ANNALS OF MEDICINE & SURGERY

OPEN

The UEMS experience in continuous medical education accreditation process: a 'quo vadis' analysis of our global database

Michail Sideris, MD, MDRes, PhD, MRCOG[a,*], Kathrine S. Rallis, MBBS, MSc[i], Marios Nicolaides, MBBS, MSc[c], Ashvin Kuri, MBBS[a], Nadine Schottler, MBBS[d], Collaborators[†], Nathalie Paulus[e], Orthmar Haas, MD[f], Romuald Krajewski, MD, PhD[g], Joao Grenho, MD[h], Vassilios Papalois, KJSJ, MD, PhD[b]

Background: The authors systematically appraise a large database of continuous professional development (CPD) and continuous medical education (CME) events against the European Accreditation Council for Continuous Medical Education (EACCME) framework.
Methods: The authors performed a retrospective observational study of all CPD or CME events within the European Union of Medical Specialists (UEMS) database between 2017 and 2019, including 91 countries and 6034 events. Assessment of event design, quality and outcomes was evaluated against a validated, expert-derived accreditation framework, using thematic analysis to extract distinct themes, and subsequent quantitative analysis.
Results: The authors included 5649 live educational events (LEEs) and 385 e-learning materials (ELMs). Three thousand seven hundred sixty-two [3762 (62.3%)] of the events did not report clear justification in their needs assessment process. Most accreditation applications claimed covering a single educational need [1603/2277 (70.3%)]. Needs assessments were reported to be similar across conferences, courses and other types of events ($P < 0.01$); 5642/6034 events (93.5%) had clearly documented expected learning outcomes; only 978/6034 (16.2%) reported a single expected learning outcome while the rest report 2–10 outcomes. Providers who declared more than one educational need also declared multiple learning outcomes ($\rho = 0.051$, $P < 0.01$).
Conclusions: Despite EACCME providing a robust framework for the CPD/CME accreditation process, reporting quality can still be improved, as more than 1 in 2 events fail to provide a clear description of their needs assessment. To the authors' knowledge, this is the largest educational LEE/ELM database, which can be a starting to revisit the CME/CPD accreditation process.

Keywords: continuous medical education, continuous professional development, European Accreditation Council for Continuous Medical Education, European Union of Medical Specialists

Introduction

Medicine is a rapidly evolving discipline. The technological revolution, fast-evolving basic sciences and widespread establishment of evidence-based practice necessitate a lifelong learning approach to clinical practice[1]. Practically, this has manifested as widespread adoption of 'continuous professional development' (CPD) and 'continuous medical education' (CME) amongst healthcare professionals.

Global trends in medical education demonstrate a huge variation in needs-to-cover, along with different delivery methods across the educational systems and[2] CPD/CME refers to a broad group of teaching modalities that aim to expand healthcare professionals' skills and knowledge in order to keep them 'up-to-date' with their latest practice recommendations[3].

For CPD/CME to achieve its goal, it should cover a certain need (needs assessment) and target defined aims and goals (learning outcomes), which necessitates the use of specific learning methods[4]. Although this seems conceptually simple, placed upon the background of ever-evolving learning needs' complexity, designing and delivering a teaching intervention can be challenging and may fail to cover educational needs or achieve educational objectives. Nonetheless, robust needs assessments can theoretically improve learning outcomes, increase participant satisfaction and streamline resource allocation. Robust

[a]Wolfson Institute of Population Health, Queen Mary University of London, [b]Imperial College London, [c]Lewisham & Greenwich NHS Trust, London, [d]Southampton General Hospital, Hampshire, England, UK, [e]European Union of Medical Specialists (UEMS), Brussels, Belgium, [f]Group Practice Dr. Haas/Dr. Engler, Klagenfurt, Germany, [g]Head & Neck Cancer Department, Maria Sklodowska-Curie National Research Institute of Oncology, Warsaw, Poland, [h]General Surgery Department, Hospital da Luz Oeiras, Oeiras, Portugal and [i]Beth Israel Deaconess Medical Centre, Harvard Medical School, Boston, Massachusetts, USA

*Corresponding author. Address: Wolfson Institute of Population Health, Queen Mary University of London, Charterhouse Square Campus, Barbican, London EC1M 6BQ, London, United Kingdom. Tel.: +44 020 7882 5555. E-mail: msideris@nhs.net (M. Sideris).

Sideris et al. Annals of Medicine & Surgery (2024)

Annals of Medicine & Surgery

frameworks for creating CPD/CME events rooted in needs assessment and target aims/goals may improve the quality of events. The European Union of Medical Specialists (UEMS) has previously developed one such accreditation process for educational events, which has been adopted by hundreds of organisations and thousands of events globally[4]. However, to date, adherence to the accreditation process (study design, methods, quality assessment) has not been systematically analysed, and its potential impact has not been quantified.

