

Continuing Medical Education in an On-Demand World: Is Podcasting the Netflix of Medical Education?

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PODCASTING: A BRIEF HISTORY OF A NEW EDUCATIONAL MEDIUM

Podcasting, like many new technologies, provides the opportunity to make learning more convenient and efficient. Since gaining popularity as a medium in the early 2000s, there is a growing number of podcasts in the medical field that target the lay public, patients, and health care professionals.¹ In 2018, the Edison Report stated that 44% of Americans had listened to a podcast in their lifetime, and 26% listened in the past month.² These percentages have consistently risen since 2008.² Regular podcast listeners tend to have an advanced degree, full-time employment, and a higher annual household income than the general US population.² The Edison Report also states that podcasting takes advantage of commute time, and as per the US Census Bureau, the average American commute is 26 minutes each way.² Given this reported average listener profile, physicians seem ideal targets for podcast-based education.

Podcasts are currently used in a variety of ways for medical education. The earliest adopters of medical education podcasting were emergency physicians and intensivists.³ Residents have been quick to adopt podcasts as part of their medical education toolbox because they tend to be younger and more likely to use technology. Mallin et al⁴ showed that residents in emergency medicine preferred podcasts to any other traditional teaching tool, including textbooks and Google. Purdy et al⁵ found that 90% of surveyed residents used podcasts as an educational resource. Podcasting provides an opportunity to transform the landscape of medical education by allowing physicians to learn on their own terms, through a medium that can fit into any lifestyle or schedule. We suspect the popularity of podcasting for medical education will continue to grow as podcasts become ingrained as a source of information among the current generation of trainees.

USING PODCASTING TO ADDRESS A NEW EDUCATIONAL NEED: OUR APPROACH

In an attempt to use this exciting new medium, we produced a podcast aimed at providing medical education for health care providers in the subspecialty of pediatric hospital medicine (PHM). The approval of PHM as a recognized subspecialty in 2016 expanded the need for PHM-focused curricula for continuing medical education (CME) and board preparation. We felt that podcasting was an ideal format to make a product that was accessible to health care

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professionals anywhere in the country, with the overall goal of promoting evidence-based care for children in the hospital setting.

The idea of creating a podcast initially felt overwhelming. We had no previous experience with podcasting, recording, or audio editing and were initially self-funded. The start-up costs were the online purchase of a USB-compatible microphone (\$50) and a monthly subscription to Libsyn.com (\$20/month), which placed the podcast onto popular podcast hosting apps. The audio editing software (Audacity) was free, and we learned how to use it by watching YouTube videos on the topic. The time commitment for each episode is variable, depending on the subject matter and the amount of editing that is necessary. The minimum time required to make one episode, including literature review, script preparation, and audio editing, is ~10 hours, and the maximum is 40 hours. Category 1 CME credit was offered to listeners of the podcast, courtesy of the University of Pittsburgh. We were able to obtain funding through our division after several episodes of the podcast had been produced because our division recognized the podcast as an effective means of medical education and an opportunity for scholarship.

The PHM from Pittsburgh podcast was started in October 2016, and to date, we have released 21 episodes, with the goal of a new release every 4 to 6 weeks. Our target audience is PHM attending physicians. We average 1000 to 3000 downloads per episode, with a total of 44 000 downloads in 67 countries. We began with a plan to cover all the PHM core competencies, using an evidence-based literature review and expert opinion format.⁶ Being based at a large tertiary care academic children's hospital provided easy access to experts in multiple fields, and as the podcast grew in popularity, we began to reach out to additional experts around the country. This approach provides PHM practitioners the opportunity to learn from subject matter experts, no matter the size or location of their hospital.

Because podcasts are not peer reviewed, one concern is the accuracy of information. To minimize the risk of relaying inaccurate information, we base our discussions on

existing literature and reference each article discussed. This introduces the listener to seminal literature in the field and gives them the opportunity to critically appraise the literature for themselves. We try to make it clear when clinical uncertainty or a lack of evidence basis exists, and these situations provide great opportunities to hear from our experts about their practice patterns and reasoning. The most widely accepted measure of quality for medical education podcasting was developed by Lin et al⁷ and consists of 13 quality indicators, such as authors identifying their conflicts of interest, citing references, good quality content, clear distinction between fact and opinion, and transparency about who was involved in the creation of the podcast. Our podcast meets all 13 of these quality indicators.

FUTURE DIRECTIONS FOR PODCASTING

On the basis of our experience and feedback from listeners, the podcast has served multiple purposes and, on the basis of a survey created and sent out to podcast listeners in February 2018, receives overwhelmingly positive reviews. Listeners in remote hospitals without PHM colleagues report that the podcast helps them keep in touch with the field. We feel that the format of a literature review followed by expert discussion creates a more enjoyable educational experience than listening to a recorded grand rounds or lecture. The dialogue provides an engaging listening experience, and the inclusion of corny "dad jokes" adds entertainment and breaks up the listening experience.

Physicians require ways to stay up to date on information that impacts their daily practice and learn about the more challenging diagnoses they may encounter. Whereas traditionally this was achieved through review of print journals and conference attendance, technology has offered other new and exciting options. In 2017, the Pew Research Center reported that 61% of 18- to 29-year-olds primarily use a streaming service to watch television and do not have cable. As technology and physician preferences evolve, we suspect that national conference use may decline, like cable television, in favor of digital programming that is available at the consumer's convenience. This will raise the

need for more standardized means of peer review and quality control of this medium, as well as for more objective measures of the effectiveness of podcasting as an educational method. Pediatricians need to remain leaders in the development of digital medical education products for board review and CME to continue promoting high-quality, evidence-based care for children across the country in a manner that meets the needs and preferences of an increasingly on-demand society.

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