



After the gold rush? A systematic and critical review of general medical podcasts

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Summary

Objectives Podcasts are increasingly used to enhance many forms of research communication and education. We set out to assess the extent of this podcast revolution by identifying and critically describing the content and quality of podcast services provided by leading general medical journals.

Methods Summary of general and internal medicine journal podcasts identified in April 2008 by means of web-searching, with a brief commentary on their content and quality.

Results Of the top 100 general medical and internal journals as ranked by impact factor only eight offer a regular podcast. The technical quality of most is of an acceptable but not of a high standard. The mode of delivery and resulting listening experience is variable with those utilizing an interview format more interesting to listen to than those reliant upon a single voice.

Conclusions General medical podcasts are potentially a valuable resource for providing a digestible overview of the latest research, and for providing an opportunity to dip into areas outside one's own core interests. Although they represent a novel use of technology for disseminating knowledge, uptake has been limited and the quality of the listening experience is variable.

Introduction

Podcasting is a method of publishing audio (and sometimes video) files via the Internet in a format that enables the user to download and listen to at their own convenience (usually via MP3 player). The advantages of podcasts for disseminating and sharing knowledge have been described in dental education, nursing and clinical practice.¹⁻⁵ And they are increasingly being used to communicate policy announcements,⁶ lectures⁷⁻⁹ and conference plenaries.¹⁰

For the user, the benefit of podcasts is that no minute need go unspent; one can be catching up

with public health or extending one's knowledge in the bath, travelling to and from work, and on holiday one can appear to one's partner to be relaxing by listening to the MP3 player, while secretly catching up on the latest research.

A couple of years ago, this journal along with others documented the emerging trend for journals to offer podcasts, summarizing the issue highlights but with varying quality and in some instances 'uninspired mumblings'.¹¹ In April 2008 we set out to assess the extent of this podcast revolution by identifying and critically describing the content and quality of podcast services provided by leading general medical journals.

Methods

We searched the websites of the top 100 general and internal medicine journals as ranked by impact factor (2007 JCR Science Edition) to identify relevant podcasts.

To be eligible for inclusion, podcasts had to be directly related to a journal and be provided in a media file format that enabled the content to be downloaded for playback on an MP3 player. Videocasts or video news releases were excluded from the analysis.

Three identified multimedia formats were excluded. These were the *Croatian Medical Journal*, *American Family Physician* and the *Journal of Family Practice*. The *Croatian Medical Journal* (www.cmj.hr/) produces an English language 'YouTube' style videocast for each issue (since August 2006). *American Family Physician* (www.aafp.org/online/en/home/publications/journals/afp.html) provides a link to a weekly newscast provided by the American Academy of Family Physicians. The *Journal of Family Practice* (www.jfponline.com/) has in the past provided a short series of sponsored CME webcasts, the last of which was produced in October 2007.

Two researchers independently listened to a sample of recent podcasts from each of the included journals. For each podcast, two researchers independently recorded: the date the podcast service commenced; its frequency and duration; whether they were free to access; the presentational format used; whether there was any sponsorship or advertising as well as making a (subjective) judgement on the technical quality and listening experience. The data extracted on each podcast service was then compared and any discrepancies resolved through discussion.

Results

Of the top 100 general medical and internal journals as ranked by impact factor (2007 JCR Science Edition), 11 offer some form of multimedia content, eight of which were podcasts eligible for inclusion. A brief overview of each identified podcast is provided in Table 1. The weekly German medical journal *Deutsche Medizinische Wochenschrift* (www.thieme.de/dmw/index.html) offers a podcast that is eligible for inclusion, however resource constraints prevented the necessary translation.

Accessibility and duration

All the included podcasts were free to access/download, in some cases making them more accessible than the online or print-based journal content. All were accessible via a single archive page with a brief description of content. All the Cochrane and some *BMJ* podcasts provide a link direct to the featured source material (though these are not available if accessed via iTunes). The *New England Journal of Medicine (NEJM)* audio summary feed provides access to the podcasts for the four most recent issues only, though earlier editions are available via archived table of contents pages.

There was considerable variation in the length of included podcasts, the shortest being from Cochrane (3–5 mins) and the longest from the *BMJ* (17–40 mins) and *Annals of Internal Medicine* (12–47 mins).