To date, the dedicated research on global trends of needs assessment for designing and delivering educational events, and whether those needs are adequately addressed via distinct learning outcomes, is scarce[5]. Furthermore, there is hardly any high-quality evidence on the influence of needs assessment on learning outcome(s) and specific method choices for each educational event. The global evidence on participants' views on whether and how educational events met their initial aim to cover a need is almost non-existent and is predominantly presented as fragmented evidence[6].

This large, international retrospective study evaluates adherence to the accreditation process of live and e-learning CPD/CME events from the UEMS database and attempts to quantify the educational impact of events. The primary aim was to analyse needs assessment trends and how these are translated into distinct learning methods and learning outcomes. The secondary aim was to assess adherence to UEMS accreditation standards, and subsequently the quality of information available prior to the accreditation process. Through these aims, recommendations for improving the current model of accreditation process are proposed, which have global translational value. Fundamentally, our study objective was to evaluate real-world adherence to the validated UEMS accreditation process for CPD/CME events and highlight areas for improvement.

Materials and methods

UEMS receives applications for live educational events (LEEs) and e-learning materials (ELMs) globally, which are stored in a prospective Microsoft Excel file. Consecutive applications for LEEs (5649) and ELMs (385) that were submitted to UEMS for accreditation under the 2017 revised EACCME criteria were retrospectively reviewed. All applications approved between 2017 and 2019 were included, with no exclusion criteria.

Included data

Submitted applications for LEE/ELMs were exported to a Microsoft Excel spreadsheet by the UEMS IT team; the Excel file was automatically generated including all application variables. Data were extracted from each section of the applications; this included: (1) event code, (2) description of the nature of the event, (3) duration, (4) target audience, (5) international audience, (6) needs assessment process and derived educational needs, (7) expected educational outcomes, (8) methods to promote active learning, (9) learner engagement, means for learner feedback, (10) sources of feedback, (11) number of CMEs granted and (12) event report. Similarly, for ELMs, data were extracted from the following sections: (1) overall description, (2) 'State how the ELM has been prepared to fulfil stated educational needs, and indicate how this will be achieved', (3) expected educational outcomes, (4) target audience, (5) duration, (6) level of evidence

HIGHLIGHTS

- Continuous professional development (CPD) is a crucial part of healthcare professionals' careers and ensures professionals remain up-to-date with important advances in the field.
- There have been several attempts to standardise the accreditation process for CPD across educational providers and healthcare institutions.
- To date, there have been no attempts to systematically review CPD events and audit accreditation processes. The findings of this study call for the accreditation approach for CPD to shift to a more dynamic and involved process to meet the needs of a rapidly evolving educational landscape.

of the content, (7) 'Please specify how the ELM must encourage the learner to employ methods of active, (8) adult learning to achieve the educational objectives', (9) 'Please specify the extent to which the ELM includes a means of confirming learner engagement, and achievement of the educational objective(s)', (10) 'Please specify the extent to which the content is suitable for an international audience' and (11) source of funding and number of credits.

Pilot data extraction

For a pilot data extraction exercise, 283 LEE (5%) and 20 ELM (5%) applications were selected, and each section of the application form was assessed individually to delineate the most common ($>90\%$) information element trends in responses. Those trends were defined as 'themes', which were subsequently used to break down each section of the application into discrete categories. Responses were subsequently coded for each theme for ease of analysis. These themes were further grouped in domains that cover common information of similar nature, named 'axes'. Hence, the final axes of 'Event Characteristics', 'Target Audience', 'Needs Assessment', 'Learning outcomes', 'Methods of Learning', 'Engagement of participants' and 'Feedback methods', 'Educational report outcomes' and 'CME' were developed. Each axis contained several themes that have discrete responses. Figure 1 summarises the coding themes for each section of the application grouped in the relevant axes.

Thematic analysis of data

Data for each application section were summarised using the predefined (coded) response 'themes', and conclusions were grouped based on the axes. For continuous variables, normality was assessed, and each section was described using mean or median where applicable.

Primary outcomes

Primary outcomes were the quality parameters included in the events report (quality of the event, relevance, suitability of the format, practice-changing potential and commercial bias).

