm. In this paradigm, knowledge is
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55 constructed, and reconstructed and resides in the interactions of social, cultural, and
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57 interpersonal factors [17 18 19]. Accordingly, multiple realities exist, and these are
58
59 dependent on mutual interactions between researchers, respondents, and the context of the
60

7

research. In our research on CME in Georgia, the researchers' assumptions and experience as well as what influence they have on data collection and analysis is important and so is shared below to facilitate interpretation of the research findings [20].

ER has a background in epidemiology and had experience in conducting qualitative and quantitative studies. She also teaches in the faculty of medicine. EC has a great deal of experience in implementing CME programmes in Georgia. ER and KW have a great deal of experience in implementing CME programmes internationally. TG and AG have experience in senior leadership positions in healthcare and in implementing policy in medical education and public health.

Setting, participants and procedures

We adopted a non-probability purposive sampling to select study participants.

As a first step, we identified CME stakeholders: the professional development board at the Ministry, LEPL Regulatory Agency for Medical and Pharmaceutical Activities, CME providers and medical universities/faculties of medicine, primary healthcare providers, hospitals, and medical doctors.

In the next step, we selected participants from each stakeholder group. Sample size was mainly determined by the study aim - i.e., we wanted to give multiple stakeholder perspectives, which by themselves were highly specific. For example, we aimed to explore the study questions with CME providers of varying sizes as we judged that their experience and vision of CME might be different and so might bring additional information. We also planned to employ good interview time management allowing enough time and space for respondents, by choosing the preferred date and period of day for the respondents [21].

Selection of CME providers

At present, in Georgia there are about 60 CME providers, offering more than 200 courses in different specialties. The number of courses offered per provider ranges from 1 to 52. As we wanted to hear from the CME providers that run 52 courses as well as CME providers that run only a few courses, we developed the following approach: 1. For CME providers with more than 8 CME courses per year, one interview per provider was held. We had four such

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3 providers, therefore 4 interviews in total were collected; 2. Out of four CME providers with 5
4 to 7 CME courses per year, we interviewed 2. 3. From 52 CME providers with four or fewer
5 courses we sampled 4 CME providers with simple random sampling. 4. There are only two
6 providers mainly conducting CME courses for family medicine doctors. As we wanted to
7 obtain their point of view as well, we selected both of them. So, in total we selected 12 CME
8 providers.
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15 **Selection of primary health care and hospital providers**

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17 The starting selection point of medical establishments (hospitals and primary health care
18 providers) is the specialties mostly covered by the CME courses. We identified the following
19 specialties: obstetricians and gynaecologists, family medicine doctors, paediatricians and
20 neonatologists, emergency physicians, and dentists. Based on this finding we decided to
21 approach the medical directors of the following establishments: 1. maternity homes, 2.
22 polyclinics/ambulatories; 3. children's hospitals; 4. ambulance services. With convenience
23 sampling we selected two medical establishments from each domain. In total there were 8
24 interviews.
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34 **Professional Development Board**

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36 From the Professional Development Board at the Ministry with convenience sampling we
37 selected three members.
38
39

40 **LEPL Regulatory Agency**

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42 From the LEPL Regulatory Agency for Medical and Pharmaceutical Activities, we
43 interviewed one person.
44
45
46

47 **Ethics**

48
49 ER contacted all prospective participants through telephoning or e-mailing them. During the
50 initial contact, the purpose of the study was explained, and participants were informed that
51 the interview will be audio-recorded. Participants were assured of the confidentiality of the
52 recordings and ER explained that their participation was voluntary and that they could stop
53 the interview at any time.
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If they agreed to participate (after verbal consent) in the study, we emailed them a consent form and agreed on the date of an interview. The interview took place only after we received the signed form.

Based on the respondents' preference (taking into account the COVID-19 pandemic), we had either face-to-face, video conference, or telephone interviews.

The institutional review board of the National Center for Disease Control and Public Health approved the research protocol on 23rd of September 2020 (letter # 2020-057).

