

Taking a Closer Look at Web-based CME

- A Qualitative Study

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ABSTRACT

The purpose of this research was to investigate web-based Continuing Medical Education (CME), finding ways of increasing the awareness of web-based CME and to encourage its usage.

Purposive sampling was used and seven potential respondents were identified and all accepted the invitation except one who was unavailable to meet. A semi-structured, open-ended script was designed and piloted. Data analysis was done using grounded theory. Transcripts were analyzed for emerging themes or categories and coded to mark interesting sections. These were then refined to major themes through ongoing discussions between researchers.

Themes naturally fell under three headings: (a) the Individual Professional, (b) Social and (c) Information Technology. For each main theme, there were sub-themes. Sub-themes overlap showing their inter-relativity. The sub-themes under individual professional include time perception, educational needs, motivation, and learning preferences. The sub-themes under social issues include awareness of web-based CME, other means of CME, funding and marketing. The sub-themes under Information Technology (IT) include technical issues and website design and content.

Two different views emerged on whether web-based CME will be a primary or supplementary source of CME in the future, one stated that it would never replace meetings or other face-to-face methods; whereas one suggested it might be the way to obtain CME in the future.

In our view, it is just a matter of time for web-based CME to become more popular in New Zealand and for now, it provides an attractive option for GPs and makes keeping up to date much more convenient.

INTRODUCTION

We are currently living in an electronic era. The health sector is increasingly moving information electronically and health professionals are accessing the internet as a source of information.

To keep pace with changes in healthcare and to ensure we are providing the best care for our patients, it is important for professionals to be lifelong learners and self-directed learners. The internet offers an easy way for General Practitioners (GPs) to acquire new knowledge, skills and attitudes. General Practice is a complex specialty, requiring substantial depth of knowledge on a wide variety of subjects.

In the United States, the use of the internet by physicians is growing rapidly. About 78% to 85% of physicians use the Web, and an estimated 45% to 64% of physicians participate in web-based Continuing Medical Education (CME). (1)

In New Zealand, General Practices have almost 100% rate of computerisation, and most GPs are skilled in Information Technology (IT) .(2) GPs are increasingly using the internet as a source of information. However, this can be problematic because the reliability of information on the web is often not clear. Web-based CME offered by credible evidence-based provider offers an effective alternative although in New Zealand it is relatively underutilized.

The Maintenance Of Professional Standard (MOPS) programme was set up by the Royal New Zealand College of General Practitioners (RNZCGP) to assist GPs maintain their vocational registration and meet their obligations under the Health Practitioners Competency Assurance Act (2003).

Research suggests that GPs' greatest barrier to obtaining CME is time (3, 4). Hence, by providing another alternative CME source such as web-based CE, GPs can conveniently at any time, any place, choose to utilize their 'down' time to update their knowledge.

The aim of the study is to find ways of increasing the awareness of web-based CME and to encourage its usage as a viable option for busy GPs.

METHODOLOGY

To determine the barriers and enabling factors that affect web-based CME, we used qualitative research methodology. This enabled us to explore relevant issues from the perspective of individuals directly involved with CME in general (both face-to-face and web-based CME).

Purposive sampling was used to identify and include key informants who were information-rich, including 'outliers'. This provided the study with a full and sophisticated understanding of the phenomena. Individuals were chosen with a pre-determined criterion of being involved or having an influence in the provision of CME.

Seven potential respondents were identified and all accepted the invitation except one who was unavailable to meet.

Face to face interviews were conducted with 5 respondents and one phone interview was conducted with 1 respondent. No new themes emerged during the 6th interview suggesting we had theme saturation. All individuals chosen had a strong interest in CME. The interviews were scheduled at the individual's convenience. Interviews generally took 30 minutes.

A semi-structured, open-ended script was designed and piloted on a member of Department of General Practice and Primary Health Care, The University of Auckland. The script acted as a reminder on the topics to be included. The interviews were dynamic where the researcher was free to ask additional questions during the interview to clarify answers or follow leads and to respond to issues or questions raised by the interviewee.

The script was constantly reviewed and refined as the interview progressed. Interviews were recorded and transcribed manually.

Data analysis was done using grounded theory, where data was explored inductively to generate a theoretical framework. Transcripts were analyzed for emerging themes or categories and coded to mark interesting sections. Analysis triangulation occurred by having two researchers code the transcripts and reflect on the notes. The results of their analyses were compared. Systematic data analysis was used where sub themes were identified and connected. These were then refined to major themes through ongoing discussions between researchers.