Data cleaning

Following thematic analysis, the data were cross-checked and cleaned prior to final analysis; this included manual checks to ensure no mistaken values were imported in our analysis.
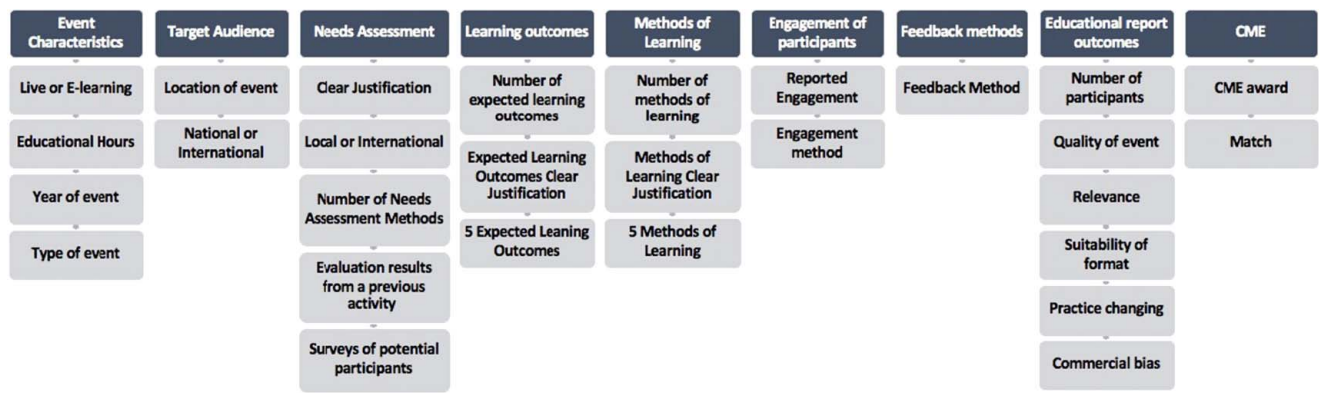
Figure 1. Coded themes (light grey boxes) under each axis (dark grey boxes).

Data analysis

Since this project followed an audit design, we have opted to use univariate descriptive statistics. The normality of continuous data was assessed using the Shapiro–Wilks test to distinguish the use of parametric vs. non-parametric statistics. Associations between continuous variables were assessed with Spearman's rho (ρ). Where data were proven normal, we opted for parametric statistics, and hence means ($\pm$ SD) across different groups were assessed with one-way ANOVA or independent t-test. In the case of non-normal distribution, we opted for non-parametric statistics including median [$\pm$IQR (interquartile range)]. Level of statistical significance was set as $P < 0.05$. Analysis process was performed on IBM SPSS for Macintosh v.27.

STROCCS criteria

This study has been in line with STROCCS criteria (Strengthening the reporting of cohort, cross-sectional and case-control studies in surgery)[7].

Ethics and approvals

This study was internally reviewed and approved by the Executive Board of UEMS.

Results

Events summary (infographics)

Six thousand and thirty-four (6034) applications from 91 countries were included in the analysis; this includes 5649 LEEs and 385 ELMs, which were submitted for accreditation between 2017 and 2019 for events that would take place up until and including 2020. In total, 931 educational events took place in 2017, 1986 in 2018, 2282 in 2019, and 507 in 2020; 5973 events were targeting an international audience, whereas 35 were nationally targeted. From those 6034 educational events, 2323 were conferences, 3239 courses, 180 hands-on workshops and 292 satellite symposia. Two thousand eight hundred forty-eight (2848) applications did not specify location or origin of the LEE or ELM; Spain and France hosted the most educational events – 331 each, followed by Italy where 271 events were hosted. Figure 2 (infographics) summarises the characteristics of the LEE and ELM included in the analysis.

Reporting quality

#### Needs assessments, engaging participants to achieve tailored learning

Table 1 summarises the breakdown of needs assessment and engagement methods. Three thousand seven hundred sixty-two (3762; 62.3%) of the events did not report clear justification in their needs assessment process. From the 2271 events (37.6%) which had a clear needs assessment breakdown, almost all of them [2223 (99.3%)] justified their activity from international needs. Most events arose from a single educational need [1603 (26.6%)]. 'Previous activity' was reported as the most common theme for initiating an educational activity [1503 events (65.8%)], followed by 'survey of previous participants' [927 events (40.6%)]; 670/935 conferences (> 3 in 4) justified their needs assessment based on 'previous activity'; same applies for 757/1133 courses (> 2 in 3). Only 307/935 conferences (1 in 3) reported 'surveys of potential participants' as the justification to set up their educational event, whereas 541/1133 courses (1 in 2) were based on 'surveys of potential participants'.

Conferences had a clearer justification of needs assessment compared to courses (926/2322 vs. 1131/3239, $P < 0.01$). Conferences, courses, hands-on workshops and satellite symposia were assigned a similar number of needs assessments ($P < 0.01$) and had similar overall needs assessment reporting quality ($P < 0.01$).