Nature of content and presentational format

All but the *BMJ* podcasts summarize highlights from the latest issue, though the format varies from journal to journal. *The Lancet* and *Annals of Internal Medicine* favour a brief overview followed by an interviewer-led summary of a featured article (*Lancet*) or articles (*Annals*). With the *Southern Medical Journal*, *JAMA* and *NEJM* a narrator introduces the contents of the issue and summarizes the findings from the main articles and/or any editorial content. Cochrane provides individual audio summaries for each featured systematic review narrated mainly by the lead researcher though some are delivered in an interviewer-led format. The *BMJ* podcast features debates on topical health policy issues and interviews with key policy and decision-makers and debates, some of which are conducted by professional radio journalists/presenters. Of the identified podcasts only the *NEJM* is providing an audio summary accompanied with PowerPoint slides, though only the audio summary is downloadable at present.

Technical quality and listening experience

The quality of included podcasts was acceptable but not of the high technical standard that one would expect from equivalent radio broadcasts. All the

podcasts exhibited some variation in sound levels and all had some form of background echo or hiss throughout. The listening experience was largely determined by the mode of delivery; those utilizing an interview format were easier to listen to and more engaging than those that were reliant upon a single voice. It was harder to stay engaged with the longer monologue style podcasts; duration was less of an issue when an interview format was used.

Discussion

This paper presents the first systematic and critical assessment of general medical podcasts. Although podcasts represent a means of disseminating knowledge, uptake has been limited and the listening experience is variable.

Our study has focused exclusively on general medical journals and we are aware that there are other areas of health research, service and policy in which podcasting technology has been embraced. Despite this we remain surprised at how this 'revolution' appears to have passed the general medical sector by.

General medical podcasts are potentially a valuable resource for providing a digestible overview of the latest research, and for providing an opportunity to dip into areas outside personal core interests. They can be more digestible than academic papers, because the content is enlivened by hearing an actual voice and by their nature an attempt has been made to make the subject matter comprehensible and interesting. However, the mode of delivery and listening experience is variable, offering the opportunity to comment on what makes a successful or unsuccessful podcast.

Firstly, some podcasts are simply recorded too quietly. A low recording volume coupled with a presenter with a soft, or deep, voice is not a recipe for a good podcast. Moreover some MP3 players use volume limiters to reduce the risk of hearing loss and so simply turning up the volume is not always an option. Some of the podcasts also suffer from the microphone and speaker being too close together, so that the speaker either brushes repeatedly against the microphone, or sounds like they are conversing from somewhere in the depths of an empty aircraft hangar.

Podcasts seem to benefit greatly from being conducted by a professional interviewer, able to create a more natural sounding conversational

piece. This effect is somewhat lessened however if the interviewee sounds like they are reading from a script when answering the interviewer's questions. Those podcasts that involved the researcher solemnly intoning an abstract or summary of their findings were much more difficult to stay engaged with. Such podcasts are a reminder that researchers are not always the best people to disseminate their own research.

Podcasts that involved a detailed incantation of what was in the current journal issue were also difficult to follow. The other main disadvantage of the longer narrated format is that you have to listen from beginning to end and it's not really possible to skip through to items of interest.

We found that the *Lancet's* audio summary remains the leader among the podcasts available; it is designed to promote featured content and act as a hook to encourage the listener to read the articles, but also stands alone without having to have read the articles first.

We also found that some of the included podcasts were more accessible than the online or print-based journal content; all the podcasts were free, whereas access to the online research content is dependent on individual or institutional subscriptions. In addition, if accessed via a media aggregator such as iTunes, the podcast may not be linked directly to the original content. This raises the issue of whether podcasts are themselves risky. The medium appears to work best when findings are translated into a more digestible form, when the 'fine print of methods and statistical analysis has been left sitting on the sidelines'.¹² We know that other more mainstream media representations of research invariably are simpler and lack the complexity of the source material and podcasts are no different. There may be a concern that the podcast listener may not engage in the same routine critical appraisal of a study when it is presented in a podcast as they do when reading it in a journal. The biases may be less obvious in a podcast, but are undoubtedly still present; critical appraisal of content is essential irrespective if the source is a reputable journal.

Finally podcasts, like much of the web, are ephemeral. There is a need for more formal archiving or consolidation in repositories that will enhance future accessibility. As many podcasts are short and topical they may not be viewed as particularly important now, but they may be a

