Generational Shift in the Physician Workforce: What Are the Implications for CME?

A Clinical Care Options (CCO) White Paper

Results of recent CCO investigations suggest that age is a major determining factor of CME activity preference and technology adoption. These findings will have important implications for the future of continuing medical education, particularly as the Millennial generation comes of age and enters the healthcare workforce.

Healthcare in the United States is being affected by numerous shifts: aging of the Baby Boomers, the transformation of acute illnesses into chronic disorders, and entry of physicians into practice, and the rise of "Millennial" physicians. Of note, the Millennials have been educated and trained in ways that differ widely from their predecessors, and for this reason, it is impossible to have a relevant discussion about generational trends in continuing medical education (CME) without acknowledging their growingly pervasive influence. Members of this generational cohort are now coming of age in the medical workforce, and their impact is expected to be transformative and rapid.

Millennials include, by the most commonly accepted definition of the term, those individuals born between 1982 and 2002.[1] Today, medical students and physicians in this demographic cohort are making their way from training to clinical practice. By 2025—less than a decade from now—Millennials will be the majority of the healthcare workforce,[2] physicians and other healthcare professionals, meaning that trends observed today will likely become the rule in short order.

What does this generational shift mean for CME? While the educational behavior and preferences of "non-Millennial" physicians is by no means monolithic, CCO's own research in this area suggests that the behavior and preferences exhibited and reported by Millennials do represent a clear break with the past in many respects.[3] In particular, our ongoing analysis of our physician membership suggests that some trends we are seeing today—such as the push to mobile education and the move toward shorter, more focused activities—are going to rapidly accelerate as Millennials assume their place in the workforce.

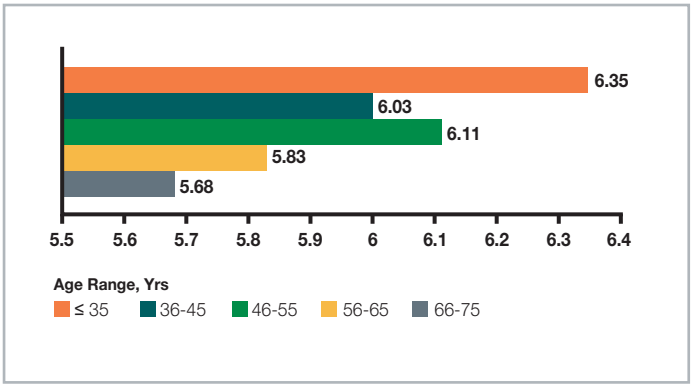
One cornerstone of our research in this area has been to evaluate age-based trends in educational preferences and technology adoption, both through analysis of existing membership data and through deployment of a comprehensive survey designed to help us better understand the differences between the generational cohorts of physician learners who access our activities (N = 441 respondents). These physicians spanned a variety of specialties, including hematology/oncology, HIV medicine, hepatology, rheumatology, internal medicine, and more. What they told us in the survey gave us new insights into how a physician's age affects his or her educational format preferences and technology adoption.

Technology Adoption Often, but Doesn't Always, Skew Young

Some of the most striking differences detected in our age analysis were those related to technology adoption. We asked physicians how comfortable they were with technology in educational activities, and although there were very few self-identified technophobes of any age, there was a clear relationship between increasing age and decreasing comfort with technology (Figure 1).

Figure 1. Physician self-rated comfort level with technology in CME activities.

(1 = Not at all comfortable/technophobic and 7= Highly comfortable/expert)



Moreover, our data suggest the shift toward mobile education is heavily driven by the younger demographic. For example, nearly 70% of the youngest physicians reported using a smartphone for educational activities vs approximately 25% for the oldest physicians (Figure 2).

Indeed, it appears that mobile platform education (ie, apps and mobile-optimized Web sites)—not the Internet itself—is the Great Divide between generations in terms of CME. Whereas all age groups reported being comfortable with Internet-based CME (mean scores of 6+ out of 7), there was a wide gap between younger and older physicians in their comfort level with mobile CME (6.48 vs 4.68 for the youngest and oldest cohorts, respectively).

