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Factors Influencing the Implementation of Continuous Medical Education Among Teaching Staff in a Nursing School in Western Uganda

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Abstract

Background

Continuous Medical Education (CME) enables nursing educators to maintain up-to-date knowledge, skills, and competencies for quality teaching and evidence-based practice, yet participation remains inconsistent in resource-limited settings such as Western Uganda.

Objective

This study assessed the individual and institutional factors influencing CME implementation among teaching staff in a nursing school in Western Uganda, and staff perspectives on strategies to improve participation.

Methods

A mixed-methods cross-sectional design was used among 44 teaching staff, stratified by role. Quantitative data were collected via a structured questionnaire and analysed descriptively in SPSS v25; qualitative data were collected through semi-structured interviews with 8–15 purposively selected staff and analysed thematically.

Results

Most respondents (68.2%) strongly agreed CME is essential for professional competence, but 77.3% felt their workload left inadequate time for it, and 81.8% reported personal/family commitments as limiting. Institutionally, 63.6% reported no formal CME policy, 84.1% reported inadequate funding, 81.9% reported insufficient protected time, and 75.0% reported weak recognition through certificates or promotion. Financial support (97.7%) and linking CME to appraisal/promotion (93.2%) were the most strongly endorsed strategies.

Conclusion

Teaching staff value CME highly, but implementation is constrained by workload, competing personal commitments, and weak institutional funding, policy, time-allocation, and recognition systems. Strengthening institutional policy, dedicated funding, protected time, and appraisal-linked recognition is essential to improving CME participation.

1. Introduction

Continuous Medical Education (CME), also termed Continuing Professional Development (CPD), enables health professionals to maintain the knowledge, skills, and performance required for safe, effective, and ethical practice (World Health Organization [WHO], 2010; Davis et al., 2006). For nursing-school teaching staff, CME strengthens both clinical expertise and teaching quality, keeping instruction aligned with current evidence-based standards (Frenk et al., 2010). Global bodies such as the World Federation for Medical Education (WFME) and WHO position CME/CPD as central to maintaining competence and responding to evolving health-system needs (WFME, 2015), and well-designed CME/CPD activities can improve knowledge, skills, and some clinical behaviours (Samuel et al., 2021). Yet uptake lags behind awareness: globally, 82% of health professionals value CME but only 56% participate regularly (WHO, 2023), and participation is markedly lower in sub-Saharan Africa, at roughly 38% (Kiberu et al., 2012).

Regional CPD systems vary with health-system maturity. High-income settings typically operate structured, often mandatory, CME/CPD systems with accreditation, credit points, and licensing-linked obligations that sustain participation (Grant, 2018). In much of Africa, by contrast, CPD implementation remains fragmented, donor-dependent, and inconsistently delivered, even where regulatory mandates exist (Baloyi, 2020; Merry et al., 2023), although regional online CPD libraries and contextual studies from Kenya, Tanzania, and Malawi show that locally relevant content, accredited providers, and institutional time and funding support are the enablers most strongly associated with CME uptake among nurses and midwives (Feldacker et al., 2017). In Uganda, the Ministry of Health and the Uganda Nurses and Midwives Council (UNMC) mandate CPD for licence renewal (Ministry of Health Uganda [MoH], 2022), yet only about 41% of healthcare staff consistently attend CME sessions nationally (MoH, 2022), and teaching staff in nursing schools outside Kampala face particular difficulty translating CME into practice because of workload, competing responsibilities, and limited institutional support (Namatovu et al., 2023, 2024).

At the individual level, motivation, self-efficacy, workload, and perceived relevance of content are consistently linked to CME participation (Liu et al., 2025; Cervero & Gaines, 2015). Time constraints, heavy workload, and competing family responsibilities are widely reported deterrents in both high-income and African settings (O'Sullivan et al., 2017; Lhbibani et al., 2021; Musie et al., 2025), while limited institutional recognition and absent career-progression pathways further diminish motivation, particularly in resource-constrained environments (Cervero & Gaines, 2015). Ugandan evidence additionally highlights financial limitations, restricted digital literacy, and a need for more context-specific CPD content (Mugisha & Ndejjo, 2020; Namatovu et al., 2023, 2024).

