COMMENTARY

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Primary care: Practice meets technology

Technology has infiltrated all parts of our everyday lives, including healthcare. Patients can make and cancel appointments, send e-mails directly to their physician, and request prescription refills—all through electronic portals. Physicians and healthcare providers must adjust to these changes in care-delivery models. Primary care providers must also adapt as younger generations seek access for their health needs outside of the doctor's office.

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And so it is with everyday life. Online banking and bill-paying is common. Groceries can be bought online and delivered within an hour. Connecting with family or friends around the world can be done with the touch of a button. In the United States, 90% of adults own a cell phone; many do not have a land line. More than 65% of adult Americans under age 75 own a smart phone, and 50% of the public owns a tablet computer.[1]

DRIVERS OF CHANGE: THE MILLENNIALS

The development and use of new technology is driven by the coming of age of the youngest adult population, ie, "Generation Y" or millennials, ie, persons born between 1981 and 1996.[2] They now account for 28% of the US adult population, surpassing the baby boomers (born 1946 to 1964) by 8 million.[3]

Millennials have grown up with the World Wide Web at their fingertips. They are accustomed to an environment full of choices and unlimited, instantly available information.[4]

Millennials are cost-conscious shoppers who desire convenience and quick access. As patients, they often forgo traditional doctor's office visits, turning instead to the Internet for quick answers to their questions in blogs and websites.[5] A Kaiser Family Foundation survey in 2018 indicated that only a quarter of millennials see a primary care physician for healthcare needs.[6]

The shortage of primary care physicians

There are several reasons for this. Primary care physicians are in short supply, more Americans have insurance after the passage of the Affordable Care Act, and more physicians are working part-time or retiring earlier than in previous generations. There will be a continued shortfall of 15,000 to 49,000 full-time-equivalent primary care physicians by 2030.[7] A survey of 15 large metropolitan markets found that the average wait time for a primary care new patient appointment increased to 24.1 days—a 30% increase from 2014. In some cities, the wait time can be 3 to 4 months.[8]

Older patients of the baby-boomer generation tend to discuss medical issues with their primary care physician, often relying on their feedback to improve their health lifestyle choices.[9] Baby boomers who are Medicare subscribers tend to see their regular doctor at least once or twice a year[10]; trust is built with this continuity in care.

The rise of pharmacy clinics

But the shortage of primary care physicians and the desire of younger patients for immediate access to care have fueled the growth of new options for access, such as retail clinics in large pharmacies. These clinics are mostly found in the South and Midwest and are staffed by nurse practitioners,[11] and 90% of their billing falls under 10 common diagnoses,

Telemedicine can bridge the divide for those who lack access to care

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including urinary tract and upper respiratory infections. More than 40% of patients seeking care at retail pharmacy clinics are 18 to 44 years of age, and less than 25% of this group have a primary care provider.[11] These clinics have shorter wait times and limited out-of-pocket costs, and they are more convenient. In a study of adults visiting these clinics for vaccination, 30% did so during evening, weekend, and holiday hours, when traditional doctors' offices are closed.[12]

Telemedicine's foothold

Telemedicine has also taken a foothold in healthcare. Initially used for episodic illnesses, there is now growing acceptance of telemedicine for management of chronic physical and mental health problems. Accessibility to a doctor via a mobile device while at home has proven to be helpful to young, elderly, and minority patients living in rural areas,[13] although reimbursement and legal issues continue to constrain its growth.[14] Telemedicine is predicted to grow by nearly 15% from now to 2025, especially in North America and Europe, where technology has kept pace and government initiatives are encouraging its advancement.[15]

Proficient use of the electronic medical record improves work-life balance and job satisfaction, and reduces burnout

The American College of Physicians has published recommendations on how best to use telemedicine, especially when there is already an established patient-physician relationship. Telemedicine can bridge the divide for those who lack access to care because of geographic constraints or who cannot afford a regular doctor's office appointment.[16] It can also allow healthcare "extenders" like social workers, nutritionists, pharmacists, and nurses to work collaboratively with the primary care physician to improve patient education and outcomes.[17]

Wearable devices

The wearable device market continues to expand, in large part due to the increased availability and utilization of mobile technology. These gadgets can record steps, sleep, and heart rate. Consumer fitness trackers can give patients insight into their activity levels and encourage them to modify their behavior, ie, get up and move around more.[17] The Deloitte Center for Health Solutions survey in 2018 showed that 62% of millennials use consumer fitness trackers to help meet their wellness goals, compared with 16% of seniors and 25% of baby boomers.[18] There are few studies showing that these devices improve overall health promotion or decrease healthcare costs,[17,19] but research is ongoing.