Even more telling were the results when we asked physicians to indicate their "go to" device or platform for accessing patient care information. For physicians younger than 35 years of age, the smartphone was cited as the primary device; in every other age group, the desktop computer still dominated (Figure 3).

That's not to say older physicians are avoiding mobile entirely; in fact, even though the absolute numbers were relatively small, there were many more 56 to 75 year olds who reported a tablet as their "go to" device vs younger age groups. (Even so, as shown in Figure 2, tablet use is substantially higher overall among the youngest physicians.)

Figure 2. Physician responses to the question, "how do you currently access CME activities?"

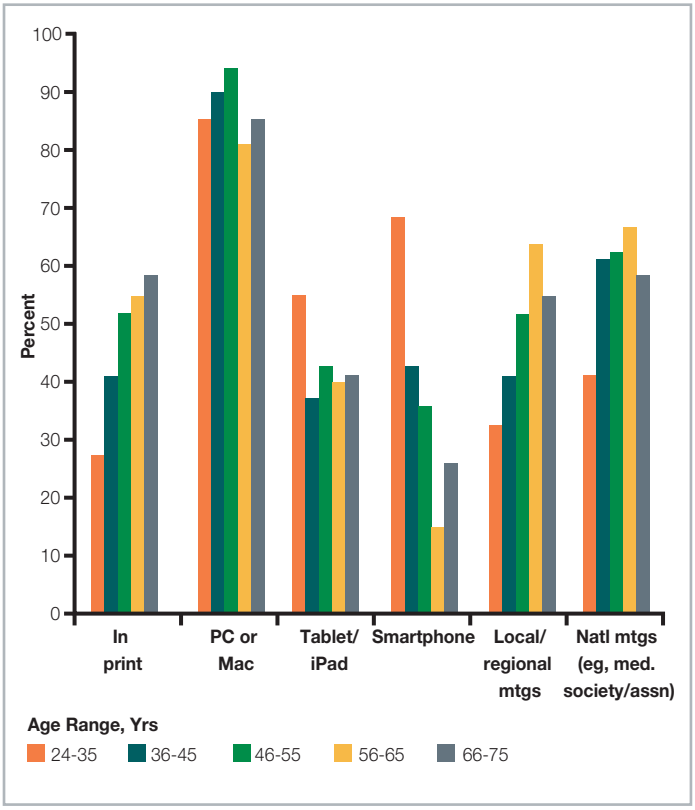
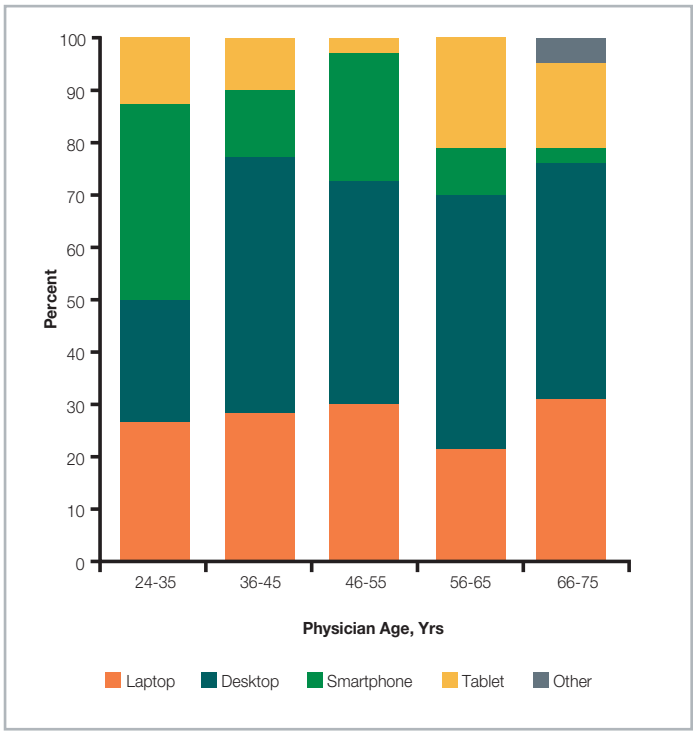


Figure 3. Primary device physician report using to look up patient care information.



