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EPOCRATES MOBILE TRENDS REPORT:

Rise of the Digital Omnivore, M.D.

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Mary-Ann Chang, CFA
Vice President, Epocrates, Inc.

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Abstract

Use of mobile technology by healthcare professionals is rapidly evolving, driven by dramatic advances in software and hardware capabilities which allow devices to perform an ever-growing myriad of functions, regardless of location. At the same time, significant growth in device ownership continues year after year, as physicians integrate mobile capabilities into their workflow.

There has been considerable industry effort to understand emerging mobile healthcare trends, which has resulted in an excess of disparate surveys using varied terminology and inadvertently added to the confusion. There is a critical need for improved benchmarking to simplify the analysis, to establish relevant and consistent terminology and to distil the data. This will provide better strategic insight into how physicians are engaging with mobile technology in a professional capacity.

The Epocrates Mobile Trends survey was conceived to delineate the full scope of digital technology used by today's physician professionally and, more specifically, the influence those tools have on the delivery of patient care today and in the near future. Almost 900 physicians representing cardiology, oncology, psychiatry, and internal/family medicine were surveyed in April 2012. Data was collected and analyzed by the Epocrates market research team and will be released in a series of reports; the survey will be repeated annually to analyze the use of digital technology by today's physician.

Key findings addressed in this report include:

- Mobile engagement prevails among "Digital Omnivores": physicians who utilize a smartphone, a computer, and a tablet in a professional capacity
- Digital omnivores will soon be the majority, outnumbering physicians accessing information on just one or two devices
- Digital omnivores demonstrate strong preferences for mobile when conducting key tasks related to advancing patient care
- Content and tools not optimized for smartphone or tablet usage risk being marginalized or ignored

Forthcoming Mobile Trends reports will include in-depth analyses of mobile engagement among various specialty groups. Ongoing updates are available at EpocratesSolutions.com/MobilePulse.

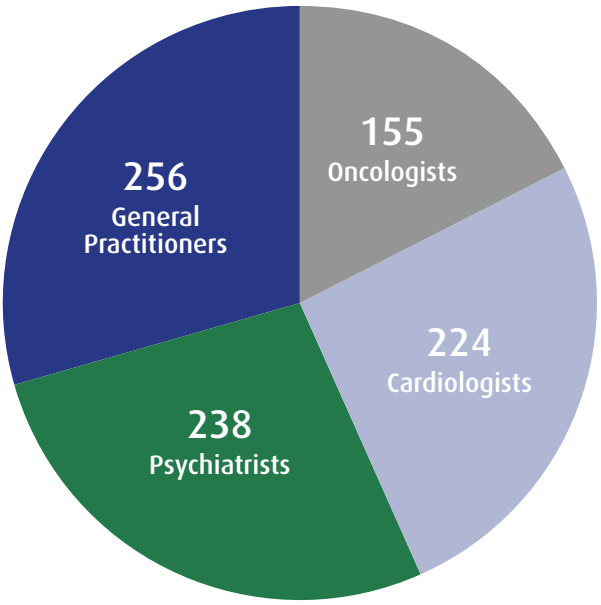
Methodology

This report is based on a quantitative online survey of 873 physicians sourced 55% from the M3 healthcare panel and 45% from the Epocrates healthcare panel. The survey was restricted to general practitioners, cardiologists, oncologists and psychiatrists. The margin for error for the specialties surveyed was 3%.

To qualify for the survey, physicians were required to see or treat at least 75 patients in a typical month, spend more than 75% of their time in direct patient care, and to have been in practice for between 2 to 30 years since their post-graduate medical training. The survey was fielded in April 2012.

On average, participating physicians saw 323 patients during a typical month, and spent 93% of their time providing direct patient care. Average years of experience of physicians was 14.4 years.

Of the 873 physicians sourced for this survey, the specialty split was as follows:



Digital device usage trends among physicians

Technology use in healthcare is pervasive, with the typical physician incorporating at least two digital devices into their professional life. Among physicians in our survey:

Personal computer

97% use a computer in the workplace

Smartphone

78% 78% use a smartphone professionally; 68% use smartphones *at least once daily* for a professional purpose

Tablet

34% 34% use a tablet professionally[1]; 27% use tablets *at least once daily* for a professional purpose

Overall, physicians report spending over three hours every day on digital devices in a professional capacity, excluding traditional telephone capabilities. Mobile devices (smartphones or tablets) are typically used for just over a third of this time, and a desktop or laptop computer for the balance. Mobile use is prevalent at the point of care, and, on average, tablet users report using those devices at the point of care as extensively as smartphone users. The variety of tasks performed in the course of a physician's day, ranging from administration, to examining visual images, to diagnosing and prescribing, drives the use of multiple devices.

