The perspective of physicians on the value of online clinical decision support

Kieran Walsh, MD

BMJ Learning, London, UK

ABSTRACT

Online clinical decision support has been shown to help physicians improve the quality of care that they provide. However, there is little evidence as to how individual physicians perceive the utility of clinical decision support considering its cost. This article evaluates the perceptions of physicians who are part of a user group at BMJ about the cost and utility of an online clinical decision support resource, BMJ Best Practice. These physicians saw value in being able to link their usage of online clinical decision support to improved clinical practice. The evidence-based credentials, convenience, and time efficiency of the online clinical decision support were the most valued features. Users also valued the fact that the content was continually updated. Most thought that their institution should pay but were willing to use their personal devices to access the content. Physicians also valued being able to claim continuing professional development credits for their use of the resource.

KEYWORDS Clinical decision support; cost; value

Online clinical decision support has been shown to help physicians improve the quality of care that they provide.^{1,2} It can help them to provide more evidence-based care that is grounded in continually updated international guidelines.¹ It can also reduce variation in care and prevent medical errors.² However, institutions or individuals must pay for clinical decision support, and it can be expensive. There is growing interest in methods of delivering online medical knowledge that will maximize outcomes for the price.³ However, there is little evidence about the cost utility of online clinical decision support or of how individual physicians perceive the utility of clinical decision support considering its cost. This article reports an evaluation of the perceptions and views of physicians about the cost and utility of an online clinical decision support resource, BMJ Best Practice. BMJ Best Practice is a knowledge-based resource that is evidence based, continually updated, and practical.

METHODS

BMJ Best Practice is the online clinical decision support tool of the BMJ. Physicians who are part of a user group at BMJ were asked by email to take part in an evaluation of the cost and utility of online clinical decision support.

Semistructured interviews were conducted by telephone with those who responded to the email. All physicians who took part were in active clinical practice. The interviews were conducted according to a schedule founded on existing literature in this field.^{1,2,4} Interviews lasted approximately 20 minutes. Detailed field notes were taken during the interviews. Notes were analyzed using thematic analysis⁵ to allow new concepts and themes to emerge from the data. Interviews were continued until data saturation was achieved; this was defined as two successive interviews in which no new themes emerged.⁶

RESULTS

Twenty-one physicians took part in the semistructured interviews. Six key themes emerged. The physicians saw the most value in the clinical decision support resources in helping them to improve their practice. They most appreciated clinically relevant content that was based on their needs. The changes in practice cited by the physicians related to practical areas of history taking, diagnosis, differential diagnosis, investigation, management, and referral. Some physicians commented that the resource helped them to confirm that their practice was correct rather than change their practice. A few physicians mentioned barriers to practice change. These

Corresponding author: Kieran Walsh, MD, BMJ Learning, BMA House, Tavistock Square, London WC1H 9JR, UK (e-mail: kmwalsh@bmj.com)

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included the fact that some of the content needed to be more localized so that it would work in their context.

Physicians most valued the evidence-based foundations of the resource and the fact that it was continually updated. They valued these over other features. Physicians would simply not trust a resource that was not updated. Many physicians stated that they expected to see new research in the resource shortly after it was published. Some of the physicians expressed anxiety about how updated they were in their practice and so needed reassurance from the resource. Physicians realized that their patients would be looking up the latest evidence and so wanted to be as least as updated as their patients.

Most of the physicians thought that their institution should pay for clinical decision support. Although a variety of reasons were mentioned, the physicians primarily felt that the institution would benefit—because those who worked for the institution would be using evidence-based resources and following guidelines. There would also be more consistent practice. Physicians felt that institutions would be able to purchase institutional subscriptions in bulk and therefore achieve better value. Some of the physicians were willing to pay a small amount, and some suggested that there could be copayment between the physicians and the institution. Some physicians mentioned using study budgets—even though they were aware that these budgets were low. They recognized that high-quality learning resources cannot be free and that any free tools might be influenced by sponsors or advertisers.

Even if it is free, online clinical decision support must be accessed via an electronic device. Most physicians used their own devices, which meant paying for the costs of hardware, software, and Internet connection. However, most of the physicians were paying for these things anyway and did not see this as an extra cost. Some of the physicians used Wi-Fi available at work or stayed within their data limits, which enabled them to minimize any extra costs. Many commented that they always had their own devices with them.

Many physicians saw being able to claim continuing professional development credits as a result of their use of the site as an important return from their investment in online clinical decision support. Many saw particular advantages in this for them as individuals and also for their institutions. Some thought that this would become a more important factor in the future as the requirements for continuing professional development are strengthened. Having their use of the site *automatically* tracked for continuing professional development was seen as a bonus; physicians did not want to have to manually upload their activities to a separate portfolio. However, some users did not see continuing professional development accreditation of the online resource as an absolute requirement and stated that the learning experience was more important than credits gathered.

The physicians greatly valued the convenience of clinical decision support. Closely related to convenience was the

need for them to be able to access the content quickly. Exactly how quickly physicians needed an answer depended largely on context: if the context was the point of care, they needed an answer within seconds, but if they were using the resource as referential material, then an answer within minutes was fast enough for most. When accessing clinical decision support at the point of care, there was appreciation for content that fit with the clinical workflow. Physicians also put value on a search function that worked well and on a website that was simple to use and intuitive.

DISCUSSION

This article evaluated the issue of the cost and value of online clinical decision support from the perspective of the physician. This is important, because the physician is ultimately the user of the resource and the one who will ensure that patients and health systems gain value from it. Much of the literature on the cost and value of online resources has been done from the viewpoint of purchasing institutions or funders.⁷ However, if the individual physician does not value and then use the resource, institutional investments will not be worthwhile. This article should help to give a more balanced view of the value of online clinical decision support by sharing the views of physicians who are caring for patients.

There are limitations to this evaluation. All of the physicians were users of online clinical decision support and indeed of a single clinical decision support resource (BMJ Best Practice). As such, they may not represent the wider population of physicians who do not use clinical decision support or who use other clinical decision support resources. This was a comparatively small and qualitative evaluation; however, it used a recognized methodology that employed data saturation to achieve an adequate sample size.

In conclusion, physicians view the cost and utility of online clinical decision support from a number of perspectives. They see value in being able to link their usage of online clinical decision support to improved clinical practice. The evidence-based credentials, convenience, time efficiency, and continually updated content in the online clinical decision support were the most valued features. Most thought that their institution should pay but were willing to use their personal devices to access the content. They also valued being able to claim continuing professional development credits as a result of their use of the resource.

ORCID

Kieran Walsh <http://orcid.org/0000-0003-1268-4676>

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Avocations

“Dandelion crown.” Note: To create the subject of this image, the author, using a small surgical forceps, carefully detached each unwanted seed individually from the dandelion seed head. Photo by Rolando M. Solis, MD. Dr. Solis is the co-medical director of cardiopulmonary rehabilitation at BSWH The Heart Hospital Plano, Plano, Texas (e-mail: rmsolis@mac.com)