The study was approved by The University of Auckland Human Participants Ethics Committee, Reference Number 2006/400.

RESULTS

General

A total of 6 key informants were interviewed for this study. All respondents have a strong interest in CME and have a central role in the provision of CME.

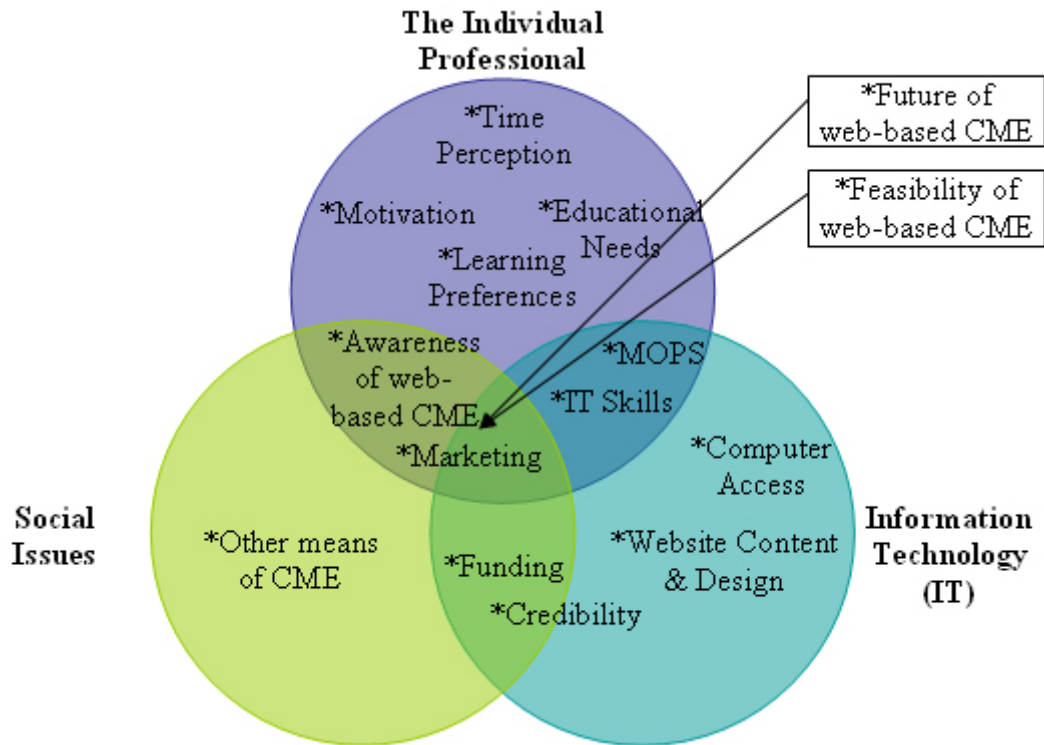
There were three males and three females. The interviewees' occupation and health background is shown in the following table.

<i>Interviewee No.</i>	<i>Occupation</i>	<i>Background</i>
1.	GP Liaison	General Practice
2.	Clinical Director	General Practice
3.	CME Coordinator	General Practice
4.	Practice Education Manager	Pharmacy
5.	General Manager	Nursing
6.	Education Committee in PHO	General Practice

Thematic Analysis

Themes naturally fell under three headings: (a) the Individual Professional, (b) Social and (c) Information Technology. For each main theme, there were sub-themes.

Eight sub-themes overlap with each other, as shown in the Venn diagram below, meaning they are not exclusive to any particular themes. This shows the inter- relativity between our sub-themes.



(a) The individual professional

The sub-themes under individual professional include time perception, educational needs, motivation, and learning preferences.

Time Perception

Respondents’ replies indicated that it was important for professionals to have a balanced life, especially nowadays with so many competing commitments. With time being of the essence for GP, it might seem impossible to find time to voluntarily access web-based CME.

A concern was that GPs should spend more time to generate enough income to support their lifestyle instead of spending too much time on their educational needs.

“You might be pretty tired for a day’s work and might have a lot of things, having to do all my patients notes, ringing people up about things, looking at all my patients results, doing the insurance reports, ACC reports. By the time, I have done all that, then I am not going to be feeling too much like going off to a CME site working my way through a few modules. I will want to put my feet up and listen to some music, read a book, watch TV or something. I think that’s a powerful barrier.”

Educational needs

Overwhelmingly, there was a general consensus that CME is essential to fulfil the educational needs and bridge the knowledge gap of GPs, especially with the diversity involved in General Practice. Web-based CME was viewed as an attractive option for meeting individual learning needs and surviving in this rapidly changing world.