There is a clear dominance of Apple's iOS platform among physicians.

Within tablets, Apple's iPad is dominant, used by 81% of physicians, followed by tablets based on the Android operating system, used by 9% of physicians. Of the physicians surveyed who use smartphones professionally, 65% use iOS devices, 23% use Android devices and 10% use BlackBerry devices. These preferences for Apple devices are also evident in the devices physicians expect to purchase in the next 12 months.

81%
of physicians who use tablets use iPads

65%
of physicians who use smartphones use iPhones

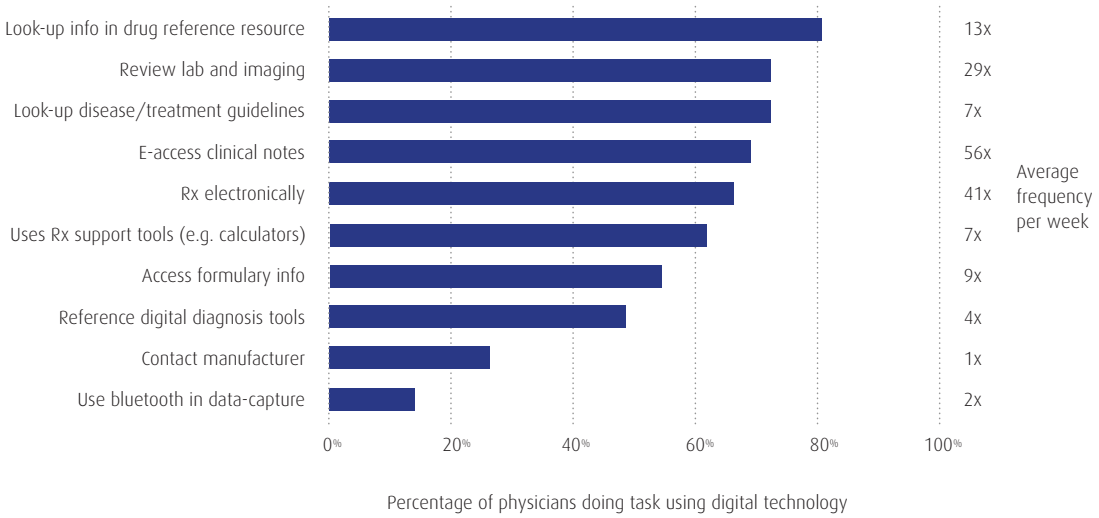
[1]Our survey deliberately delineates between owners and users. This is most important in analyzing tablets use, where professional device use is currently emerging yet still significantly lags personal device ownership: 59% of physicians own a tablet, 34% of physicians use a tablet professionally

At the Point of Care

The most common use of digital tools at the point of care is to access drug and disease reference content; 81% of physicians access such content electronically at the point of care, 59% of whom use a mobile device for this task. Verbatim responses repeatedly highlighted the speed with which information can be retrieved from a resource that is designed specifically for mobile, regardless of the location of the consult, as the rationale for the choice to use mobile.

Indeed, when asked about the ideal user experience, the convenience of mobile devices and apps established the mobile device as the resounding preference for conducting *all* point-of-care tasks except administrative ones[2], providing some indication of how technology use may trend as tablet use penetrates deeper among physicians.

Diagnosis and prescribing tasks done at the point of care using digital technology