And the "generation gap" in technology's uptake is slowly closing: 81% of American adults own a smartphone, and the rate in people over age 50 increased from 53% in 2015 to 67% in 2018.[20] By comparison, 92% of millennials own a smartphone.[1]

Smartphone apps

A 2015 survey of more than 1,600 US adults found that 58% had downloaded an application to their smartphone to track their health needs, with 41% using more than 5 health-related apps; the most commonly downloaded apps tracked physical activity, food intake, exercise programs or weight loss progress.[21]

Users of mobile health apps are generally younger and more highly educated than nonusers.[22] However, baby boomers are willing to try mobile health apps if the apps are intuitive, accessible, and effective; this is important, especially since this group accounts for more than 20% of US healthcare expenditures.[23] Engaging and empowering baby boomers to use this technology may allow them to remain independent, live healthier, and avoid unnecessary office visits, thus decreasing strain on the limited healthcare workforce.[23]

ADAPTING TO THE GENERATIONAL SHIFT

Physicians and physician educators should be aware of this generational shift. Millennial-aged doctors will continue to embrace technology to achieve their work-life balance in order to avoid burnout and maintain robust primary care practices whether in the office or outside of it.

Medical school curricula

Medical schools need to adjust their curricula to prepare the next generation of physicians to engage with these new healthcare delivery models and technology. Practicing telemedicine, assessing mobile app safety and utility, and effectively integrating data from patient-specific devices represent a new skill set that is considerably different from the typical face-to-face encounters learners experience today.

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Recognizing this, more than 50% of medical schools have added telemedicine and digital health to the curriculum,[24] with suggestions to include telemedicine-related content in the Accreditation Council for Graduate Medical Education core competencies.[25]

Improving the electronic medical record

Maximizing the efficiency of electronic medical records will also be important because physicians currently spend more than 50% of their workday on documentation and administrative tasks; for every 1 hour of patient contact, physicians spend 2 hours in front of the electronic medical record.[26] End-users (doctors, nurses, pharmacists, scribes) should interact or engage with developers of electronic medical record systems to promote platforms that enhance workflow, increase connectivity to mobile apps, foster team collaboration, and provide consistency in patient safety and privacy.[27]

Early and continuous education on use of the electronic medical record should be routine, as proficiency improves work-life balance, physician job satisfaction, and patient care by reducing after-hours note completion and in-box tasks leading to burnout.[28]

Technology-enabled primary care

Technology-enabled healthcare is here to stay and will continue to evolve, incorporating telehealth, smartphones, mobile apps, in-home and wearable devices, and online video communication.[17] Clinicians will need to be adept at working with these technologies to advance quality care in population health. It will require clinician training and professional development, advances in technology, and revised reimbursement policies.[17] But despite the increased use of mobile apps, there remain concerns about the possible dangers associated with their use, including breaches in confidentiality, conflicts of interest, and lack of professional medical involvement and evidence in their design.[29]

THE IMPORTANCE OF BEING SAVVY

There is a growing need for primary care providers to be technologically savvy and readily accessible via e-mail, healthcare portals, or in the office to keep up with the generational shifts and expectations occurring in this decade. Healthcare systems should have the right infrastructure in place, including efficient Web platforms to support telemedicine or to synchronize digital tracking devices, as well as a trained workforce to understand and implement these revolutionary changes into everyday practice. Educators will need to provide training in these changing platforms to medical students and residents. Primary care will evolve to redefine its role within the context of these emerging technologies[17] and to adjust to these market demands in order to stay relevant.

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