When comparing the trends of needs assessment reporting (clear justification, local/international, number of reported needs assessments) across several years, there were similar results in a statistically significant manner ($P < 0.01$). The same applied when comparing all the reporting parameters of needs assessment across different countries ($P < 0.01$). Minor differences were reported when comparing ELM vs. LEE, which can be attributed to the significantly smaller number of ELM vs. LEE. ELMs seem to initiate more often from 'surveys of potential participants' (113/385 vs. 815/4814, $P < 0.01$) and far less frequently from 'evaluation of previous activity' (57/385 vs. 1446/4202, $P < 0.01$). However, both ELM and LEE have a similar 'clear justification' of needs assessment trends (160/385 vs. 2111/5648, $P = 0.057$).
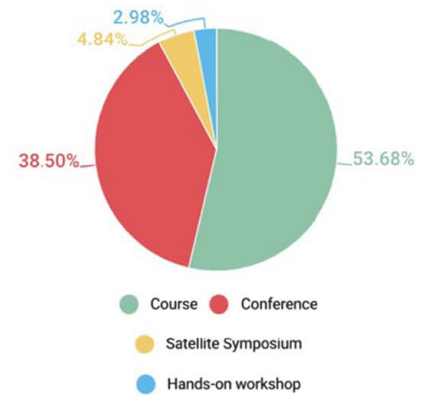
'Registration with or without badge' was the most common form of engagement method (1838/6032 events, 30.8%), followed by 'continuous sign in/out assessment' in 1036/6032 events
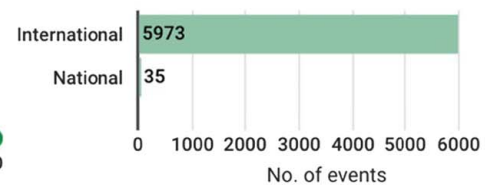
Sideris et al. Annals of Medicine & Surgery (2024)
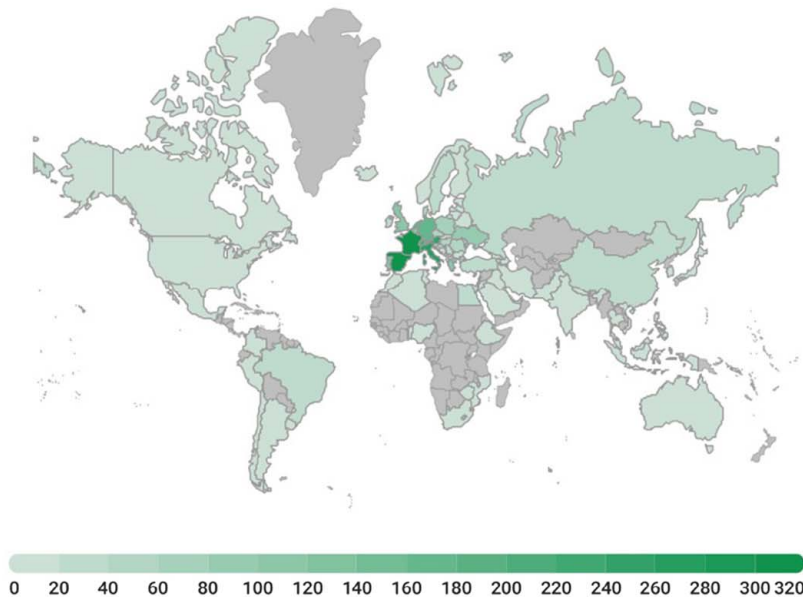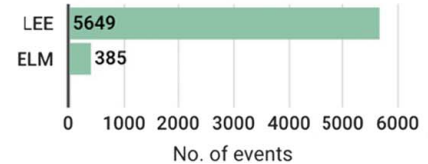
Annals of Medicine & Surgery

Scope

Figure 2. Events summary diagrams depicting the scope of educational event applications.

(17.2%). Printed feedback forms remain the most common form of feedback reporting (3756/6032 events, 62.3%).

Learning outcomes and applied methods

Five thousand six hundred forty-two (5642)/6034 events (93.5%) had clearly documented expected learning outcomes; 978/6034 (16.2%) reported a single expected learning outcome while the rest report multiple (2–10) outcomes. The most commonly reported primary learning outcomes were 'Applied knowledge' (1240/6034, 21%), 'Clinical Practice' (1275/6034, 21.6%) and 'stay up-to-date' (2102/6034, 35.5%). Similar trends were observed for secondary learning outcomes in the case were the events reported multiple learning outcomes.

Almost all events had documented methods of learning (6033/6034); the median number of methods of learning was 3. The most frequently reported primary learning method was 'open space' (2853/6033, 47.3%) followed by 'discussion time' (1024/6033, 17%) and dedicated 'training sessions' (576/6033, 9.5%); similar trends were observed for secondary learning method in events that employed more than one learning method.

The number of learning outcomes was statistically significantly correlated with the number of reported needs assessment ($\rho = 0.051$, $P < 0.01$). As expected, the number of learning outcomes was statistically significantly associated with the number of learning methods ($\rho = 0.202$, $P < 0.01$).