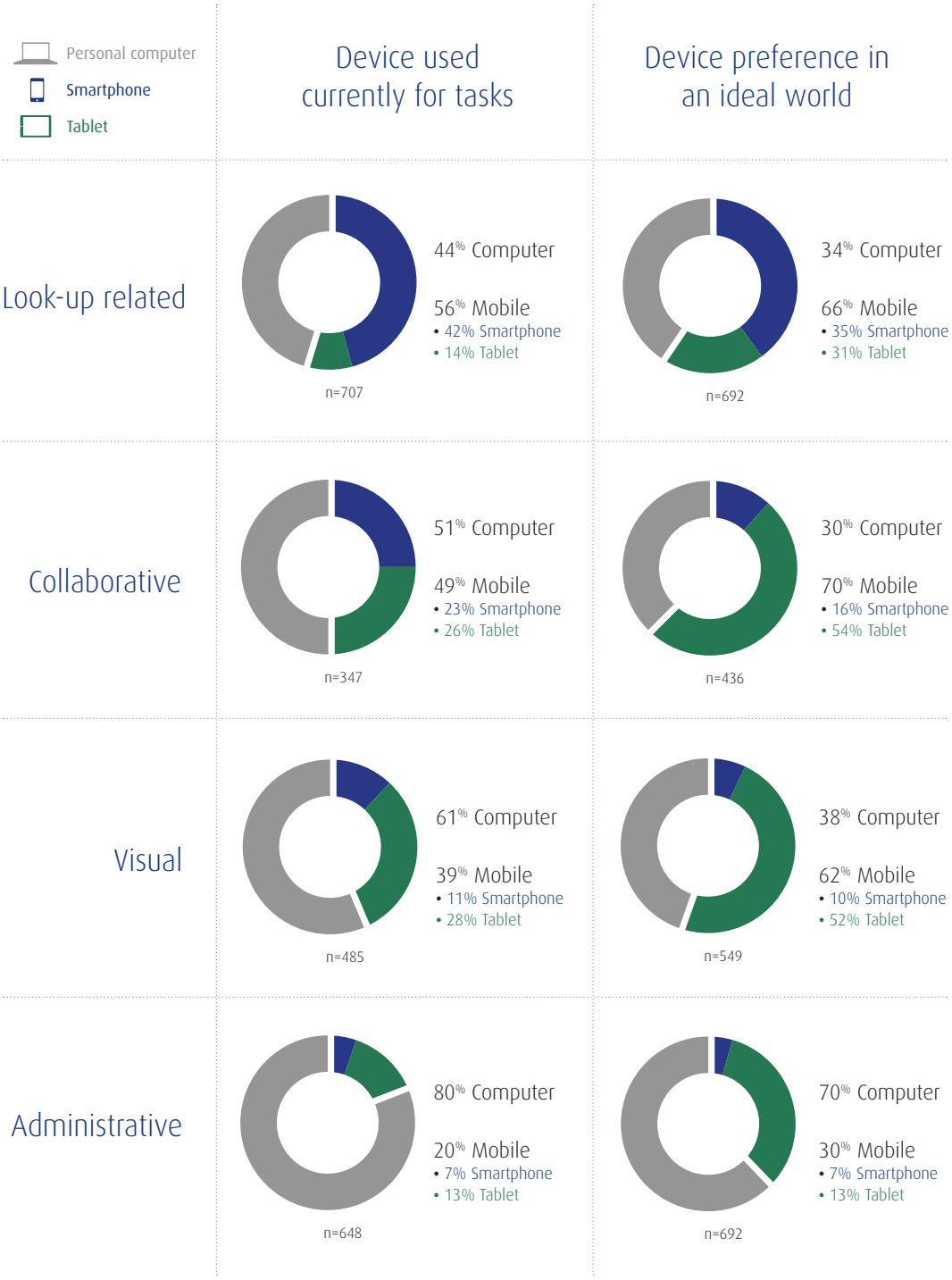


"[Mobile is a] non-intrusive way to bring extra information to patient encounters or look up answers related to patients' questions. Less disruptive than having to use a desktop."

Oncologist, 5 years in practice, Group Practice.

[2]Administrative tasks were defined to require writing, such as updating patient notes or e-prescribing. Look-up related tasks included interrogating drug or disease databases, using medical calculators and accessing formulary information. Visual tasks included referencing visual aids, consulting visual databases for diagnosis or introducing visuals with a patient. Examples of collaborative tasks given to respondents included using Bluetooth for data capture, introducing interactive tools/apps or educational materials.

The second most common type of task performed digitally at the point of care, done by 74% of physicians, is administrative, requiring writing such as updating patient notes or e-prescribing; 80% of these physicians use a computer for this task. The relative ease of data entry, followed by the screen size and fact that the computer could connect to the physicians' practice materials, should sustain continued use of the computer. However, hardware and networking advances may accelerate further consolidation of digital technology in the physician's workflow.



Beyond the Patient Consult

Administrative tasks account for the majority of time spent on digital devices outside of the point of care, except for immediately before the patient encounter, when reviewing lab work is the most commonly performed task. More than two-thirds of physicians reported using a computer rather than a mobile device for administration, lab work and lab requests, and general search. In addition to the benefits of data entry ease and screen size cited earlier, physicians note the ability to save downloaded materials resulting from deep search tasks as a reason for computer preference.