Interviews

All data was collected using semi-structured individual interviews. Semi-structured interviews are frequently used in qualitative research. Semi-structured interviews provide researchers the flexibility to diverge in order to pursue an idea or response in more detail [22 23].

All interviews were conducted by ER to ensure uniformity. Interviews were held through Zoom, Viber, telephone and face-to-face. During the interview nobody else presented besides the respondent and the researcher. Interviews lasted from 30 to 40 minutes.

Interviews provided time and scope for participants to give detailed information about their opinions regarding their CME experience, barriers to mandatory CME, and future visions.

The questions were derived from the literature [24 25]. During the interviews, ER probed and sought clarification or elaboration of participants' responses as needed. The questions were evaluated by all members of the team who have different levels of experience in qualitative research and medical education (including CME). No repeated interviews were conducted.

Data analysis methods

After each interview, notes were made and transcripts were prepared from all recorded interviews. Data analysis was conducted using comparative strategy. By highlighting similarities and differences, we formed concepts as the basic units of analysis. What we did was look at similarities, differences, patterns and regularities between categories. This involved regrouping initial categories and defining new ones (as needed). Initially, by highlighting similarities and differences, we formed concepts as the basic units of analysis. Open coding was performed by ER who initially applied as many codes as needed (eight

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3 codes initially) and gave conceptual labels. Conceptually similar experiences were grouped
4
5 together to form categories [26].
6

7 Such an approach was used within stakeholder analysis. To move from categories to
8
9 concepts, axial coding, consisting of intense analysis done around one category at time, was
10
11 performed [27 28]. This is how we identified dominating themes. All members of the
12
13 research team discussed and agreed on the results. Data collection and analysis were
14
15 conducted simultaneously.
16

17 In the beginning of the research the stakeholder analysis was done. As we aimed to explore
18
19 the perceived effectiveness and shortcomings of the CME system from different
20
21 perspectives, we interviewed the following stakeholders: Regulatory Agency for Medical and
22
23 Pharmaceutical Activities, professional development board, CME providers, and primary
24
25 health care and hospital care providers. As they all play their own specific role in CME, we
26
27 decided to analyse them separately. We merged the themes at the final stage when we
28
29 already had themes identified per stakeholder.
30
31

32 **Ethics approval**

33
34 This study was approved by the Institutional review board IRB (IRB00002150) at the
35
36 National Center for Disease Control and Public Health on 23rd of September 2020 (letter #
37
38 2020-057). Participants gave informed consent before taking part.
39
40

41 **Data availability statement**

42
43 Data are available upon reasonable request.
44

45 **Patient and Public Involvement**

46
47 Patients and the public were not involved in this study.
48

49 **Results**

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51 Twenty-three respondents from five stakeholder institutions participated in semi-structured
52
53 interviews lasting 30-40 minutes each during the study period, October to December 2020.
54
55 As we wanted to obtain multiple stakeholder perspectives, 24 was the initial planned number
56
57 of respondents. We did not manage to interview one CME provider. Due to the COVID-19
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3 pandemic, we did not manage to agree on a time, even after 4 follow-up calls. Table 1
4 presents the demographic characteristics of study participants.
5
6

7 Table 1: Demographic characteristics of study participants (n=23)
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9

Variable	Frequency	%
Age category		
30-40	8	35
41-50	2	8
Above 50	13	57
Gender		
Female	11	47
Male	12	53
Stakeholder category		
Professional development board	3	13
Regulatory Agency for Medical and Pharmaceutical Activities	1	4
CME provider (different specialties)	11	47.6

12

Head of the maternity home	2	8.6
Head of the emergency services	2	8.6
Children's hospitals	2	8.6
Head of ambulatory service	2	8.6

Following data collection and analysis as described above, we generated three themes, which are described below.

Theme 1: The existing practice of CME and its challenges

At present CME is not mandatory for all specialties. However, the fact that the country has managed to keep the CME accreditation process up and running was viewed positively by all respondents. The continuing medical education course accreditation process is considered to be appropriately designed and well managed. There is an exact list of documents that need to be submitted; deadlines are clear; and the whole process is straightforward.