Institutionally, supportive environments — administrative encouragement, funding, flexible scheduling, and formal CME policy — are essential for sustaining participation (WFME, 2020; Bobbio & Manganelli, 2018; McMahon et al., 2020), whereas poor alignment between institutional priorities and staff needs, inadequate funding, and weak scheduling coordination remain key deterrents even in high-income contexts (O'Brien Pott et al., 2021). Low- and middle-income countries face compounding constraints — constrained budgets, trainer shortages, weak accreditation infrastructure, and limited digital access (Talib et al., 2019; Merry et al., 2023) — and Sub-Saharan African institutions in particular report

persistent deficits in staff-development budgets and heavy workloads restricting access to training (Baloyi, 2020). Ugandan studies similarly show weak institutional CPD policy, resource constraints, and congested schedules limiting participation among nursing educators (Tusiime & Katende, 2021), and although national CPD policy frameworks exist, monitoring and linkage of CPD outcomes to career progression remain underdeveloped, with no functional national CPD registry (Nabirye et al., 2022; Namatovu et al., 2024).

This study was informed by a conceptual framework in which individual factors (motivation, workload, experience) and institutional factors (resources, policy, leadership support) jointly shape both CME participation and the adoption of CME-acquired knowledge into practice — participation alone being insufficient without genuine application of new learning (Davis et al., 1999; Rogers, 2003). Despite growing national policy attention to CPD, empirical evidence on the specific individual and institutional factors shaping CME implementation among nursing-school teaching staff in Western Uganda remains scarce. This study addresses that gap, examining: (i) individual factors influencing CME participation; (ii) institutional factors influencing CME implementation; and (iii) teaching staff perspectives on strategies to address barriers to participation.

2. Methods

A mixed-methods cross-sectional design was used at a nursing school in Ishaka-Bushenyi Municipality, Bushenyi District, Western Uganda, offering certificate-to-master's-level nursing programmes. The study population comprised all teaching staff (professors, lecturers, assistant lecturers, teaching assistants, health tutors, and clinical instructors; N = 50). Using Yamane's (1967) formula at a 5% margin of error, a sample of 44 staff was calculated for the quantitative component and selected via stratified random sampling by role. A purposive sub-sample of 8–15 staff was selected for in-depth qualitative interviews. Eligible participants had worked at the institution for at least six months and were actively teaching or clinically supervising; part-time and voluntary-service staff were excluded.

Quantitative data were collected using a structured, self-administered questionnaire covering socio-demographic characteristics and individual and institutional factors, scored on a four-point Likert scale (1 = strongly disagree to 4 = strongly agree). Qualitative data were collected via a semi-structured interview guide exploring experiences, barriers, and suggested strategies, audio-recorded with consent and transcribed verbatim. Quantitative data were analyzed descriptively (frequencies and percentages) in SPSS version 25; qualitative data were analysed thematically to complement and explain the quantitative results. Ethical clearance was obtained through Health Tutors' College–Mulago(Makerere University) and the host institution's review process after the informal submission and presentation infront of IRB, Health Tutors' College–Mulago(Makerere University), informed consent was obtained from all subjects and/or their legal guardian(s)., coded identifiers, and voluntary withdrawal rights for all participants.

Data availability – data will be available as per the requirement and necessary guideline of journal .

3. Results

3.1 Respondent Characteristics

Respondents were predominantly mid-career, with the 30–39 and 40–49 age groups each contributing 36.4% (n = 16). Females comprised 59.1% (n = 26). Most held a Postgraduate Diploma (38.6%, n = 17); only 4.6% (n = 2) held a PhD. Health Tutors formed the largest job-title category (45.5%, n = 20), and 63.6% of respondents had over five years of teaching experience.

