

Todd Parker<sup>a</sup>, Angie Miller<sup>a</sup>, Ken Truman<sup>b</sup>, Jon Hudson<sup>b</sup> and Susan Taylor<sup>b</sup>

<sup>a</sup>MedThink SciCom, Raleigh, NC, USA; <sup>b</sup>MedThink Inc, Raleigh, NC, USA

## ABSTRACT

**Objective:** Many practicing physicians have reported feeling overwhelmed by the deluge of medical literature. A survey was undertaken to improve the understanding of physician challenges with and preferences for consumption of medical literature.

**Research design and methods:** Exploratory research was conducted via a web-based Epocrates<sup>®</sup> HCPView survey; 129 practicing physicians were invited.

**Results:** Twenty-six physicians across 13 specialties responded (20% response rate); 65% moderately to strongly agreed that keeping abreast of scientific information is challenging, with time constraints listed as the key contributing challenge (88%). Print/Online journals and e-alerts from professional societies were selected as top sources for identifying articles of interest; 58% indicated they proactively search for new articles of interest; 42% rely upon trusted sources (eg, peer recommendations). Respondents were as likely to identify a new article using a search engine (eg, Google) as they were using PubMed (46% for each method). When identifying key findings, 40% watch/listen to article synopses, and 96% read the article. However, most do not review an article in its entirety (85%) but instead review the results/conclusions (31%) or the abstract only (23%). Interactive graphs, case studies, and procedural videos were perceived as providing the greatest value among interactive assets.

**Conclusions:** While the survey was small and results not generalizable, these physicians indicated time constraints significantly complicate their ability to keep up with medical literature. Physicians are coping by actively searching and consuming only the most relevant details, utilizing technology to supplement understanding.



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## INTRODUCTION

- ▶ There are >25,000 medical journals and more than 20 million papers listed in PubMed, making it nearly impossible to stay abreast of all of the current medical literature<sup>1</sup>
  - One estimation suggested 627.5 hours per month were needed to evaluate articles specific to one specialty<sup>2</sup>
- ▶ Physicians access the Internet for medical information from a variety of locations (eg, home, office) using a variety of media (eg, print, desktop, mobile devices)<sup>3</sup>
  - Secondary audits suggest the ability of resources to streamline the acquisition of medical information is greatest with search engines, followed by general health websites, health.org websites, and then drug-specific websites
  - Search engines are used to identify clinical and treatment information most often between patient consults (77%) and after work or on weekends (70%), followed by during lunch breaks (56%)<sup>4</sup>
- ▶ Among those going online for professional reasons, Wikipedia was used as a source for medical information by ~50% of US physicians<sup>5</sup>
- ▶ Although use of online resources and medical literature aggregators is growing, physicians continue to face challenges with staying abreast of new medical literature

## OBJECTIVE

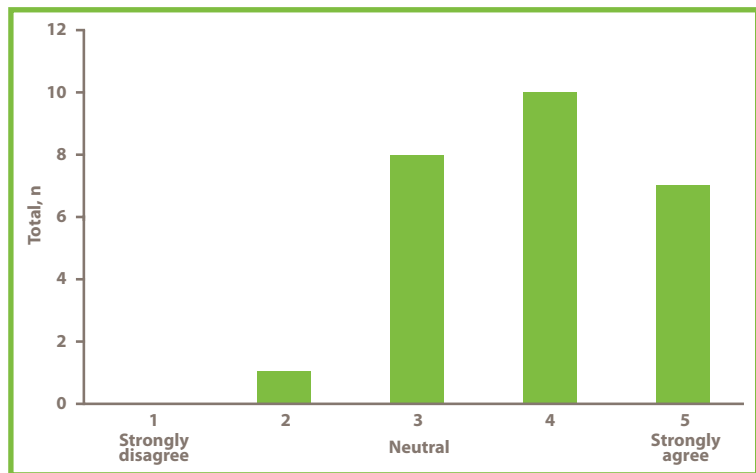
- ▶ To improve the understanding of physician challenges with and preferences for consumption of medical literature

