RESEARCH SUMMARY

IN BRIEF

- Multimedia CD-ROMs can offer an effective and useful method of supporting continuing professional development.
- The fact that not all members of the dental team may have access to a posted resource following distribution suggests that online delivery may be preferable.
- Delivery of learning material by electronic means appears to have a beneficial effect in influencing change in clinical practice.
- Interactive e-learning resources with inbuilt CPD modules may provide a more interesting way of accessing information in areas not easily delivered by conventional means.

Evaluation of an e-learning CD-ROM

Post-impact evaluation of an e-learning cross-infection control CD-ROM provided to all general dental practitioners in England **S. Leaton Gray,[1] C. Howell[2] and C. D. Franklin[3]**

ABSTRACT

Aim

To carry out a post-impact evaluation of a cross-infection control CD-ROM, developed for NHS dental teams as a continuing professional development e-learning tool. The program was commissioned by the Department of Health and developed by a project team through the UK Committee of Postgraduate Dental Deans. The Dental Practice Board had originally sent one copy of the CD-ROM to each dental practice in England in 2004.

Method

A quantitative statistical analysis of the results of 326 online respondents to the learning package and a survey of 118 dental practitioners drawn from the Dental Practice Board database.

Results

Practitioners felt the CD-ROM in this instance was well-designed and appropriate for their needs. It is inclusive and accessible to a wide range of dental professionals including nurses and hygienists.

Conclusions

This form of continuing professional development is popular with dental practitioners, although it should not be the only form of continuing professional development available. However, whilst the project was generally regarded as successful, there were problems with the distribution of the CD-ROM. This suggests that an online resource should be made available in the future.

EDITOR'S SUMMARY

A CD-ROM would appear to be an excellent method of delivering continuing professional development (CPD) to increasingly busy GDPs. CPD is a vital part of dentistry but in today's pressurised world, it is important that any method or tool for CPD training is engaging and easy to access or attend. A CD-ROM has the advantage that it can be used and returned to at a time that best suits the user and that interactive material, video and other advanced features can be included that could not be delivered in, for example, a book. However, the actual success of CPD CD-ROMs is notoriously difficult to determine.

This paper attempts to assess whether a CD-ROM is indeed an effective method of CPD delivery. The CD-ROM in this case covered the important subject of cross-infection control and was sent to every dental practice in England. Its effectiveness was evaluated by a combination of online assessments developed as part of the CD-ROM itself, and a separate paper and online survey of 118 practitioners. The results showed that overall, the CD-ROM was a successful method of CPD delivery: users showed significantly increased knowledge of cross-infection control after using the resource and comments from practitioners were generally positive. It was also found to be useful for other members of the dental team. However, the method of distributing the CD-ROM was found to be a critical factor: the authors estimated that around half of all dentists either did not receive the CD-ROM or did not have sight of it.

A CD-ROM training tool may be perfectly designed and up to date, but if it does not reach those for whom it is intended it will have ultimately failed in its purpose. The authors suggest that in future, CD-ROMs should be sent to individual practitioners or else training should be provided online via the Internet. This is an important message to take away from the paper for future development of similar CPD resources.

The full paper can be accessed from the *BDJ* website (www.bdj.co.uk), under 'Research' in the table of contents for Volume 203 issue 9.

Rowena Milan,
Journal Editor

Opening screen shot of CD-ROM that lists the different content sections in the left hand bar. The program contains several video clips, an example of which can be seen on this page

AUTHOR QUESTIONS AND ANSWERS

1. Why did you undertake this research?

This study reports findings from a research and evaluation project on an interactive electronic e-learning resource on cross-infection control with inbuilt CPD. The Department of Health had commissioned production of a CD-ROM for continuing professional development, which was developed by a project team through the UK Committee of Postgraduate Dental Deans. In 2004, the Dental Practice Board distributed a copy of the CD-ROM to all dental practices in England. The Postgraduate Deans wanted to learn about the effectiveness of the CD-ROM as a learning tool, and whether use of the CD-ROM had impacted on professional practice, as well as issues such as value-for-money.

2. What would you like to do next in this area to follow on from this work?

Our research interests focus on the innovative use of e-learning for continuing professional development; this study highlights several opportunities for further work in this area. Research questions that would benefit from further investigation include:

1. Professional learning: does the use of e-learning impact on learners' retention of information and their ability to make conceptual connections across related topics? If so, in what ways?
2. Professional practice: does e-learning offer improved access to opportunities for continuing professional development? Does it throw up any new barriers – such as cost, time, or access to facilities?

COMMENT

So how do you deliver relevant information to general dental practitioners on an important issue such as cross infection control? You may wish to send a book or a pamphlet. Other methods of delivery include giving a lecture series around the country. The latter is an expensive process and very repetitive. In a similar manner to reading a book, a computer programme has the advantage that it allows the user to return to the material at their convenience and learn at their own pace. The use of computer-aided learning allows the programmer to add various media clips, which makes the presentation of the material more exciting and hopefully will entice the general dental practitioner to engage in the learning process. GDPs are very busy people and so the design of any computer programme should be of high quality to assist them in enjoying the learning process.

The traditional manner of delivering computer-aided learning material to practitioners is via CD-ROM and this study evaluates the distribution and uptake of a CPD learning program on cross-infection control by this method. This initiative was funded by the Department of Health and naturally they wished to track the effectiveness of this method of delivering CPD. The research group looked at the testing of both pre- and post-use of the CD-ROM. One of the problems that the team quickly learnt was that whilst the content was well received, the delivery of the CD-ROM was a problem. In future initiatives, delivery by other means such as the Internet should be explored.

When a practitioner got to use the programme they generally liked it and it was found that many used it in the evening and at lunchtimes. An important finding was that it was well received by other members of the dental team. The majority of respondents also liked using it on the computer. Valuable lessons were learnt from this project and what is refreshing about this article is that the authors are willing to learn from these experiences and incorporate their findings in future projects.

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