Some respondents talked about problems obtaining up-dated information about CME courses.

“It is not easy to find the CME course you need. The website is not user-friendly, and information about forthcoming CME courses not well described, i.e., lecturers, dates of the course, fees, Professional Development Unit (PDU) scores, etc. There are no support services at all”.

CME provider

The provider is currently mandated to submit the list of attendees three days in advance of the accredited CME course. This poses a number of challenges as doctors are often not able to accurately predict their availability. Thus, this requirement poses challenges both for the providers and potential learners.

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2
3 “I have to submit the list of participants in advance, during the CME application submission
4 process. You have to apply at least ten days before the course. Doctors are very busy, and if
5 some doctors cannot attend, and some places became vacant, I cannot offer this place to
6 another doctor. ..Well, they can attend, but they cannot earn scores.”
7
8
9

10
11 CME provider

12
13 Obtaining references from professional associations might be challenging for some CME
14 providers, especially if the association provides a rival course.
15

16
17 “One of the documents to be submitted to the accreditation board is the letter of
18 recommendation (two letters of recommendation). One letter should be from a professional
19 association, which might be problematic if this professional association considers you a
20 rival.”
21
22
23
24

25
26 CME provider

27
28 One provider mentioned that the accreditation board refused accreditation of their course, as
29 they could not see the course's necessity, and she thinks that the board should be able to
30 think “out of the box” or that they could seek expert opinion on this subject.
31
32

33
34 "Accreditation committee members should represent more fields of medicine as they are
35 right now. If they see the submitted course is not within their competency, they should invite
36 experts in the field to evaluate the course's necessity. There should be small committees
37 based on the course that needs to be accredited. The committee should be multi-discipline
38 and be able to evaluate specific courses. "
39
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45
46 CME provider

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48 One major challenge that was mentioned by almost all respondents was lack of quality
49 monitoring of existing CME courses.
50

51
52 There are two aspects of CME courses: technical and contextual. The LEPL Regulatory
53 Agency for Medical and Pharmaceutical Activities monitors the course's technical aspects
54 (e.g., the format of the course, who is the lecturer, number of course attendees, do they
55 have a questionnaire or not, venue of the course), and the assessment of course content
56 rests with professional associations.
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3 Technical aspects have improved over the years and now are better managed than the
4 quality monitoring of the CME courses.
5

6
7 "...Technical aspects are important to be checked. When we first started the CME many
8 years ago, providers did not know how to write; they had no idea that it needed aims and
9 objectives, methods, Etc. These are skills which we learned, and this is important".
10
11

12
13 Professional development board

14
15 The majority of respondents felt that the monitoring of the actual implementation of CME
16 courses needs to be improved. This would become more challenging if CME were to be
17 mandatory for every specialty. The increased number of courses will increase the demand
18 for quality monitoring.
19
20

21
22 "...We do not have quality monitoring of the CME courses. To do quality monitoring of face-
23 to-face courses requires many resources."
24
25

26
27 Professional development board

28
29 All respondents felt that the course quality monitoring process could be further improved by
30 involving more professional associations during the course assessment process at the stage
31 of accreditation.
32
33

34 35 36 **Theme 2: Attitude to CME**

37
38 Attitudes to CME are not homogeneous. Whilst all respondents recognize the importance of
39 CME, they also mentioned that not all doctors see CME as a crucial activity for their
40 professional growth. According to some respondents, such views are age dependent.
41
42

43
44 "I know doctors who did not attend any educational course in the last 10-15 years of their
45 professional life. They say that they know enough and have enough experience and
46 knowledge, and say that they do not expect to learn anything new from courses."
47
48

49
50 Head of hospital

51
52 "Younger doctors are much eager to attend CME courses and to learn more than middle-
53 aged or old-aged doctors. They say: "... I know everything, it is elementary, I do not need to
54 learn more."
55
56

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58 Head of ambulatory services
59
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3 “.. They always try to postpone the participation in training/CME course, they always have an
4 excuse. They say: “...I’ll do after the annual leave”.”