## RESEARCH DESIGN AND METHODS

- ▶ Exploratory research was conducted via a web-based Epocrates<sup>®</sup> HCPView survey
- ▶ Screening questions were presented at the outset of the survey to ensure that respondents spent a significant amount of their time seeing patients each week and had been in practice <25 years
- ▶ The survey consisted of 10 questions with directions to select a single answer or all answers that applied, or to rank order their respective responses
- ▶ The survey was held open until 25 physicians who met the inclusion criteria completed the survey (to reflect agreement with Epocrates)

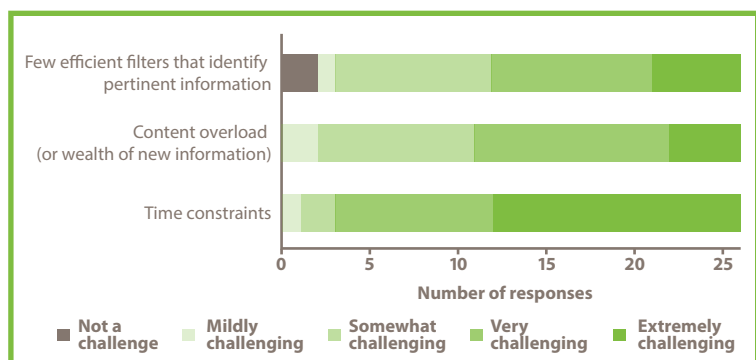
## RESULTS

- ▶ 129 practicing physicians were invited to participate
  - 26 physicians across 13 specialties met the inclusion criteria and provided complete responses
- ▶ 65% moderately to strongly agreed that keeping abreast of scientific information is challenging (Figure 1)



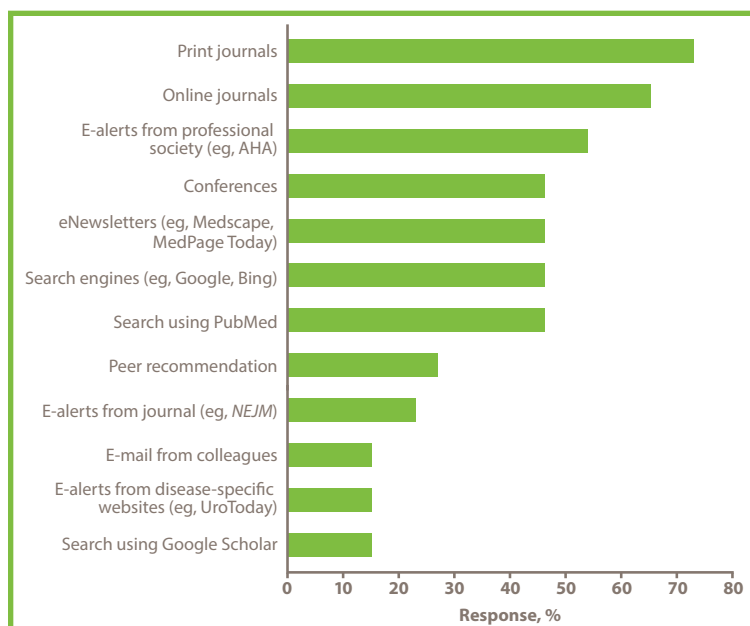
**Figure 1.** Physician assessment of difficulty with “keeping on top of the latest clinical and scientific information.” Physicians were asked to rate their opinion on a scale from 1 to 5, with 1 being “strongly disagree” and 5 being “strongly agree.”

- ▶ Time constraints were noted by physicians as the key contributing challenge to staying abreast of the literature, with 88% of respondents rating time constraints as “very” or “extremely challenging” (Figure 2)