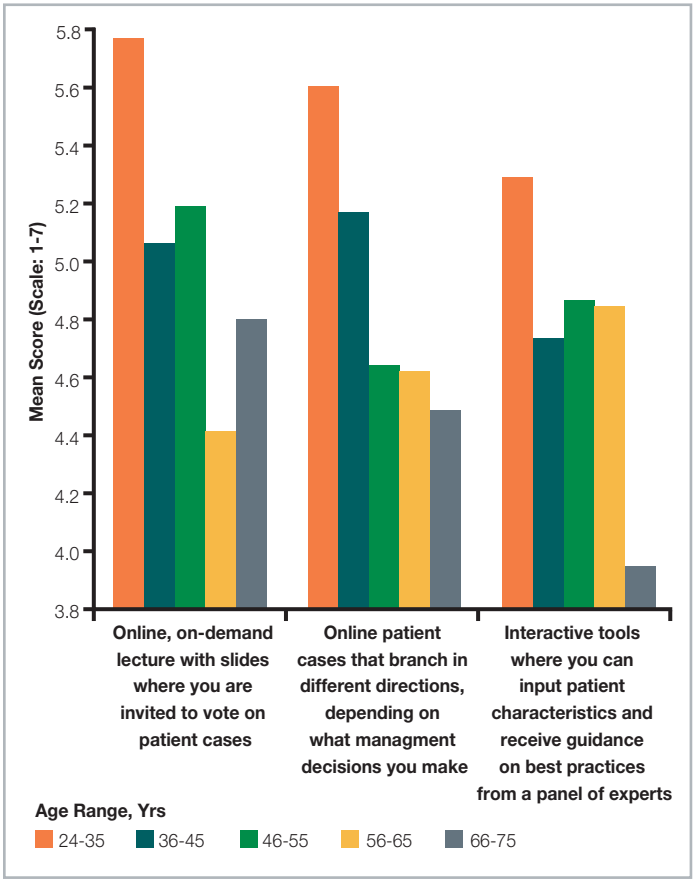
Online Formats: Preferences Vary by Physician Age

We also asked physicians to rate the relative value of different types of online activities. Point-of-care resources were ranked highly by all age groups (mean of 5.43 points out of 7, which was the highest rating of any online format). However, for all other online activities, there was at least a trend in each case whereby younger physicians ranked them higher.

For example, we asked younger physicians (aged younger than 35 years) how they liked interactive patient cases that branch in different directions (as pioneered by CCO's "Interactive Case Challenge" series). The youngest physicians rated them highly, at a mean of 5.6 out of 7 points, on average. However, that score dropped considerably in older age cohorts (Figure 4). Likewise, younger physicians reported the highest scores for online decision support tools (like CCO's "Expert Insight" tool series), as well as on-demand lectures with slides and user polling (such as CCO's Interactive Virtual Presentations), with a clear downward age-based trend for each.

The move to mobile education and short, focused activities will rapidly accelerate as Millennial physicians enter the healthcare workforce.

Figure 4 . Physician-reported likelihood to participate in:



Live Formats: Where Millennials Are (and Aren't)

Our data suggest that younger physicians (aged younger than 35 years) are somewhat less likely to access CME activities via national meetings (~ 40% vs ~ 60% for every other age group). Likewise, only approximately 30% of the youngest physicians report they use local and regional meetings to access CME; that figure peaks above 60% in 56- to 65-year-old physicians.

One size does not fit all. Each physician has a unique preference for technology type and program format that cannot be defined simply by age alone, with the exception of the Millennials' strong preferences for accessible education on smartphones and tablets.