“To survive, you know, professionally, commercially, intellectually, and to have a satisfying career.”

“Individual GPs knowledge varies, a lot in certain areas and not a lot in the other. So, it’s the CME challenge to try and identify that. That’s a hole I have, can I talk to someone that has a lot in that area. So, we can talk to each other and back and forth.”

Motivation

Two distinguishable types of motivation were identified from our study, namely internal and external. Internal motivation comprises of the ‘need’ to know and to be kept up-to-date.

“So, if you are presented with a clinical issue that you aren’t sure on what to do. Then, it’s a strong incentive to learn about something.”

External motivation consists of obtaining MOPS points and the need to satisfy the ‘Health Practitioners Competence Assurance Act 2003’, to ensure that a health practitioner is competent to practise in his/her scope of practice;

“There’s ongoing requirements now placed on all health professionals in terms of the health competency act whereby they have to accrue so much CME points per year.”

Two differing views emerged about external motivation, with one respondent stating that it was the main reason for CME whereas another disagreed.

“It’s the only reason of them coming. Half of them, it would be the major reason. They have to do it to stay registered.”

“I don’t think so. I don’t think it’s a big motivating factor for most doctors because they are already getting plenty of MOPS points.”

Learning preferences

Our findings showed that some professionals preferred interactive learning in person, or collegiality/ability to discuss with peers, while others preferred traditional printed material compared with reading off a screen.

“Face to face is also good, I think, a lot happens with body language and just being in the presence of people.”

“I think just, whether people like that style, and probably as we get older, using a screen as a tool, you can’t have a large amount of information on the screen and the screen, probably, there’s still a desire to print off materials.”

“Sometimes I think some of the doctors might like the collegial discussion that goes on at CME. Cause invariably, one of them comes up with an issue. It’s something somebody

else has also experienced. And sharing that information can be quite useful for them. Even if that just means that I'm not the only one that has the problem."

(b) Social

The sub-themes under social issues contain awareness of web-based CME, other means of CME, funding and marketing.

Awareness of web-based CME sites

The study found little awareness of web-based CME in New Zealand and it is perceived to be under utilised.

"I don't think many people would think about it or even use it."

"I suspect it's under popular, should be more popular. It's a resource that's underutilised currently. That's my impression."

Other means of CME

Respondents stated that current common means of CME involved peer-reviewed group meetings through Primary Health Organisations or other CME providers; reading journals; joining large or small group meetings; attending conferences, e.g. RNZCGP annual conferences. Videos, DVDs and other media are used at times.

Funding non-specific

The study revealed that there was no specific funding for continuing education of GPs. Funding comes from a portion of the management fees of PHOs, or from sponsorship by pharmaceutical companies. The content or speakers are chosen by the PHOs or other CME providers.

Respondents added that it was not viable for GPs to pay to access CME, as required by some overseas web-based CME sites.

"Yes, I am saying the pharmaceutical companies provide the funds for the provision of CME. As long as the content is independent of the sponsor, then, I am happy with that. I think we faced the reality that we have to get money from somewhere."

"... to initially go and pay for something, that might be a tough task. They are so used to being able to get their CME education, pretty much, on Tab here. All they have to do is to come from their practices, which are not that very far away. They get something to eat, something to drink and they, you know, discuss."

Marketing

Respondents felt that New Zealand web-based CME should be better marketed.

"That's a brand image thing, so marketing. Putting the right names behind."

“The same people who are driven by curiosity or need to be clinically current, who now go on to use the internet. What we need to do is to broaden the curiosity within the health professions so that, that becomes part of our culture.”

“I support the use of the monthly newsletter, email newsletter. That’s the best way to encourage people to access it. Simple, doesn’t have to be complicated, you know, some simple things with a brief summary of the topic, little tit-bit from it, tantalising things”

(c) Information Technology (IT)

The sub-themes under Information Technology (IT) comprise technical issues and website design and content.

Technical Issues

Respondents agreed that to be able to use web-based CME, one must have access to a computer with an efficient internet connection. Next, one has to have basic computer and internet skills. According to our replies, most GPs around Auckland Region have computers with an internet connection, both at their surgeries and at home, while GPs’ IT skills varied but were sufficient. From our interviews, GPs have a wide range of experience with IT, ranging from basic skills to advanced IT skills with a postgraduate qualification in IT.

“To use the internet well, you really need to have fast download.”

“It needs to be on the ‘go’, like picking up the phone and it’s going, no fiddling, next thing you know, half an hour has gone past and you are just trying to get onto the website”

One respondent stated GPs need to be encouraged or trained/guided at least for the first time to enable them to use this technology.