Percentage of physicians performing stated activity digitally

	Start of day	Before consult	After consult	Lunch-time	End of day at office	Outside office
Administrative	68%	41%	49%	55%	63%	45%
Lab work / requests	34%	51%	39%	22%	32%	13%
Use general search engine (e.g. Google)	32%	30%	29%	32%	27%	40%
Educational / reading	33%	21%	20%	27%	19%	36%
Visit Professional resource (e.g. Epocrates, Medscape)	30%	32%	30%	20%	16%	22%
Contacting physicians on clinical issues	17%	17%	27%	16%	19%	7%
Interacting with patients	15%	11%	12%	13%	16%	11%
Remote patient monitoring	16%	12%	12%	9%	12%	14%
CME	9%	5%	4%	10%	10%	20%

For any light search activity performed outside the point of care, physicians overwhelmingly preferred to use a mobile device, with 49% of all physicians preferring to use a smartphone and 36% of all physicians preferring a tablet. This drives home the advantage mobile brings to healthcare: instantaneous access to the most relevant information wherever you are.

"[Mobile technology provides] instant information that you would otherwise not bother to 'look-up later'. Do it now or it does not get done in most cases."

Oncologist, 20 years in practice, Hospital.

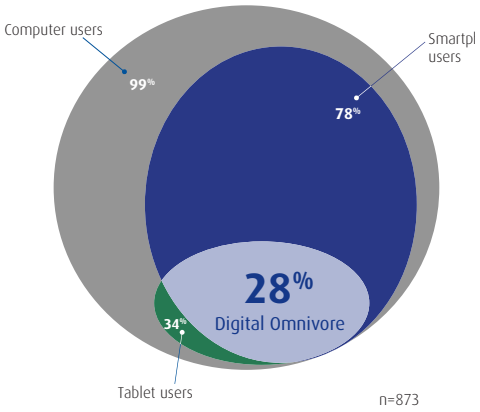
68% of physicians expect to use a combination of the smartphone, the tablet and the computer professionally by 2Q 2013, compared to 28% of physicians today.

Digital omnivore physicians will soon be the majority

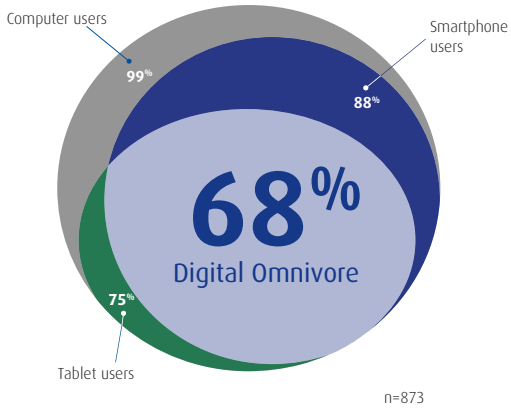
With adoption of the smartphone as an integral workflow tool, expected among physician respondents to reach 88% by mid-2013, momentum is rapidly growing for a second, more explosive mobile revolution – that of tablet adoption.

With the number of tablets used professionally forecasted to double in the next year, the use of three digital devices in the workplace – a computer, smartphone and a tablet – will very soon become the prevailing workflow model, giving rise to a new breed of physician: the "Digital Omnivore".

Device use amongst physicians today



Expected device use by physicians in 12 months



34% of physicians use a tablet professionally

75% of physicians expect to use a tablet professionally in 12 months

Mobile engagement prevails among physicians who utilize a smartphone, computer, and tablet: today's "Digital Omnivore"

So how will information be accessed by the physician using three digital devices?

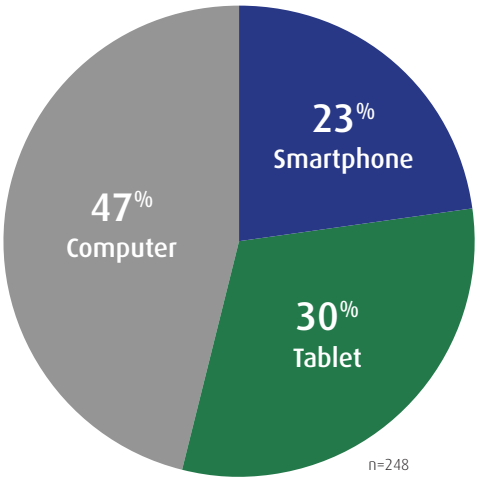
An analysis of the physician "digital omnivore" today is likely to provide a good leading indicator of how physicians' use of digital technology may trend, as more physicians embrace the tablet.

Among this group, *mobile use is already exceeding computer use* overall.