5
6
7 Head of ambulatory services

8
9 According to our respondents, financial barriers are yet another problem especially for
10 doctors living outside of the capital - online CME courses as well as in-house CME courses
11 are viewed as a good solution to the problem.

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13
14
15 “Medical doctors working and living in the regions find it financially challenging to attend
16 face-to-face courses in the capital, as they have additional costs for accommodation. In such
17 cases online courses are particularly important as they save both time and money.

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22 Alternatively, more CME courses could be offered at doctors’ workplaces. In-country CME
23 events as well as international conferences are more affordable and accessible for doctors
24 living in the capital than those in the regions.”

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26
27 CME provider

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31 “Online education is the future of education. However, online cannot replace colleagues’
32 face-to-face meetings and discussions”

33
34
35 Professional development board member

36 37 **Attitudes to mandatory CME**

38
39 According to the majority of our respondents, there is a clear need for mandatory high-
40 quality CME courses to be made available in the country. Most respondents felt that
41 mandatory CME would ensure that all doctors were continually learning and thus improving
42 their standards.

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46
47 “...A doctor can practice many years without getting new information, without participating in
48 CME courses.”

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50
51 Head of children’s hospital

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53
54 “CME should be mandatory, as there is a severe lack of willingness of self-education.”

55
56
57 Head of children’s hospital

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59
60 Some of our respondents mentioned that, in past years when CME was mandatory, some
doctors did not even attend the courses, but paid money to get certificates of attendance.

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3 Their motivation was just to get certificates and credits and not to achieve real professional
4 development.
5

6
7 "...The old system of mandatory CME was good for such inert doctors. It is clear that if you
8 are not interested in the course, you will not get much. However, you will get something.
9

10 Motivation is important. The motivation for them to participate in CME courses was to earn
11 PDUs and renew the certificate."
12
13

14
15
16 Head of children's hospital

17
18 Some respondents fear that if CME becomes mandatory again, it could just be a formality
19 and low quality. Instead, it should be a means whereby doctors can truly develop and grow.
20

21
22 Some respondents argued that voluntary CME courses based on competition between
23 providers are of higher quality than mandatory courses.
24

25
26 "If a doctor participates in CME because they are motivated of their own free will to develop
27 further and get updated knowledge, then they will only go to high-quality courses. As a
28 result, the demand for high-quality courses increases. If the doctor is not motivated and
29 cannot see their professional growth with career progress, they do not seek high-quality
30 courses, and the demand for high-quality courses decreases"
31
32

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36
37 CME provider

38 39 **Theme 3: Future of CME**

40
41 For the majority of respondents, mandatory CME is an absolute must, which requires a step-
42 by-step approach.
43

44
45 "We cannot make mandatory CME for all specialties at once, as we do not have enough
46 accredited CME programs in many fields of medicine. Not only new programs should be
47 created but also the existing programs should be renewed".
48
49

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51
52 Regulatory Agency for Medical and Pharmaceutical Activities

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54 All respondents think that any mandatory CME implementation process should be
55 transparent for doctors, and therefore constant and consistent communication with medical
56 professionals is essential.
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3 “Doctors should know what to expect and in what time frame. Enough time should be given
4 to doctors to prepare. They should be informed at least a year ahead about the beginning of
5 the process.”
6
7
8

9 Professional development board member

10
11 The preparatory process for re-introducing mandatory CME should be thorough and should
12 take into consideration the many challenging aspects of CME. According to our respondents
13 the main problem is mindset and mentality, i.e., doctors' vision of their professional
14 development.
15
16
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19
20 “We have lost the middle generation of doctors. Young and senior professionals are very
21 active but not middle-aged professionals. We need better communication with doctors.”
22
23

24 Professional development board member

25
26 Some respondents mentioned that academic staff should not be able to opt out of the CME
27 process: if they work as doctors, they should earn CME credits and be involved in the
28 recertification process. Each doctor involved in the CME process should have their own
29 online portfolio to plan and monitor their participation in CME.
30
31
32

33
34
35 “The major protests against the mandatory CME in 2001 came from the academic staff
36 because the PDU accumulation process was not well explained for them. They did not
37 realize that the fact that they supervise the Ph.D. candidate, or when they teach or prepare
38 presentations can earn PDUs.”
39
40
41

42 Professional development board member

43
44 If CME becomes mandatory, the recertification process should be reintroduced.