Beyond that, we do not see so many age-based trends in terms of preference for different "live," in-person formats. However, "live" real-time Webinars do illustrate an interesting trend: The youngest physicians are quite excited about this format, with a mean of 5.3 on a scale of 1 to 7. Physicians aged 36-55 years still give Webinars a respectable rating at a mean of approximately 4.7 out of 7, but that is followed by a large drop-off to approximately 4 out of 7 for physicians in the 56- to 75-year-old age range.

Print's Not Dead . . . But Its Days Seem Numbered

In terms of preference for print vs online, our data suggest that all groups tend to look less favorably on print. Looking beyond preference to actual self-reported utilization, only 25% of the youngest physicians said they access CME in print-based format vs nearly 60% for the oldest physicians.

Activity Duration: Is Shorter Better?

Conventional wisdom says that younger physicians, as a consequence of growing up and training in an on-demand, data-at-your-fingertips world, will expect shorter educational activities honed down to the essentials needed to manage the patient in front of them. Although there is some truth to that, CCO data suggest that when it comes to traditional CME activities, age-based preferences regarding activity duration may be a bit more nuanced.

On the one hand, we did indeed see that younger physicians gave concise (eg, 1000 words) CME texts the highest rating of any age group, whereas they rated comprehensive CME texts (eg, 10,000 words) the lowest. That gives credence to the supposition that younger physicians are demanding shorter and more focused activities. That said, all age groups had a relatively high opinion of concise CME texts overall, which suggests that being busy and time pressed is hardly a phenomenon unique to younger physicians.

Likewise, physicians 35-45 years of age reported preference for very short (ie, < 15 minutes) durations for online, text-based activities and for interactive clinical decision making resources (such as CCO's online "Expert Insight" tools). That's shorter than average on both counts, since most physicians (ie, all age groups) said they preferred durations of up to 30 minutes for those activities.

Of interest, however, those in the youngest group (aged younger than 35 years) were most likely to report they preferred somewhat longer online activities (up to 45 minutes) regarding live Webcasts, interactive tools, and self-paced on-demand activities featuring audio and/or video. One possible interpretation of this is that the youngest physicians may be less sure of their competence than more seasoned physicians. In other words, they are willing to

commit more time to Webcasts and audio/video-based activities because they feel they still have a lot to learn about treating patients. By contrast, the 35 to 45 year olds may feel as though they have reached a certain level of competence and that, as a result, "short and sweet" activities are more attractive.

Beyond that, we did not detect much difference between age groups in terms of preferred activity duration, although older physicians (66-75 years of age) most often said they preferred 60-120 minutes for live activities ancillary to medical meetings (overall, the most common response was 46-60 minutes).

Educational Entertainment: How Important Is It?

Younger physicians were somewhat more likely to agree that CME needs to be entertaining to be effective, at a mean of 5.1 points out of 7, which was the highest-ranking compared with older age groups. Support trended downward in a linear fashion to a low of 3.5 out of 7 in the oldest age group. Thus, while younger age groups do tend to report a somewhat higher appreciation for entertainment aspects of education, the overall impact of this approach is unclear in terms of how valuable it might be in an educational intervention.

The Relative Importance of Obtaining CME Credit

An additional observation is that obtaining CME credit is less of a motivating factor for younger physicians. Younger physicians were more likely to report that ability to claim CME credit was not the key reason they participated in CME. Likewise, younger physicians were less likely to use point-of-care resources for earning credit (despite being heavy users of those point-of-care resources).

Conference Coverage CME: How Different Generations Value It

Another CCO study was conducted as a retrospective generational analysis of a membership survey that was designed to gain insights on the value of conference coverage to practicing clinicians (N = 741 respondents).[4] In our analysis, "years in practice" was used as a surrogate for age to look for trends that could corroborate or refute our findings in the generational survey.