“It is helpful to have a colleague demonstrate or show you how this all works as once you are familiar and shown the value of using this web-based CME, it is easier to carry on and do it yourself.”

Another respondent expressed the view that there would be a natural progression as time goes by and GPs might not need to be pushed too much to use the internet more.

“I think more and more people are becoming familiar with using the internet for finding answers to things, so I would think it’s a natural evolution and will come without having to be forced too much.”

Website Content and Design

All respondents agreed that the internet is a sea of information and very useful in satisfying the increasing and complex information needs of doctors.

Respondents emphasised the credibility of the information, “Evidence-based is the word” said one respondent.

They expressed a need to know the authority behind the information and that they can be confident that it is reliable. For example, an association with a University or the Royal College of General Practice is seen to be trustworthy.

“I guess the other thing, potential barriers are, whatever potential tool that you are using have clinical credibility. It probably has to be non-biased, have some sense of authority like the NZ guidelines group, you know, or a university or a credible organization, like the College.”

Respondents noted that relevance was an important part of CME. The content for Web-based CME needed to be relevant to day-to-day role in medical practice for GPs; relevant to NZ itself; and/or even their own interest areas.

“There’s a lot of CME where the cardiologist is telling them the latest top stent, this kind of stent, this kind of stent they just want to know if the heart is good enough to operate on They don’t want to know if this kind of stent, this kind of mesh, this kind of metal. You know, interesting ... but not relevant.”

Respondents agreed that web-based CME should be flexible and individualised, providing the users with the ability to adapt a program to meet their own needs, choosing the topic and pace of the programme. However, one respondent stated

“but we don’t actually know what we don’t know. So, there’s always this problem where we don’t have recognition of the areas that we have a big gap as compared to sitting in a lecture, where you get exposed to materials that you didn’t know didn’t know.”

Our study found that self-assessment is required, preferably in the form of an interactive quiz. Review is needed to evaluate their understanding on the subject and bridge any knowledge gaps identified. GPs can easily refer back to consolidate the information learnt.

“Interactive Quiz, need to know if they have done it It will be really good, if you can ask questions that are a bit delayed. They have a little review before they answer it. This is my education area that I am very interested in. To get your CME, instead of just drinking coffee, or watching it and quickly answering it there and there. To get your points, you have your summary quiz the next day or next week with a little review if you need it.”

“It needs some repetition, to get into your long term memory Easy to refer back or follow-up, something like that My understanding, you need have something very interesting or a lot of repetition to get into your long term memory.”

Respondents said that web-based CME should be interesting and practical. “GPs are practical people”, they prefer actual examples, instead of just didactic lectures. Hence, respondents expressed that

“...little snippets of people actually having these things done will be really good. For instance, even example interviews added to guidelines.”

“Like it talks about ultrasound, MRIs and this sort of things, for GPs you don’t actually see them. So, it’s better not to just talk about them and have diagrams. But to actually see something happening, just little snippets of things of reality. GPs are practical people.”

DISCUSSION

Our respondents believe there continues to be a need for CME although some noted that it might not change their behaviour (5) or they may not recall what they learnt. Most educators believe that the purpose of CME is to encourage change in practice performance and thus improve the service to patients.

Our findings suggest that web-based CME provides an effective method to help change behaviour, especially nowadays with accessibility to the internet less of an issue in most countries (6) and web-based learning becoming increasingly popular. (7)

Web-based CME versus other modalities

Different individuals have different learning styles. Web-based CME has potential with its convenience, ability to transfer knowledge across borders/specialties and its potential interactive features. Studies done comparing web-based learning versus other modalities show that participants using multimedia web learning feel greater satisfaction and agree that web courses enhance learning. (5)

CME in general has been criticized as being episodic (1), but through web-based CME, participants can complete the learning activity over several sessions, meaning more exposure and repetition of new knowledge, with the ability to refer back to reinforce their learning.

Traditional CME is often viewed as a ‘one size fits all’ system (1), but through web-based CME, participants can structure their own learning, in accordance with the adult learning model, allocating time to each educational piece as desired.

One major barrier we found was a fear of losing collegiality. GPs recognized the value of information sharing and learning from others – a need for support, recognition, motivation and fulfillment, and the ‘need’ to belong to a professional community. (4) Web-based CME can enhance these discussions by having input from professionals/colleagues from various specialties and countries through intelligent design (such as bulletin boards and forums).