45
46
47 “...I reckon that the recertification process should become part of the culture. The
48 recertification process should be smooth and flexible. Re-certification should be automatic
49 based on the accumulated PDUs.”
50
51
52

53 Professional development board member

54
55 The language barrier for some ethnic groups living in Georgia is yet another problem that
56 should be solved. There are areas populated mainly by ethnic Azeris and Armenians who do
57 not speak any Georgian.
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18

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3 “The re-introduction of mandatory CME and re-certification should consider Azeri and
4 Armenian doctors' requirements - some may not be familiar with the Georgian language.”

5
6
7 Professional development board member

8
9 One major challenge to the future development of CME is the financial barrier. From the data
10 we could not generate a uniform approach as to how this should be solved. However,
11 respondents feel that CME course fees should be regulated. CME course providers should
12 not be motivated by the number of course attendees and the doctors' participation in CME
13 courses should be financially supported not for all but at least for some doctors.

14
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19 “Clinics at least periodically should financially support doctors' participation in CME courses.”

20
21
22 Regulatory Agency for Medical and Pharmaceutical Activities

23
24 “Financial support should be given to doctors in low-income specialties, doctors from rural
25 mountainous regions, primary health care or public health professionals.”

26
27
28 CME provider

29
30 “The financial scheme of CME should be mixed. Course fees should be affordable for
31 doctors. Exceptional financial support may be needed for medical personnel from low-
32 income and mountainous region.”

33
34
35
36 Professional development board member

37
38 Strong professional associations are viewed as a crucial point for providing high-quality CME
39 courses.

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42
43 “On the one hand, professional associations should play a key role in developing CME in
44 Georgia. They should create accredited programs and be involved and lead the CME
45 process, much more actively than they currently are.”

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48
49 Regulatory Agency for Medical and Pharmaceutical Activities

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51 According to many respondents, CME should focus on strengthening primary health care
52 services. Some respondents argued that primary health care doctors lack updated
53 knowledge and skills, especially primary health care doctors working in the regions.

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57 “Primary health care is relatively weak. If primary health care were more robust than it is
58 now, patients do not accumulate in the capital. The burden of care will be shared.
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3 Fortunately, we have a well-developed medical infrastructure in regions, and if doctors are
4 well trained, the quality of care can be high in regions as well. The quality of health care will
5 be improved, and step by step, we will move towards decentralization.”
6
7

8
9 CME provider
10

11 "... Primary health care doctors should know how to monitor their patients as 3/4th of the job
12 should be done by the patient. For example, in diabetes, the patient should take good care
13 at home to not develop blood vessels, kidney, and heart problems. Primary health care
14 doctors cannot monitor patients' behavior at home. Doctors should know their competency
15 limits in patients' management and up to what extent they can intervene, and who and what
16 can help. They need training."
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24 Head of maternity home
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26 Discussion