Quality assessment, the stakeholders' perspective

Two thousand six hundred thirty-seven (2637)/6034 events submitted an event report; 1052/2637 were conferences with 968 ± 2166 mean number of participants, 1383/2637 were courses (108 ± 298 participants), 84/2637 hands-on workshops (70 ± 77 participants) and 118/2637 satellite symposia with 268 ± 206 participants. The overall median and mean number of participants were 87 (IQR: 36–280) and 457 (2–23 239), respectively (Fig. 3).

Audiences had most participants from Europe (71%), followed by the US (3.4%), Canada (0.88%) and other countries (21.8%). Similar audience distributions were observed across the different types of events (conferences vs. courses vs. hands-on workshops vs. satellite symposia, $P > 0.05$).

The overall median events quality was unified (% scale) and reported to 90% (IQR: 84–94%); overall median relevance 89.4% (IQR: 80–95%), and overall median suitability of format 90% (IQR: 78–95%). The overall median % of delegates who thought the event was practice-changing was 90% (IQR:

Table 1

Comparisons of needs assessment trends across different years, LEE vs. ELM, type of event and country where the event took place

Needs assessment/engaging participants/tailored learning

Needs assessment breakdown

Needs assessment (general)

Clear justification		Local/international needs		Needs assessment breakdown	Needs assessment (number of reported needs)			
Yes	No	Local	International	None	1	2	3	4
2271 (37.6%)	3762 (62.3%)	15 (0.7%)	2223 (99.3%)	3750 (62.2%)	1603 (26.6%)	494 (8.2%)	68 (1.1%)	118 (2.0%)

Needs assessment (origin)

Previous activity		Survey of participants		New guidelines or research		Legislative/regulatory changes		Other
Yes	No	Yes	No	Yes	No	Yes	No	
1503 (65.8%)	34.2 (35.2%)	927 (40.6%)	1356 (59.4%)	508 (22.3%)	1775 (77.7%)	145 (6.4%)	2138 (93.6%)	165 (7.2%)

Engaging participants breakdown

Methods

Engagement methods:

Registration/badge	Continuous	None	Other	Attendance sheets
1838 (30.6%)	1036 (17.2%)	1142 (18.9%)	1046 (17.3%)	960 (15.9%)

Feedback methods:

Online form	Printed form	Mixed	Other
1524 (25.3%)	3756 (62.3%)	353 (5.9%)	399 (6.6%)

Educational hours

Registration/badge	Continuous	None	Other	Attendance sheets
15.3±9.5	18±8.71	14.2±11.4	9.4±9.9	16.3±10.1

Number of participants

Registration/badge	Continuous	None	Other	Attendance sheets
593±1405	588±1986	403±1517	405±1338	137±355

80–94.1%), and 90% (median) of delegates reported that the event was commercial bias free (IQR: 80–96%).

Similar performance markers were observed across different types of events ($P > 0.05$ for all associations). Educational events with clearly justified needs assessment reported marginally higher relevance (88.7% vs. 87.1%, $P < 0.01$) and had more suitable format (88.1% vs. 86.3%, $P < 0.01$); however, the quality of events was deemed equal by participants (88.6% vs. 88.3%, $P > 0.05$).

CMEs and educational hours

The mean educational hours (duration) of events were 14.7 ± 10.3. The mean number of CMEs awarded was 13.05 ± 9.99. In 5426/6034 (89.9%) events, the educational hours matched the number of CMEs awarded.

Discussion

Strengths of the study

This is the largest educational events database ever to be analysed from the biggest educational provider in the EU (UEMS). We included 6034 events from 91 countries and employed a unique protocol to unify data reporting to come up with distinct themes and axes to analyse the data. Although retrospective in nature, our analysis of the UEMS database was approached with a prospective protocol, and data assessors underwent vigorous training, and a pilot cross-validation of a sample of their screening was undertaken to reduce bias in data reporting. We avoided overcomplicating the analysis process, as this database was not originally designed for research purposes. We noticed an acceptable number of missing data, which underlines the overall good quality of the available data. Our study is the first evidence-based approach to explore needs assessment in CME and assess its association with learning outcomes and learning methods as well as stakeholders' perception of the relevance, suitability and educational impact of events.

Main findings

Less than 1 in 2 LEEs or ELMs initiate their activity on the grounds of robust needs assessment. We reported a similar trend of needs assessment across 2017–2019; most educational events claim they cover a single educational need, which is applicable on an international scale. Most LEEs based their needs assessment on previous activity recommendations, followed by a structured survey of their stakeholders, which seems to be the most common needs assessment justification for ELM. The needs assessment reporting quality and breakdown number were similar across conferences, courses and other types of events ($P < 0.01$).