Table 1
Socio-demographic and professional characteristics of respondents (n = 44)

Variable	Category	n	%
Age (years)	20–29	2	4.5
	30–39	16	36.4
	40–49	16	36.4
	50 and above	10	22.7
Gender	Male	18	40.9
	Female	26	59.1
Highest qualification	Diploma	5	11.4
	Bachelor's Degree	10	22.7
	Postgraduate Diploma	17	38.6
	Master's Degree	10	22.7
	PhD	2	4.6
Job title/position	Health Tutor	20	45.5
	Clinical Instructor	5	11.4
	Teaching Assistant	5	11.4
	Assistant Lecturer	5	11.4
	Lecturer	9	20.5
Teaching experience	Less than 5 years	4	9.1
	5–10 years	14	31.8
	11–15 years	14	31.8
	More than 15 years	12	27.3

3.2 Individual Factors

Most respondents (68.2% strongly agree, 27.3% agree) valued CME for professional competence, and 63.7% reported being motivated to participate. However, 81.8% reported personal/family responsibilities limiting participation, and 77.3% felt their workload allowed inadequate time for CME. Most (90.9%) were confident applying CME knowledge in practice. Interviews reinforced workload and competing family commitments as the dominant barriers, with motivation weakening where no visible benefit was attached to participation, and attendance higher where content matched participants' teaching responsibilities.

Table 2
Individual factors influencing implementation of CME (n = 44)

Statement	Strongly Disagree n(%)	Disagree n(%)	Agree n(%)	Strongly Agree n(%)
CME is essential for maintaining my professional competence and improving job performance	0 (0.0)	2 (4.5)	12 (27.3)	30 (68.2)
I am motivated to participate in CME activities regularly	4 (9.1)	12 (27.3)	20 (45.5)	8 (18.2)
Personal or family responsibilities limit my ability to attend CME activities	2 (4.5)	6 (13.6)	22 (50.0)	14 (31.8)
My current teaching workload allows adequate time for CME participation	16 (36.4)	18 (40.9)	8 (18.2)	2 (4.5)
I am confident in applying knowledge/skills gained from CME into my teaching and/or clinical practice	1 (2.3)	3 (6.8)	24 (54.5)	16 (36.4)

3.3 Institutional Factors

Institutional support was consistently rated poorly: 63.6% reported no formal CME policy, 84.1% reported inadequate funding, and 81.9% reported insufficient protected time. By contrast, 84.1% found CME content relevant to their role, while 75.0% reported inadequate recognition through certificates, points, or promotion. Interviewees attributed these gaps to near-absent financial facilitation, an expectation that teaching continues uninterrupted during CME periods, and weak linkage between CME and career progression.

Table 3
Institutional factors influencing implementation of CME (N = 44)

Statement	Strongly Disagree n(%)	Disagree n(%)	Agree n(%)	Strongly Agree n(%)
My institution has a formal policy supporting CME participation	10 (22.7)	18 (40.9)	12 (27.3)	4 (9.1)
Adequate institutional funding is provided for CME activities	22 (50.0)	15 (34.1)	5 (11.4)	2 (4.5)
The institution provides time or duty relief to facilitate CME attendance	20 (45.5)	16 (36.4)	6 (13.6)	2 (4.5)
CME topics offered are relevant to my teaching or clinical responsibilities	2 (4.5)	5 (11.4)	22 (50.0)	15 (34.1)
CME participation is recognized through certificates, points or promotion opportunities	18 (40.9)	15 (34.1)	8 (18.2)	3 (6.8)

3.4 Preferred Strategies

Financial support was the most strongly endorsed strategy (97.7% agree/strongly agree), followed by linking CME to appraisal or promotion (93.2%), in-service CME during working hours (93.2%), flexible scheduling (90.9%), and accredited online modules (86.4%). Qualitative accounts converged on the same priorities: transport/registration support, protected time within the official timetable, expanded online delivery, and formal recognition through appraisal systems.

