

INFOPOINTS

The internet and the globalisation of medical education

The internet permits the global distribution of medical education and has created new and exciting opportunities for academic institutions, educators, publishers, and investors. The BMJ Publishing Group, for example, has announced an agreement with a California company to develop "online case-based learning modules for the continuing medical education (CME) requirements of family practitioners globally."¹

These bold initiatives may overlook several important questions. What is the effectiveness of internet education, will students use it, and can a program that works in one setting be transferred to another?² What about the economics?

Our medical centre has expertise in skin cancer that could be of benefit to others. We have collaborated with a local company to develop an online, interactive, problem solving, evidence based program to improve physicians' abilities to diagnose and manage pigmented skin lesions. This program can teach the use of a decision making algorithm³ and has been shown to improve knowledge, confidence, and clinical skills in managing pigmented skin lesions in US physicians and students.⁴ Given the low cost of internet distribution, we wondered if it could also meet the administrative and clinical needs of physicians in other countries?

With the assistance of a UK internet company for doctors, we obtained 18 hours of PGEA credit for our program, distributed it to NHS general practitioners, and, between July 2000 and February 2001, tested its effectiveness in 150 consecutive NHS doctors via a standardised, 10 question knowledge test before and after they used the program.⁴ Users were primarily general practitioners (139/150), and most (126/150) had received medical school lectures or residency lectures in dermatology but no additional training.

After viewing the online program, the doctors felt considerably more confident in their abilities to manage pigmented skin lesions (table). This improvement in confidence was associated with a significant improvement in knowledge (59.9% correct on the test before viewing *v* 86.3% after viewing ($P = 0.0001$)) and in clinical skills as measured by user decisions in "managing" 15 clinical vignettes (86.8% correct before viewing *v* 89.5% after ($P = 0.0016$)).

Users were also pleased with the program. There were numerous positive comments, and the average score on a four point scale for overall assessment of the course (1 = very unfavourable, 4 = very favourable) was 3.83.

This experience shows that an academic centre in an English speaking country can develop an online medical education program in a subject with which it has expertise, receive appropriate certification for continuing medical education, and market it, at low cost, via the internet to English speaking doctors in another country. It further shows, as would be hoped, that the program's educational benefits cross national and cultural borders.

This program can be viewed at

<http://melanoma.lecturehall.com>

The original melanoma program is also available free to NHS doctors via www.ukpractice.net

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This work would not have been possible without the interest and energy of several individuals in the United Kingdom, particularly those at UKPractice.net, and we thank them for their support.

Funding: This work was supported by grant 1R43 CA78056-01 from the National Cancer Institute. Its contents are solely the responsibility of its authors and do not represent the views of the National Cancer Institute.

Competing interests: JMH is president and RBH is vice-president of Medical Directions, the company that developed the educational program. Both authors also hold shares in the company.

- 1 British Medical Journal and the Western Journal of Medicine select Medschool.com as online educational partner [press release 26 Oct 2000]. www.medschool.com/futuretense_cs/MedSchool/Assets/adam.pdf (accessed 20 Aug 2001)
- 2 Greenhalgh T. Computer assisted learning in undergraduate education. *BMJ* 2001;322:40-4.
- 3 Harris JM, Salasche SJ, Harris RB. Using the internet to teach melanoma management guidelines to primary care physicians. *J Eval Clin Pract* 1999;5:199-211.
- 4 Harris JM, Salasche SJ, Harris RB. Can internet-based continuing medical education improve physicians' skin cancer knowledge and skills? *J Gen Intern Med* 2001;16:50-6.

BMJ 2001;323:1106

Attitudes of 150 NHS doctors to managing pigmented skin lesions before and after viewing program on diagnosing and managing skin lesions (values are mean scores on 5 point scale*)

Item	Mean score		P value of difference
	Before viewing program	After viewing program	
I am not confident in distinguishing benign pigmented lesions from early melanoma	3.23	2.53	0.0001
It is more important for general practitioners to refer than diagnose	4.21	4.53	0.0008
The general practitioner's major role should be initial assessment	3.91	4.17	0.0012
My training provided a good grounding in clinical diagnosis	2.48	2.69	0.0025
I am confident in my ability to provide appropriate management of pigmented lesions	3.51	4.15	0.0001
I believe that many of my patients are at risk of developing skin cancer	3.57	4.07	0.0001
I am confident in my ability to diagnose late melanoma	3.92	4.47	0.0001

*Five point scale: 1="strongly disagree," 2="disagree," 3="not sure," 4="agree," 5="strongly agree."