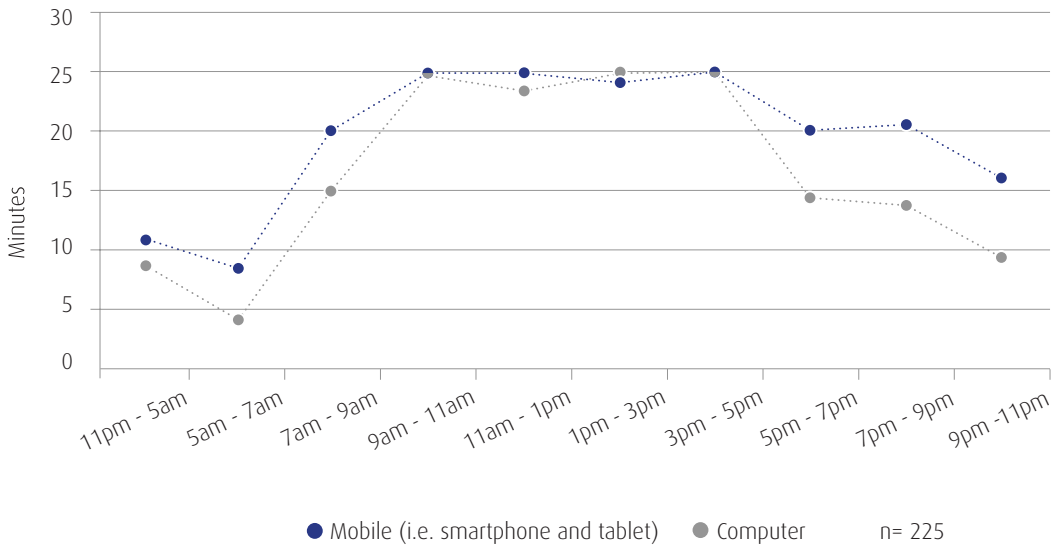
Tablet use appears to be additive: overall physicians using three devices are accessing digital information online for longer, averaging an extra hour online daily compared to the total physician sample. Typically, all of this extra time online is accessed through the tablet.

A time chart of physician-reported professional use of digital devices evidences tablet use spread throughout the day, with mobile use exceeding computer use outside the office, at the start and the end of the day.

Professional time online by device type by physicians using three devices



Estimated time spent online by the digital omnivore physician

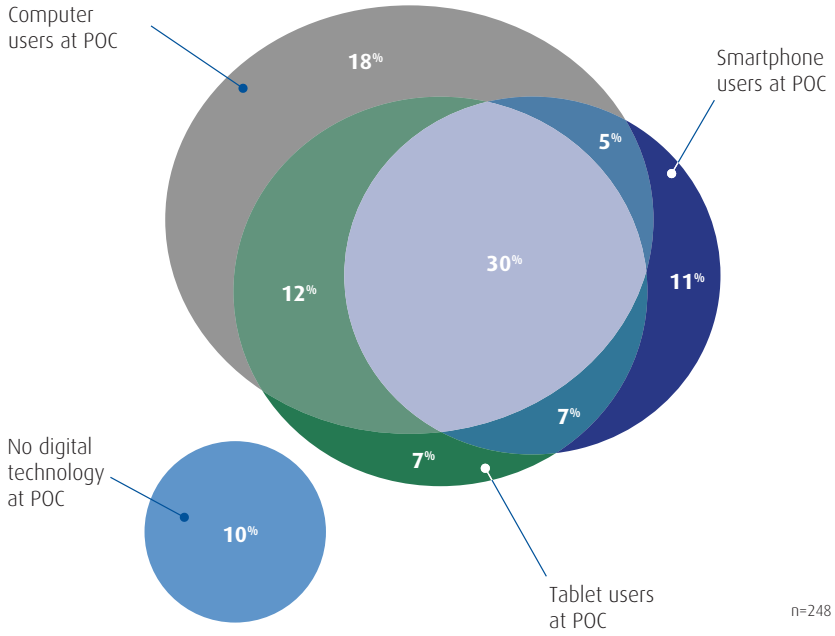


Digital omnivores demonstrate strong preferences for mobile when conducting key tasks related to advancing patient care

Within the digital omnivore group, two-thirds of physicians doing any collaborative, look-up related or visual task at the point of care, prefer to use a mobile device, with a bias towards the smartphone for look-up related tasks, and a bias towards the tablet for collaborative and visual tasks. The computer is only preferred for administrative related tasks.