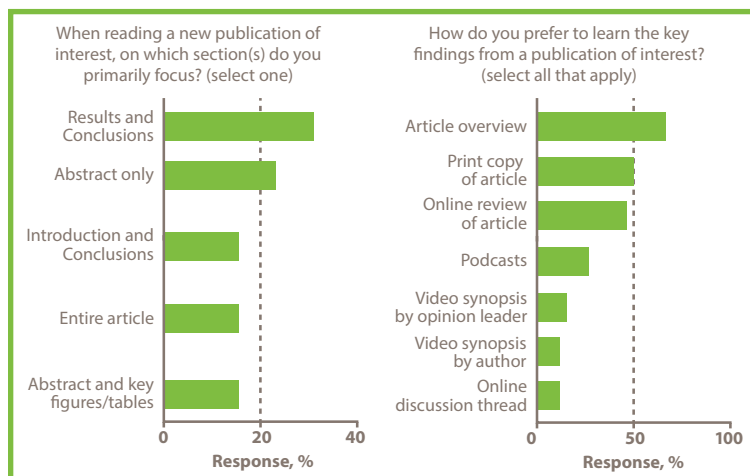
**Figure 2.** Effects of 3 potential challenges on ability to keep abreast of current scientific information. Rating scale from 1 to 5, with 1 being “not a challenge” and 5 being “extremely challenging.”

- ▶ Print/Online journals and e-alerts from professional societies were selected as top sources for identifying articles of interest (Figure 3)



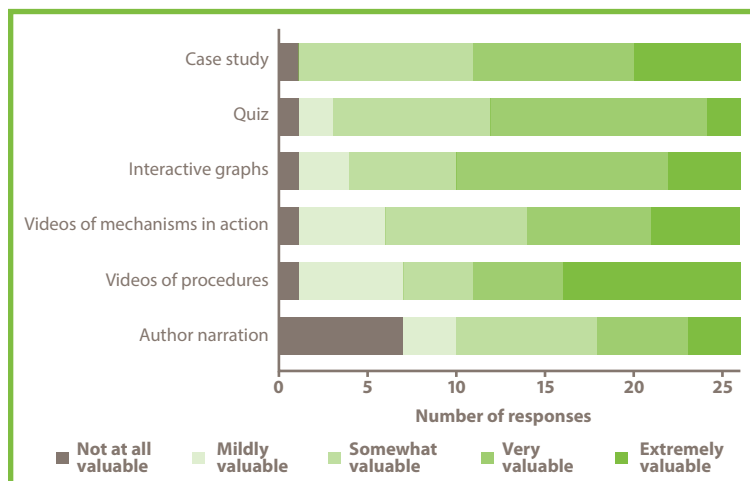
**Figure 3.** Physicians’ responses regarding how they typically identify or learn about a new article of interest.

- ▶ 58% indicated they proactively search for new articles of interest
  - 42% rely on trusted sources (eg, peer recommendations)
- ▶ Respondents were as likely to identify a new article using a search engine (eg, Google) as they were using PubMed (46% for each method)
  - Other resources and apps to which physicians indicated they subscribe were limited, with UpToDate being the most frequent
- ▶ Few physicians (15%) were likely to review an entire article of interest; instead, most were likely to review key elements only (eg, results/conclusion only, abstract only) (Figure 4)



**Figure 4.** Physician preferences for which sections of a new publication of interest they prefer to read (left panel) and for learning key findings from an article (right panel).

- ▶ To identify key findings from an article, 65% prefer to read an overview of the article while >25% like to watch/listen to article synopses (Figure 4)
  - Most respondents indicated they do not review an article in its entirety (85%) but instead review the results/conclusions (31%) or the abstract only (23%)
- ▶ Interactive graphs, case studies, and procedural videos were perceived as providing the greatest value among interactive assets (Figure 5)



**Figure 5.** Perspectives on value of different types of interactive content. Rating scale from 1 to 5, with 1 being “not at all valuable” and 5 being “extremely valuable.”

## CONCLUSIONS

- ▶ While the survey was small and the results were not generalizable, these physicians indicated that time constraints significantly complicate their ability to keep up with medical literature
- ▶ Physicians are coping by actively searching and consuming only the most relevant details, utilizing technology to supplement understanding

## IMPLICATIONS

- ▶ While the volume of literature continues to increase, so do the means for finding the most efficient methods of reviewing or scanning the literature—interest in online tools, including literature aggregators and websites, that provide literature summaries will likely continue to grow
- ▶ Medical literature features that engage the physician through interactive learning, such as case studies, interactive graphs, and quizzes, should continue to be pursued and advanced

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