Table 4
Strategies to enhance CME participation (N = 44)

Statement	Strongly Disagree n(%)	Disagree n(%)	Agree n(%)	Strongly Agree n(%)
Provision of regular in-service CME sessions during working hours	1 (2.3)	2 (4.5)	15 (34.1)	26 (59.1)
Provision of financial support (transport, registration, allowances)	0 (0.0)	1 (2.3)	8 (18.2)	35 (79.5)
Flexible scheduling (evening/weekends)	1 (2.3)	3 (6.8)	18 (40.9)	22 (50.0)
Accredited online CME modules	2 (4.5)	4 (9.1)	18 (40.9)	20 (45.5)
Linking CME participation to appraisal, promotion or professional incentives	1 (2.3)	2 (4.5)	12 (27.3)	29 (65.9)

4. Discussion

Teaching staff overwhelmingly valued CME, consistent with Liu et al. (2025) and Cervero and Gaines (2015), who link perceived benefit and intrinsic motivation to engagement with continuing education. Yet this favourable attitude did not translate into unconstrained participation: workload and competing family responsibilities were the dominant individual-level barriers, mirroring findings from Denmark, the United Kingdom, and Uganda alike (O'Sullivan et al., 2017; Lhbibani et al., 2021; Namatovu et al., 2023, 2024), and confirming that barriers here are structural and logistical rather than attitudinal. That most respondents nonetheless felt confident applying CME knowledge in practice suggests that, when CME does occur, it is perceived as genuinely useful — consistent with Nabirye et al. (2022).

Institutional barriers were more pronounced than individual ones. That most respondents reported no formal CME policy and the large majority reported inadequate funding and protected time closely track Bwanga (2020), Mlambo et al. (2021), and O'Brien Pott et al. (2021), and indicate that despite national CPD mandates from UNMC (MoH, 2022), policy translation to the institutional level remains weak — echoing Tusiime and Katende (2021) and the broader observation that CPD in many low- and middle-income settings remains under-resourced and inconsistently enforced (Merry et al., 2023). Weak recognition of CME through certificates, credit points, or promotion supports Bobbio and Manganelli (2018) and Nabirye et al. (2022), who argue that recognition systems are central to sustaining motivation beyond initial goodwill. Importantly, CME content itself was viewed positively, indicating the problem lies in access and support systems rather than programme design (Cecil et al., 2024).

The near-unanimous preference for financial support directly mirrors the funding gap identified as the leading institutional barrier, consistent with Bobbio and Manganelli (2018) on the role of dedicated funding in CME uptake and sustainability. Strong endorsement of appraisal-linked recognition reflects Nabirye et al. (2022) and McMahon et al. (2020) on the value of career-linked incentives for accountability and participation, while support for in-service scheduling, flexible timing, and online modules reinforces Mlambo et al. (2021), Grant (2018), and WHO (2021) on protected, adaptable, and digitally-enabled learning time. Together, these findings depict a workforce that values CME operating within an institutional environment that under-resources and under-recognises it — pointing to targeted institutional reform, rather than attitudinal intervention, as the most direct route to improved implementation.

5. Conclusion and Recommendations

Teaching staff strongly value CME for professional competence and teaching effectiveness, but implementation is constrained by heavy workloads, competing personal commitments, inadequate institutional funding, absence of formal CME policy, insufficient protected time, and weak recognition mechanisms. Financial support, appraisal-linked incentives, in-service scheduling, flexible timing, and online delivery were identified as the strategies most likely to improve participation.

The school administration should develop a formal CME policy with a dedicated budget for transport, internet, registration, and materials. CME coordinators should base content on training-needs

assessments, integrate CME into official schedules, and expand accredited online/blended platforms. Teaching staff should take active ownership of their professional development, while regulatory bodies (UNMC, NCHE) should strengthen monitoring and integrate CME/CPD credit points into licence renewal, accreditation, and career progression.

This study relied on self-reported, cross-sectional data from a single institution with a modest sample (n = 44), limiting causal inference and generalisability. Future research should replicate this study across multiple Ugandan nursing schools, examine the effect of CME on teaching effectiveness and student outcomes, evaluate online/blended CME delivery, and adopt longitudinal designs to assess CME's long-term impact on professional competence and healthcare service delivery.

Declarations

Author Contribution

Aybere belden is main author for this research articleremiang all 3 auther for supervising and assitng to completing the work

Conflict of interest-Nil

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Data availability – All data generated or analysed during this study are included in this published article. The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Accordance statement -all methods were performed in accordance with the relevant guidelines and regulations

Informed consent - informed consent was obtained from all subjects and/or their legal guardian(s).

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