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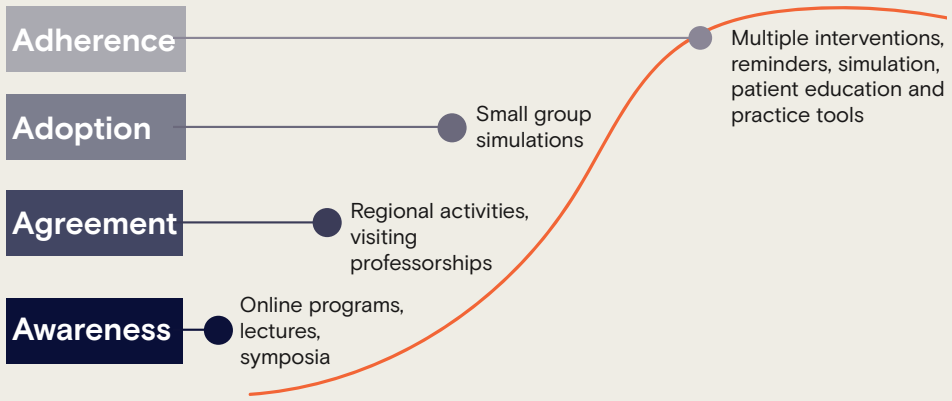
Continuing Medical Education in a Digital World

How platform technologies can maximize engagement and learning

Background

The rapid evolution of technology over the last few decades has radically transformed the way people communicate, seek information, and process knowledge across every industry. Continuing Medical Education (CME) is no exception. While there isn't a preferred medium for learning, healthcare professionals increasingly consume education delivered through digital channels,[1] and technology has made access, interactivity, personalization, and tracking of learning easier and more impactful.

Alignment of Learning Methods and Stages of Evidence Translation



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The goal of continuing education remains, laudably, to ensure healthcare professionals are equipped to deliver high quality, evidence-based care. However, as noted by many studies, medical knowledge is doubling every few months, which makes it difficult for clinicians to keep up[2] Paradoxically, it is taking 17 years for medical knowledge to transfer from bench to bedside; which may adversely impact patient care.[3]

There are mechanisms to overcome barriers to translation. A review of educational literature points to fundamental concepts that facilitate learning such as **access, personalization, interactivity, and feedback.** While traditional media such as live meetings and national conferences still prevail in medical education design and delivery, print and didactic online modules, digital platforms, and advanced technologies have grown substantially as education delivery channels.[4] A number of studies over the last two decades have demonstrated the efficacy of online platforms, and according to the ACCME, there has been more consumption of online learning than other forms of

education, pointing to the appetite for on-demand, personalized learning. A recent study found that 96% of 971 physicians surveyed said they would attend more conferences, meetings, and CME events if the programs were offered online.[5]

Digital platforms reach more learners at once and allow self-paced, on-demand education, where in-person sessions remain bound by location and time. In the process, they are transforming the experience and quality of CME. This paper will explore how leaders in CME can leverage platform technologies to increase access, deepen engagement, and better prepare participants for the real world applications of knowledge gained through CME.

Widening Access to CME: The Opportunities and Limitations of Online Platforms

The first promise of online platform is accessibility – with digital means, learners can access CME activities remotely, removing the barriers of travel and scheduling.

A review of mixed learning technology adoption in 2003 raises a few prerequisites to successful online learning, including learners' comfort with desktop and mobile technologies; internet connectivity; time for learners to access and use the Web; and faculty development in the area of Web-based teaching.[5]

> As generational barriers begin to fade, the digital revolution is poised to have significant impact on CME.

These factors may account for the once slow and now steady uptake of digitally delivered education, which has clearly become a standard format for CME consumption.[6] In an increasingly digital world, and as many medical schools today implement technology-enhanced active learning and multimedia education applications within their curriculum, the field is changing.[7] As generational barriers begin to fade, the digital revolution is poised to have a significant impact on CME.[8]

Online CME in Action

Industry leaders offer online learning through best in class platforms

NEJM Knowledge+

NEJM Knowledge+ offers adaptive learning, in depth tracking and reporting, and practice tests within an online platform.

Figure One

Figure One is a social networking service where healthcare professionals post and comment on medical images.

myCME

HME's digital platform offers learners comprehensive access to over 450 activities, from multiple medical education companies and professional societies, featuring complimentary, unbranded education as well as fee-based professional and skills development courses that may be purchased in the myCME Marketplace. The platform's 16+ activity formats include webcasts, case studies, roundtables, and interactive games.