Overall, reporting quality for learning outcomes and methods was excellent. This probably reflects the standardised framework provided by EACCME guidelines[4]. Almost 4 in 10 events focus on providing 'up-to-date' information to their participants, which is the primary pillar of CME. More than 2 in 10 events aimed to provide applied knowledge or clinical practice-related information. Almost all events aimed to cover composite (multiple) learning outcomes via employing mixed learning methods. One in 2 LEEs employed 'open space' learning methods followed by 'discussion time' (1 in 2) and 'training sessions' (1 in 10).
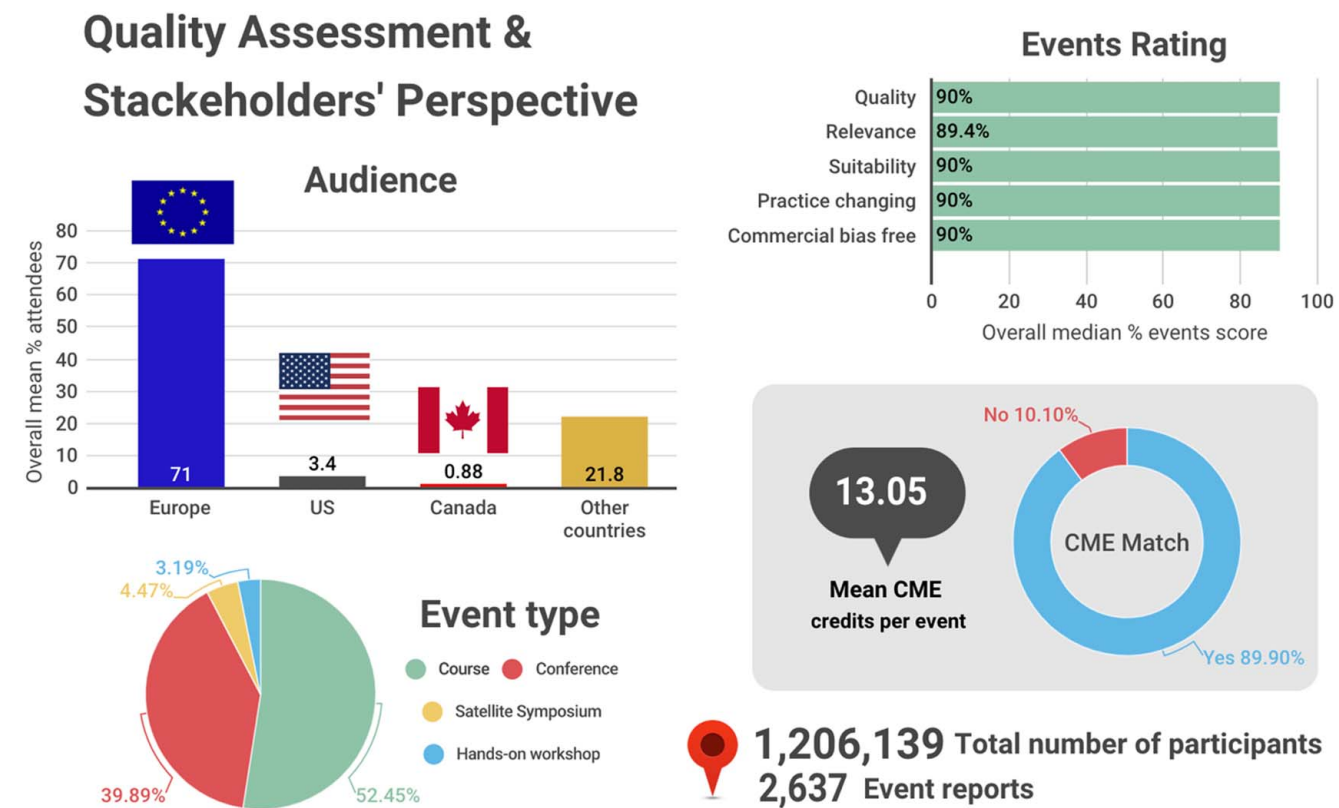
Sideris et al. Annals of Medicine & Surgery (2024)

Annals of Medicine & Surgery

Figure 3. Events summary diagrams depicting data relating to events quality assessment and stakeholders' perspective.

Composite needs assessment was statistically significantly associated with the presence of multiple learning outcomes ($\rho = 0.051$, $P < 0.01$); equally, multiple learning outcomes required the employment of multiple learning methods.

One in 3 LEEs employ 'Registration with badge' as a method to monitor engagement and 1 in 5 had continuous assessment of delegates' presence. Printed feedback was the most used form of assessing quality (> 1 in 2) of LEE and ELM, followed by online forms (1 in 4).

More than 9 in 10 delegates perceived CME events as suitable, relevant, commercial bias free and practice-changing. This is the most promising finding, which proves the positive perception of stakeholders towards CME. Most of the audience was from the EU (7 in 10 participants); the rest were from other countries (2 in 10), the US (3 in 100) and Canada (1 in 100).