Web-based CME is about self-directed learning and participants need to voluntarily log on and determine for themselves when and where to fulfill their

educational needs. Our findings indicate that it takes a lot of self-discipline and motivation to do it alone, but the development of interactive web learning environments mean it becomes possible to facilitate peer to peer or collaborative learning.

There appears to be a difficulty in identifying knowledge gaps among GPs. Hence, apart from GP input, the content of Web-based CME needs input from District Health Boards (DHBs), guidelines groups and various trustable sources. Credibility of the source is of the utmost importance (6) especially now that there is a vast amount of information on the internet from both credible and non-credible sources.

Some GPs have not accessed online CME because there was no need, having adequate access to high quality face to face CME. However, offering Web-based CME will add to the quality and type of CME provided, giving greater choice to GPs.

Enabling factors for web-based CME include short and concise learning outcomes, interactive means (e.g. videos, questions and answers) and being easy to use with good indexes. There is a need for software that can be easily used, so that learners who may lack computer proficiency can easily access web-based CME and use it to its full potential.

Aggressive marketing

It was disappointing that the only well-known New Zealand CME site seemed to be the Goodfellow Club website at www.goodfellowclub.org. Other good NZ sites include dermatology quizzes at www.dermnetnz.org.nz and bpac^{nz} interactive CME quizzes at www.bpac.org.nz/Public/home.asp. Awareness about web-based CME by New Zealand GPs is poor according to our respondents. A few respondents were aware of sites from United States, such as www.cmelist.com (which offers a list of web-based CME) and www.medscape.com. There is a need for aggressive marketing of this technology.

Some suggestions from our respondents on ways to increase awareness of web-based CME are through Primary Health Organizations' (PHOs) newsletters, District Health Boards (DHBs) notice boards, saving the web address as 'favourites' on GP's computers and having a free trial version (if required to pay).

There is no specific funding for continuing education of primary care professionals and there is a general feeling that GPs are unwilling to pay for web-based CME when other forms of CME are so freely available. Different funding solutions to cover the cost need to be found, such as sponsorship and advertising. Web-based CME is expensive to maintain because the content needs to be updated and relevant all the time.

Studies have shown that the most important reason for attending CME is the awareness of needing to update. (8) Although web-based CME requires strong motivation to voluntarily access it, by making it a worthwhile, interactive and fun learning experience, this partially solves the barrier of 'lack of time', which appears to be a

personal perception of time related to an individuals' perceived high workload and stress level. (4)

Research suggests that a less well motivated individual may find other commitments as an excuse to miss CME sessions, be it web-based or face to face. It is of concern that many individuals do little or no advance planning of their CME. Mostly it is serendipitous. (9) Hence, email prompting is needed whenever a new CME module is available.

MOPS points

Providing an incentive or external motivation such as MOPS points is considered essential by some respondents, and to others, a bonus. However, with web-based CME, web designers face the problem of awarding the CME credit either based on attendance or some other more objective measure, such as summative assessment. (6)

Future of Web-based CME

Will web-based CME be a primary or supplementary source of CME in the future?

Two different views emerged with one stating that it will never replace meetings or other face-to-face methods; whereas the other is that it might be the way to obtain CME in the future. The literature suggests that it is definitely possible for web-based CME to complement and reinforce traditional medical teaching. (5)

Limitations

Our study had several limitations primarily due to time constraints. The study population is small and the interviewees chosen are CME providers only, often senior managers of PHOs. Although we obtained theme saturation, which will have minimized this limitation, it is possible that further interviews with 'grassroots' GPs may uncover additional themes.

More research is needed to help characterize effective web-based CME delivery and to enhance its usefulness and attractiveness to GPs.

Conclusion

Our respondents reported that there is marked improvement in IT skills among New Zealand GPs since the early 1990s. They believe web-based CME is convenient, interactive, flexible, immediate, relevant, credible and easy to use (6). It is just a matter of time before web-based CME becomes more popular in New Zealand.

In our view, web-based CME provides another attractive option for GPs and enables them to easily update their medical knowledge.

Our study findings suggest the following recommendations:

RECOMMENDATIONS ABOUT WEB BASED CME DEVELOPMENT:

- Collegiality should be encouraged through intelligent design, such as bulletin boards and forums.
- Self-discipline and motivation should be enhanced through peer to peer or collaborative learning.
- Short and concise learning outcomes, interactive features and ease of use with good indexes are essential features of web-based CME.
- Email prompting is needed whenever a new CME module is produced.
- Marketing should be supported by the whole medical community, not just GP organizations.
- Funding to cover the cost needs to be sought, e.g. sponsorship and advertising.

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