27 Principle findings

28
29 Georgia has had experience of mandatory CME in the past, which had been criticized for its
30 poor quality and bureaucratic processes. CME is viewed as an essential developmental
31 process for medical professionals, the outcome of which is to deliver high-quality medical
32 care. Our interviewees identified a clear need for high-quality CME courses. However
33 significant challenges that need to be overcome include financial barriers, doctors' attitudes
34 to CME, a lack of CME courses in all medical specialties, relatively weak professional
35 associations, and language barriers for some ethnic groups. Furthermore, on a broader
36 political level, Georgia is looking to align the quality and breadth of its medical practice and
37 continuing professional development to European standards. According to the European
38 commission report accreditation of programs in Europe is more common than accreditation
39 of providers (48% vs 30%) [5]. It may be that Georgia should consider reforming its systems
40 so that it accredits providers. With the challenges of the accreditation process mentioned
41 above, this also might be the direction that needs to be explored - coming with the obvious
42 advantages such as decreasing the administration expenses and making the process much
43 more efficient. The European Union of Medical Specialties (UEMS) is a representative
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3 organisation for specialist doctors from the national associations of all European
4 Union/European Economic Area (EU/EEA) states and a number of non-EU/EEA countries.
5 Georgia and its neighbouring countries Armenia, Azerbaijan, and Turkey are members of
6 UEMS. The policy of the UEMS on continuous professional development relies on the Basel
7 Declaration, issued on 20th of October 2001.[29] The Basel declaration is in line with the
8 challenges and needs identified in the Georgian context. According to the Basel Declaration,
9 the goal of CME is to improve all aspects of the medical practitioner's performance,
10 incorporating the principles of adult learning. It is expected that the doctor should assess
11 their educational needs and identify the means of addressing these needs. CME is
12 described as a part of quality improvement "that ensures that good doctors remain good and
13 get better".[29] Funding, time, and continuous peer support are identified as resources
14 required for CME and viewed as pillars without which the implementation process of CME
15 will fail. A range of educational activities must be made available to doctors. The learning
16 culture in medicine must be developed further, and doctors' educational activities must be
17 valued and supported.

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19 There are many theories of how adults learn, how they participate in CME programmes, and
20 how they develop attitudes to these programmes. One unifying theory that may explain
21 some of attitudes to CME is self-regulated learning theory. Self-regulated learning refers to
22 the "modulation of affective, cognitive and behavioural processes throughout a learning
23 experience in order to reach a desired level of achievement". [30] In effect this means that
24 learners "go through a cyclic process of setting learning goals, choosing learning strategies
25 and assessing progress towards goals." [30] This may be a good fit with the attitudes of the
26 doctors towards CME. They would like to do CME that is based on their own needs; they
27 would like to choose learning strategies that are high quality, accessible, low cost, and
28 comprehensive; and they would like to ensure that their CME helps them to progress toward
29 their goal of quality improvement.

30 **Strengths and weaknesses**

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The themes that emerged from the interviews with stakeholders were consistent. Although the study provides the views of many different stakeholders on CME, we still lack the views of patients and the wider public. We hope to look at this in research to be undertaken in the future. All respondents are medical doctors. In our study we did not interview them because they are practitioners, but rather because they also are working as a head of the department, head of the hospital or head of the association, or are members of the board. In that regard the study findings represent the view of various stakeholders involved in the decision-making process about continuing medical education. This was a study that was carried out in Georgia - there may be limited generalisability to other countries. CME is also an issue that is important to generalists. CME regulations usually apply to all doctors and so generalists should find the outcomes of this study of interest. Lastly, this is a topical subject. The COVID-19 pandemic has made accessing CME courses an even greater challenge for many doctors and so seeking the views of different stakeholders on CME is likely to be relevant and timely.

Conclusion

Continuing medical education is widely recognized as an essential pillar in providing quality medical care. High-quality CME is a challenging process and requires a strategic and holistic approach. In order to ensure the sustainable and effective implementation of the CME process, stakeholders' interests and expectations, the socio-economic status and development of the country, and past experience of all stakeholders should be taken into consideration. This study and the broader literature suggest that Georgia should reform its system of CME so that it is high quality, accessible, low cost, comprehensive, based on learner needs, and part of wider initiatives that will drive quality improvement. Practical reforms that enable this to happen will likely also address doctors' attitudes to CME and make them more willing to take up the CME opportunities that are available.

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მედიცინისა და ჯანდაცვის მენეჯმენტის სკოლა, კავკასიის უნივერსიტეტი.