Finally, 9 in 10 events awarded a matching number of CMEs to their educational hours.

Interpretation

Needs assessment explores the gap between the current educational landscape and a desired situation. Although the EACCME provides a clear definition with examples of what qualifies as a sufficient needs' assessment process, still only 50% of the events manage to provide a solid justification. This could be explained either because many organisers consider the adjacent information given in the learning outcomes or methods self-explanatory for needs assessment, or, because several events lack a solid needs foundation. The fact that there is a similar trend of needs assessment reporting across several event types leads us to conclude that the organisers fail to acknowledge the importance of this section as the founding justification for their event. Recommendations from previous activity or surveys of the stakeholders were, as expected, the most common justification reported in our study and appear to be an orthodox approach for setting up an event.

Compared to the American Council of Continuous Medical Education (ACCME) criteria where the accreditation process is 'provider-centred', EACCME operates majorly their assessment on each event individually rather than accrediting the provider. ACCME holds a slightly different framework of operation where emphasis is given on the educational framework of each provider rather than each event itself. In their recent audit[8] report, ACCME have outlined a series of strict criteria (C23-38) on commendation, commenting on main reasons for non-compliance. These were primarily summarised around the fact that providers did not address critical elements (C23-38) or lack of compliance evidence or did not submit the number of examples required for the organisation programme size. Although not identical reasoning, nevertheless, we can see some core similarities with EU-based data from EACCME, indicating some common ground elements for improvement.

We observed a clear reporting trend in the learning outcomes and methods, with most of the events employing a composite set-up of learning methods to cover multiple outcomes. This is to be expected, as most events aim to cover a melange of different needs – in most cases fuelled by and serving the ever-increasing demands and standards of an upgrading modern medical practice, which is the primary purpose of CME. The reporting quality

of learning methods and outcomes was excellent, reflecting that organisers understand the significance of those two elements as the backbone of their educational event. This is an important quality assurance indicator of the event, which essentially organisers pay a lot of attention to deliver a successful event. This is most likely 'perceived' as the recipe for receiving good feedback,

One of the most promising findings of this study is the fact that almost 9 in 10 delegates found LEE/ELM as suitable, relevant, commercial bias free and practice-changing. This shows (a) stakeholders value highly any CME effort, (b) EACCME has a critical role and responsibility as an educational guardian and (c) UEMS has been successful in ensuring – despite the limitations discussed below – that high standards are maintained in the vast majority of educational events.

Limitations

We must acknowledge a series of limitations in our study. Firstly, EACCME database is not designed for research purposes. As a result, there was a considerable variation in data reporting, both in terms of quality but mainly in the way applicants describe their needs assessment, delivery methodology (learning methods) and learning outcomes. Occasionally, data were not self-explanatory, and a separate process had to be undertaken to clarify the intended content and appropriately code for analysis. Therefore, one of the most critical steps was harmonisation of the material provided in the application forms. This was a lengthy process, which, although undertaken meticulously and in a stepwise manner, may have introduced bias, especially when the final 'themes' were selected. In simple words, quantifying qualitative data was the biggest challenge; however, we consider our prospective protocol as a safe route to minimise bias. Secondly, although we used a prospective research methodology protocol, the study nature remains retrospective, which is also a limiting factor. Finally, in several sections, reporting quality was limited, which may have led to false assumptions in our interpretation process.

Recommendations

Delivering high-quality evidence through research frameworks

The nature of this analysis is observational, and further definitive association should be explored using a prospective, research-friendly database. Hence, designing a research-friendly database will be a stepping-stone transition to explore with confidence critical research questions on needs assessment, learning outcomes and methods for CME activities. A critical recommendation from our data harmonisation process is to consider a set of Core Outcome Sets, which will prospectively harmonise the way applicants report and structure their educational event. This has been the case with other research areas[9]; for instance, the CROWN initiative has been a great example to reduce research way and optimise trial design and evidence synthesis, which results in solid evidence.

Accreditation should be a dynamic process

Despite the EACCME accreditation involving expert reviewer recommendations, who assess and score each application prior to providing with CME credits, this should gain a more critical role in the accreditation process. That can be facilitated with either a strict 'revise and resubmit', which ensures each event design at least 'fits the purpose', meaning it has a clear needs assessment ground, which is facilitated by the selected learning outcomes and methods. The other important catalyst towards this process will be to randomly select LEE or ELM and design an assessment protocol that aims to figure out whether the actual event follows the submitted application. This will additionally allow EACCME panel to undertake an essential role in actively improving an educational event, as most of them run periodically. This is perhaps the most effective strategy to command immediate change that will confer a meaningful impact on the educational experience of stakeholders attending that event, instead of only focusing on future event improvements.