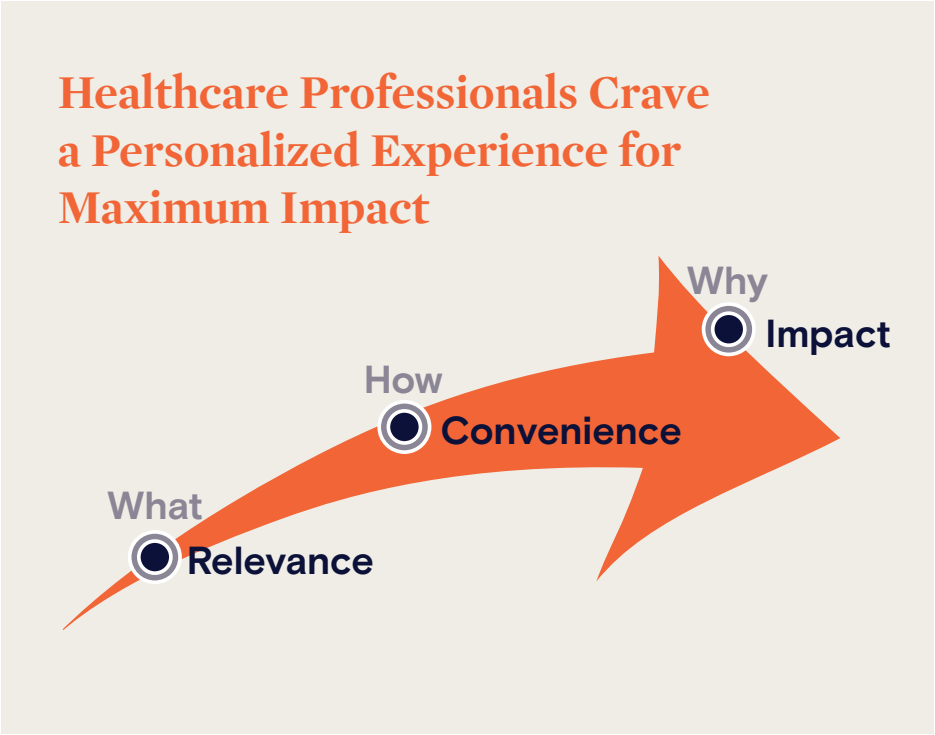
MedEd Manager

MedEd Manager is a comprehensive platform for online CME course management and marketing.

The second tenet of effective online CME design is user experience. Leaders in digital CME will maximize accessibility with platforms that are engaging, interactive, and personalized. A review of digital web-based learning from a user experience perspective has shown that digital education is perceived as most valuable when associated with real-time feedback, self-assessments, extended time for completion, and topic relevance.[9] E-learning interventions perceived as too cursory and lacking relevance or interactivity were viewed less favorably by healthcare professionals.

Engaging Interfaces: Design Principles for Online CME

User-friendly CME platforms are those with intuitive interfaces, engaging visuals, and diverse forms of content. To the degree that they make it easy to engage and limit the ability of learners to multitask during an online activity, elements such as webcam integration, surveys, polls, screen sharing, and live chat contribute to a more interactive experience. It is worth noting that about more than 80 percent of healthcare practicioners report using their smartphone for professional purposes, making mobile-friendly interfaces a requirement for effective digital CME delivery.[10]



Personalized Learning: The Millenial Expectation

One of the benefits of digital platforms is that they free CME providers from a "One Size Fits All" approach by offering a choice of topics and extended time for completion. Cutting edge approaches to digital education are offering self assessment for realtime tracking, feedback, and even adaptive learning. With an online platform, data can be used shape the curriculum to individual needs. Learners can progress at their own pace, get individual remediation in areas that present a challenge, and absorb information in modalities that most resonate with them – be that reading, watching a video-based expert panel, or participating in an interactive environment.

Simulation and Gamification: The Next Frontier of Interactive CME

Simulation and gamification take interactivity a step furthur, incentivizing engagement and preparing learners for real-world applications. A simulation-based education targeting independently practicing qualified physicians in acute care specialties, found that simulation is perceived as a positive learning experience.[11] There is limited evidence, however, to quantify improved learning and outcomes. Future research should focus on the quality of assessment tools, optimal modality and frequency of exposure, and on the impact of simulation-based education beyond the individuals toward improved patient care.

Putting it All Together: Implications for Continuing Medical Education Professionals

Digital platforms have changed the way people communicate and learn in every industry. As learners' comfort with computers and internet connectivity and computer access become the norm, so must CME adoption of digital platforms to augment quantity and quality of learner engagement.

Informed educators understand that the optimal mode of learning depends on the content, context, and the learner, and digital platforms offer flexibility and responsiveness to learners needs. As best practices evolve into new guidelines, and new forms of education, leading CME providers will establish and adhere to evidence-based best practices for digital engagement models that drive better outcomes.

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