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Competing interests

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1
2
3 Kieran Walsh and Elisa Roma are employees of BMJ which produces resources that are
4 used for CME. Ekaterine Cherkezishvili leads the country implementation efforts of BMJ in
5 Georgia. Ekaterine Ruadze was contracted as consultant for the duration of the study.
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7
8

9 **Authors' contributions**

10
11 EKR conducted the interviews, analysed the data, wrote the first draft, and approved the
12 final version.
13

14
15 KW contributed to the design of the work, critically revised the drafts, and approved the final
16 version.
17

18
19 ELR contributed to the design of the work, critically revised the drafts, and approved the final
20 version.
21

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23 EC contributed to the design of the work, critically revised the drafts, and approved the final
24 version.
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27 AG contributed to the conception of the work, revised the drafts, and approved the final
28 version.
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31 TG contributed to the conception of the work, revised the drafts, and approved the final
32 version.
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Multi-stakeholder perspectives on the strengthening and embedding of mandatory Continuing Medical Education in Georgia: a qualitative study

Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

No	Item	Guide questions/description
Domain 1: Research team and reflexivity		
Personal Characteristics		
1.	Interviewer/facilitator	Which author/s conducted the interview or focus group? Ekaterine Ruadze
2.	Credentials	What were the researcher's credentials? <i>E.g. PhD, MD</i> MD, MSc, Project Management Professional
3.	Occupation	What was their occupation at the time of the study? BMJ consultant
4.	Gender	Was the researcher male or female? Female
5.	Experience and training	What experience or training did the researcher have? P.7
Relationship with participants		
6.	Relationship established	Was a relationship established prior to study commencement? P.8
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? <i>e.g. personal goals, reasons for doing the research</i> P.8

1	8.	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. <i>Bias, assumptions, reasons and interests in the research topic</i> P.7
2	Domain 2: study design		
3	Theoretical framework		
4	9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. <i>grounded theory, discourse analysis, ethnography, phenomenology, content analysis</i> P.6
5	Participant selection		
6	10.	Sampling	How were participants selected? e.g. <i>purposive, convenience, consecutive, snowball.</i> P.7 – P.8
7	11.	Method of approach	How were participants approached? e.g. <i>face-to-face, telephone, mail, email</i> P.8
8	12.	Sample size	How many participants were in the study? P.7 – P.8
9	13.	Non-participation	How many people refused to participate or dropped out? Reasons? P.10 –P.11
10	Setting		
11	14.	The setting of data collection	Where was the data collected? e.g. <i>home, clinic, workplace</i> P.9
12	15.	Presence of non-participants	Was anyone else present besides the participants and researchers? P.9
13	16.	Description of sample	What are the important characteristics of the sample? e.g. <i>demographic data, date</i>

P.11

Data collection		
17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot-tested? P.9
18.	Repeat interviews	Were repeat interviews carried out? If yes, how many? P.9
19.	Audio/visual recording	Did the research use the audio or visual recording to collect the data? P.8
20.	Field notes	Were field notes made during and/or after the interview or focus group? P.9
21.	Duration	What was the duration of the interviews or focus group? P.9
22.	Data saturation	Was data saturation discussed? No
23.	Transcripts returned	Were transcripts returned to participants for comment and/or correction? No.
Domain 3: analysis and findings		
Data analysis		
24.	Number of data coders	How many data coders coded the data? P.9 – P.10
25.	Description of the coding tree	Did authors provide a description of the coding tree? P.9- P.10
26.	Derivation of themes	Were themes identified in advance or derived from the data? P.10
27.	Software	What software, if applicable, was used to manage the data?

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		N/A
28.	Participant checking	Did participants provide feedback on the findings? No
Reporting		
29.	Quotations presented	Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? e.g. <i>participant number</i> .P.13 – P.19
30.	Data and findings consistent	Was there consistency between the data presented and the findings? Yes
31.	Clarity of major themes	Were major themes clearly presented in the findings? Yes
32.	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes? No