Table 1
Overview of general medical journal podcasts

<i>Journal (Rank, impact factor)*</i>	<i>Frequency, approx length (range), accessibility</i>	<i>Format</i>	<i>Technical quality and listening experience</i>	<i>Link and other multimedia products</i>	<i>Adverts</i>
<i>NEJM (1, 52.589)</i> Subscription required for journal	Every issue (weekly) since November 2005, 15–25 mins, free to access	Content: Summarizes articles in each issue – more recent podcasts also come with PowerPoint slides Presentation: Single voice	Technical quality: OK but bit of an echo Listening experience: dull	http://podcast.nejm.org/nejm_audio_summaries.xml Current weekly issue available on homepage; past issue podcasts archived with contents page for each issue Podcast RSS feed available (most recent four only) Also available via iTunes Other multimedia facilities offered: trialling Beta audio summary with slides Also offer 'Value added services' to subscription holders only (e.g. video and slideshow)	Yes (sponsored by pharma)
<i>Lancet (2, 28.638)</i> Subscription required for journal	Every issue (weekly) since February 2006, 10 mins (4–42 mins), free to access	Content: Very brief overview of highlights followed by either featured article (interview with authors) or featured theme Presentation: Interview style	Technical quality: OK but bit of an echo and some interview lines slightly poorer quality (background hiss) Listening experience: Variety of voices/ interview style more interesting and easier to follow	http://www.thelancet.com/audio All accessible on single page Podcast RSS feed available Also available via iTunes Other multimedia facilities offered: None	No
<i>JAMA (3, 25.547)</i> Subscription required for journal	Every issue (weekly) since March 2006, 10 mins (7–14 mins), free to access	Content: Editor gives detailed summary of main articles in the issue – then lists all the other content Presentation: Single voice narration	Technical quality: OK but bit of an echo Listening experience: dull – monotonous voice with little intonation, difficult to tell when one article finished and next started	http://jama.ama-assn.org/misc/audiocommentary.dtl All accessible on single page Also available via iTunes Other multimedia facilities offered: Range including Author in the room – teleconferences and video supplements	No

<i>Annals of Internal Medicine</i> (4, 15.516)	Every issue (fortnightly) since July 2007, 20 mins (12–47 mins), free to access required for journal	Content: In-depth look at featured article – with interview, plus a summary of everything else Presentation: Uses music and interview style to add interest	Technical quality: OK but bit of an echo – background hiss on interviews Listening experience: Interview style/ voice easy to listen to/interesting	http://www.annals.org/podcast/ All accessible on single page Facility to record comments available Podcast RSS feed available Also available via iTunes Other multimedia facilities offered: Video presentations on guidelines/key topics in Internal Medicine Reports	No
<i>BMJ</i> (7, 9.723)	Periodically since September 2006 – recently about one a month, 10 mins (5–80 mins), free to access	Content: Interview or debate on key policy issues – not directly linked to BMJ issue content Presentation: Interviewer and key figure or debate panel	Technical quality: OK but bit of an echo and volume variable particularly in debates Listening experience: Style easy to listen to – dialogue makes it interesting	http://www.bmj.com/audio/ All accessible on single page Podcast RSS feed available Also available via iTunes Other multimedia facilities offered: Range of presentation types linked to CPD and other BMJ products	No
<i>Cochrane Database of Systematic Reviews</i> (14, 4.654)	Every issue (quarterly) since January 2008, 3 mins (2–5 mins), free to access National subscription	Content: Summary of quarterly update content then individual podcasts for each new/updated review; brief introduction followed by single voice narration Presentation: Mostly one voice only, sometimes interview style	Technical quality: quality of recording variable; echo with intermittent background hiss Listening experience: Quality of presentation variable, sometimes stilted and amateurish; some accents difficult to follow	http://www.cochrane.org/podcasts/index.htm All accessible on single page together with a link direct to the relevant review Options to bookmark or email the page offered Email contact for technical help Podcast RSS feed available Also available via iTunes Other multimedia facilities offered: None	No
<i>Southern Medical Journal</i> (62, 0.998)	Every issue (monthly) since April 2006 (discontinued March 2008), 10 mins (6–15 mins), free to access	Content: Very brief introduction followed by short summaries of featured content Presentation: Intro music and single voice narration	Technical quality: OK Listening experience: Delivery of content monotonous – essentially abstracts read aloud	http://www.sma.org/smj/podcasts/index.cfm All accessible on single page Podcast RSS feed available Also available via iTunes Other multimedia facilities offered: None	No

* Thomson. *Journal Citation Reports*®. 2007 JCR Science Edition (accessed November 2008)

resource for future researchers or historians; after all what epidemiologist today wouldn't want to hear an interview with John Snow describing how he took the handle off the Broad Street pump?

Conclusions

General medical podcasts are potentially a valuable resource for providing a digestible overview of the latest research, and for providing an opportunity to dip into areas outside one's own core interests. Although they represent a novel use of technology for disseminating knowledge, uptake to date has been limited and the delivery and quality of the listening experience is variable.

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