In this analysis, we found that "younger" (ie, newer-to-practice) users tended to favor the components of our Conference Coverage that focus primarily on "application to practice"; namely, commentaries and certified activities that feature Expert Analysis of conference data. A full 60% of learners in practice 0-5 years said they found these activities highly valuable, down to a low of 41% for those in practice 30 or more years.

Study Implications for the Future of CME

Taken together, our findings suggest that age can be a predictor of physician preferences regarding education and technology, particularly when it comes to the younger, so-called Millennial physicians who are increasingly comprising a larger proportion of the physician workforce.

Although some of our findings challenge often-espoused notions about age and technology use/adoption, others confirm that there are age-associated preferences for various activity lengths and formats. Younger physicians reported much higher levels of technology comfort and adoption as well as higher levels of preference for certain online activities.

If CME activities are to mirror the educational experience of Millennials, then they should be focused on easily retrieved, concise, and well-integrated clinical information/learning that is accessible on smartphones and tablets and comprehensive enough to be customizable to each physician's learning needs.

In particular, point-of-care resources have conditioned Millennial physicians to expect concise and relevant clinical information and answers at their fingertips, at the time they need it. Thus, if CME activities are to mirror the educational experience of Millennials, then they should be focused on easily retrieved, concise, and well integrated clinical learning that is accessible on smart phones and tablets, and comprehensive enough to be customizable to each physician's learning needs.

These results suggest that CME professionals should recognize that educational format and associated technology requirements may affect the appeal and/or the adoption of any given activity. Of note, all survey respondents were members of the CCO Web site and therefore already technology adopters in CME. We found it very compelling to see such marked differences in preferences and styles of learning within this "adopter" group.

One word of caution is that no "generation" of physicians is monolithic in their educational preferences or levels of technology adoption. Age is just one factor, while personality is another;

Behrenbruch and colleagues,[5] for example, have reported that specific personality traits appear to have a distinct direct or moderating effect on technology acceptance. Indeed, our findings show that a majority, but not all, of self-reported "technophobes" were on the older end of the age spectrum. Thus, it would be a mistake to assume that "one size fits all." Our data show that, among the myriad of different learning models defined by educational theory, each individual physician has a unique preference for technology type and program format that cannot be defined simply by age alone.

It is also unknown how Millennial physicians' behavior will change over time. Do their preferences today signal lifelong, permanent patterns? Or will the preferences of this cohort come to resemble those of their older peers the longer that they are in clinical practice? Conversely, will older physicians gradually warm up to mobile education as smart devices—phones, tablets, and now watches—become ubiquitous? In addition, what is unknown is how the post-Millennial generation of physicians—dubbed "Generation Z" by some—will transform their education and training experiences into clinical practice, and how much that will align with or differ from the Millennials who came before them.

Despite these questions and unknowns, it is clear that CME professionals should more often be planning for diversity within their learner populations, particularly when age and generation do appear to have a strong influence on both technology adoption and format preference. The findings of our investigations support and corroborate previous findings focused on how to educate younger generations of physicians. Based on a meta-analysis of student psychological questionnaires focused on IQ, personality, attitudes, and other factors, Jean Twenge[6] reported in the journal *Medical Education* that learners in "Generation Me" (ie, Millennials) would benefit from a "more structured but also more interactive learning experience." Accordingly, Twenge says, education catering to this demographic might need to be given in shorter bursts with more multimedia aspects, video, and interactive online technology. We at CCO also believe that interactive, focused education is of increasing importance and will benefit learners of all generations—perhaps particularly the Millennials who are poised to dominate the healthcare workforce of the near future.

About Clinical Care Options

Clinical Care Options (CCO), a leader in the development of innovative, interactive, online, and live CME-certified CME programs and proprietary medical education technologies for healthcare professionals, creates and publishes original CME and information resources that are designed specifically for healthcare providers. CCO's educational programs are developed not only to provide the latest scientific information, but also to support the understanding, confidence, application, and competence of healthcare professional learners. In addition to the latest point-of-care resource, inPractice®, CCO provides a spectrum of live and online educational programs and formats.

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