There should be a shift from time-based to educational-impact-based CMEs

Although currently CME credits directly reflect educational hours, there should be a shift for CMEs to be quantified towards educational impact. This is not going to be an easy task and will require robust prospective research to identify outcomes that subjectively quantify educational impact. An effort towards this direction has been attempted by the introduction of 'pragmatic' outcomes from the ESMSC course[1,10,11]. Those outcomes were based on a mathematic breakdown of each course module and prospectively compared with delegates perspective (feedback) as well as their objective improvement on the learning outcomes using validated practical skills assessments or exam material. A starting – and realistic – point towards this direction will be a consensus document that quantifies some objective standards matched to the number of accredited CMEs, which can be an interim transition from the purely time-based to 'educational impact'-based CMEs.

Conclusion

Less than 1 in 2 events describe needs assessment properly. The EACCME board should consider redesigning their database to make it more research friendly, which will catalyse generation of high-quality evidence. Regular audits of this database will ensure better adherence to accreditation in the future. Given UEMS is the largest educational provider globally, this database could drive changes to shape the future educational landscape. The approach to accreditation should shift to a more dynamic and involved process to meet the needs of a rapidly evolving educational landscape.

Ethical approval

No ethical approval was required as this is an audit project commissioned by UEMS as part of their standard operational framework.

Consent

This study does not include any human participants.

Sources of funding

Sideris et al. Annals of Medicine & Surgery (2024)

Annals of Medicine & Surgery

Author contribution

M.S. has conceived the protocol to approach the UEMS data and has analysed and drafted the manuscript. V.P. is the senior author and currently holding the position of president of UEMS. K.S.R. and M.N. are equal contributors, with data collection and data analysis/drafting of parts of the manuscript. A.K. and N.S. have contributed to data collection and manuscript editing. N.P., O.H., R.S.K. and J.G. have provided senior input in editing the manuscript and are part of the UEMS board. R.S., R.U., A.M., R.M., A.A., C.M.B. and G.A. have contributed to data collection. All authors have approved the final version of the manuscript.

Conflicts of interest disclosure

No conflicts of interest reported.

Research registration unique identifying number (UIN)

Not applicable – this is an audit that does not directly or indirectly involve human participants.

Guarantor

M.S. and V.P. are the guarantors of this work.

Data availability statement

Data available upon reasonable request.

Provenance and peer review

Not commissioned, externally peer-reviewed.

Acknowledgement

None.

References

[1] Sideris M, Emin EI, Hanrahan JG, *et al*. ABC of surgical teaching: time to consider a global blueprint for holistic education. J Invest Surg 2021;34: 1355–65.

[2] Sideris M, Nicolaides M, Theodoulou I, *et al*. Student views on a novel holistic surgical education curriculum (iG4): a multi-national survey in a changing landscape. In Vivo 2020;34:1063–9.

[3] National Institutes of Health. What is CME credit? 2017. Accessed 30 July 2023. https://www.nih.gov/about-nih/what-cme-credit

[4] (UEMS) EUoMS. EACCME criteria for the accreditation of live educational events 2016. Accessed 30 July 2023. https://www.uems.eu/__data/assets/pdf_file/0009/40302/UEMS2016.20-EACCME-2-0-CRITERIA-FOR-THE-ACCREDITATION-OF-LEE.pdf[Accessed 30 July 2023].

[5] Grant J. Learning needs assessment: assessing the need. BMJ 2002;324: 156–9.

[6] Hanrahan JG, Sideris M, Pasha T, *et al*. Postgraduate assessment approaches across surgical specialties: a systematic review of the published evidence. Acad Med 2021;96:285–95.

[7] Mathew G, Agha R, Albrecht J, *et al*. for the STROCSS Group. STROCSS 2021: strengthening the reporting of cohort, cross-sectional and case-control studies in surgery. Int J Surg 2021;96:106165.

[8] Accreditation Council for Continuing Medical Education (ACCME) "learn well", Menu of criteria for Accreditation with Commendation Transition Report. https://www.accme.org/sites/default/files/2020-08/859_20200811_Menu_of_Criteria_for_Accreditation_with_Commendation_Transition_Report.pdf

[9] Oliver Daly J. Harmonisation of research outcomes for meaningful translation to practice: the role of Core Outcome Sets and the CROWN Initiative. Aust N Z J Obstet Gynaecol 2018;58:15–6.

[10] Sideris M, Papalois V, Athanasiou T, *et al*. A novel multi-faceted course blueprint to support outcome-based holistic surgical education: the integrated generation 4 model (iG4). In Vivo 2020;34:503–9.

[11] Theodoulou I, Sideris M, Lawal K, *et al*. Retrospective qualitative study evaluating the application of IG4 curriculum: an adaptable concept for holistic surgical education. BMJ Open 2020;10:e033181.