The attraction is evident with almost a quarter of digital omnivores using mobile devices alone at the point of care. Among physicians generally in this survey, a surprisingly high 17% also use only mobile devices at the point of care.

Digital omnivore use of digital technology at the point of care (POC)



For activities outside the point of care, digital omnivores report significantly higher mobile engagement for reading and visiting professional resources versus physicians overall. Mobile devices are also the platform of choice to contact other physicians on clinical issues, to receive medical alerts and to manage drug sample inventory.

"Mobile resources are updated in almost real-time, making our information more accurate. They also give us access to vast quantities of material in a portable device. My entire medical library can fit into a device that weighs just a few ounces."

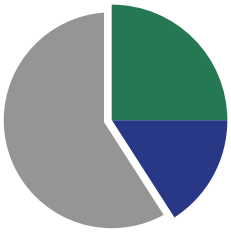
Primary Care Practitioner, 10 years practice, Group Practice.

Reading preferences outside the point of care

Personal computer
Smartphone
Tablet

Amongst physicians overall:

40% of physicians use a mobile device for reading:



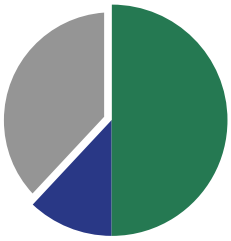
26% using a tablet

14% using a smartphone

VS.

Focusing on the digital omnivore sub-group:

64% of physicians use a mobile device for reading:



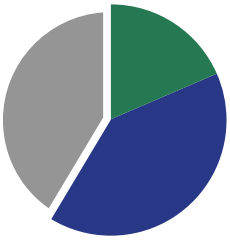
50% using a tablet

14% using a smartphone

Device trends when visiting professional resources outside the point of care

Amongst physicians overall:

60% of physicians use a mobile device to visit professional resource centers:



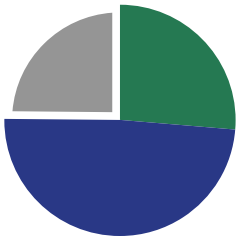
17% using a tablet

44% using a smartphone

VS.

Focusing on the digital omnivore sub-group:

74% of physicians use a mobile device to visit professional resource centers:



28% using a tablet

46% using a smartphone

Content and tools related to mobile-oriented tasks that are not optimized for smartphone or tablet user engagement risk being marginalized or ignored

Given the potential benefits associated with mobile, it is not surprising that 84% of physicians believe mobile optimized digital content are important. So what attributes do physicians value most in choosing an app for professional use?

Utility of content, intuitive design and speed of reaching desired information are key to app choice, ranking significantly ahead of all other factors selected. Interestingly, two of the top four attributes of an app that are most highly valued by physicians, relate to design rather than content.

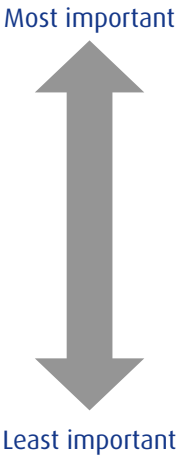
Results from our survey showed physicians value mobile precisely because it helps them make decisions faster, more accurately whereever they are. The value of mobile is the benefit it brings in streamlining decision-making and workflow:

85% of physicians agreed that mobile devices are likely to lead to better medical decision making, by providing access to appropriate and relevant information at the point of care.

72% of physicians also agreed that mobile devices are, or are likely to, significantly enhance their productivity.

Factors determining choice of app

Utility of content: relevant and unbiased
Usability: easy to understand, intuitive ranking equal to Speed of app: low number of clicks to info desired
Frequency of updates: daily for significant information
Stability
Security
Creativity of presentation
Social integration



"Having to view traditional websites on a screen (phone or tablet) which is not meant to view that site is honestly just a pain. It is not worth the time if the site is not set up to be viewed on the device I am using."

Cardiologist, 3 years practice, Hospital.

Conclusion

Healthcare providers are demanding information in new and evolving ways. Technological touchpoints with physicians will be more engaging and credible if they fit into the physician workflow, using the devices and language appropriate for the audience. For the physician, apps and mobile optimized websites that provide relevant information fast and on-demand will become even more important as tablet adoption catapults mobile use beyond that of conventional computer use.

The complexities of curating, packaging, and delivering resources that can educate physicians and positively impact patient outcomes are myriad, particularly in the highly competitive, rapidly changing landscape of mobile development. Hardware, software, and user experience design innovation show no signs of slowing, and the healthcare industry cannot afford to be overly cautious bystanders to this revolution.