The advent of the tablet and the smartphone as medical “tools” has created increasing opportunities for “on-the-go” data access for today’s healthcare providers. Hospitals have increasingly moved to standardization of mobile devices while implementing mobile device management (MDM) policies to provide infrastructure for physicians and other healthcare providers to both communicate and access patient data via the EHR. A 2016 whitepaper from SpyGlass Consulting Group reported that 63 percent of organizations have deployed or plan to deploy mobile communications platforms over the next 12 months to 18 months. As hospitals have become increasingly capable of utilizing mobile technology to provide on-the-go access, EHR companies have started to ramp up development of device access to existing and new EHR systems, giving rise to the concept of the “Mobile EHR.”

Interest in mobile EHRs has been confirmed in surveys, such as this year’s Physicians Practice Technology Survey, which found that 78 percent of physicians were using mobile-accessible EHRs, which is the highest rate ever. The 2016 tech survey also identified that more than 60 percent of physicians and practices were using mobile devices in the performance of their jobs.

Up until recently, three issues prevented mobile EHRs and other mHealth technologies from entering wide-scale adoption:

1. **Devices weren’t capable in terms of screen size or battery life.** With the advent of larger screen devices (5.5” smartphones and 9.7”-12.1” tablets) that have longer battery life (up to 10 hours on devices such as Apple iPads), mobile EHRs have become more usable in daily practice.

2. **EHRs had not developed interfaces that were well-suited to mobile technology.** Only in the last few years have EHR developers placed priority on developing interfaces that work well with smaller devices. Those that do have found approval from physician users, as evidenced by 2015 physician surveys, from the Black Book research group, which ranked products from drchrono, Cerner, and athenahealth (among others) as high in physician satisfaction.

3. **Concerns about security and data protection.** Hospitals that integrate EHRs have started to look at external standards, such as those presented by the National Cybersecurity Center of Excellence (NCCoE) that attempt to create “best practice” guidelines for EHR security. Coupled with the MDM policies of the institution, they can create an environment that is functional, yet secure.

With the growing demand from healthcare providers and patients for mobile solutions that provide point-of-care access to tools which allow for better explanation, communication, and clinical decision making, it is clear that integrated solutions that leverage the capabilities of device providers, EHR developers, and IT departments will pave the way to a future in which the EHR sits alongside the stethoscope in the provider’s pocket.

This year’s Physicians Practice Technology Survey found 78 percent of physicians were using mobile-accessible EHRs.

Saroj Misra, DO, FACOFP, is an osteopathic physician based in Warren, Mich. He is also a member of the Physicians Practice Physician Advisory Board.

For more on mobile EHR adoption, go to page 11 in this report to find out why mobile technology has become a welcomed addition in the physician’s toolbox. For more results from the 2016 Physicians Practice Tech Survey, go to page 3.
Physicians Practice surveyed 1,568 physicians, advanced practice providers, and practice administrators for its annual technology survey. The survey revealed that while medical practices have widely adopted EHRs (nearly 75 percent have implemented one), they are still struggling to optimize the technology. More than 20 percent of respondents said optimizing use of the EHR was their biggest technology problem; 18.9 percent said it was a drop in productivity due to use of the EHR; and 12.9 percent said it was lack of interoperability between EHRs.

Moreover, 46.1 percent of respondents said that their practice is seeing fewer patients per day because of EHR usage and 74.3 percent said they have not seen a return on their EHR investment. The survey didn’t completely demonstrate a negative view on EHRs. Fifty-nine percent of practices said the EHR has improved documentation and 78 percent are using an app to access their EHR on a mobile device. And a majority of practices are satisfied with their EHR vendor.

Here are a few other survey highlights:

- Despite the talk about many practices not complying with Meaningful Use and taking the penalty, only 7.1 percent of practices have admitted to doing so.

- 42.3 percent of practices plan to participate in Stage 3 of Meaningful Use this year.

- Health Information Exchanges (HIE) have yet to catch on with practices: 75.2 percent are not a part of one, and 32.7 percent of practices that don’t participate in an HIE say they haven’t found one that suits their needs.

- Physicians are making the technology purchasing decisions in 40.1 percent of responding practices.

- Beyond the EHR, practices are investing in patient portals (60.1 percent); mobile applications (60.2 percent); and billing and coding technology (77.7 percent). Telemedicine (13.6 percent); data analytics (33.1 percent); and voice recognition (31.1 percent) technology have not caught on with as many practices yet.
What specialty best defines your practice?

- Pediatrics (17.5%)
- Family Medicine (16.2%)
- OB/GYN (15.2%)
- Psychiatry (12%)
- Internal Medicine (10.6%)
- Surgery (2.9%)
- General Practice (2.7%)
- Other (please specify) (22.9%)*

*Top answer was “Ophthalmology”

How many full-time equivalent physicians are in your practice?

- Solo practice (31.9%)
- 2-5 physicians (34%)
- 6-10 physicians (13.6%)
- 11-30 physicians (9.4%)
- 31-50 physicians (3.3%)
- 51 or more physicians (7.8%)

Which of the following represents your MOST pressing information technology problem?

- Optimizing use of the EHR (20.3%)
- A drop in productivity due to our EHR (18.9%)
- Lack of interoperability between EHRs (12.9%)
- Meeting “Meaningful Use” requirements (10.7%)
- EHR implementation (8%)
- Costs to implement and use other technologies (8%)
- Using technology to improve quality (7.4%)
- Resistance to technology adoption by physicians or staff (4.6%)
- Keeping up with HIPAA privacy and security regulations (2.5%)
- Other (please explain) (6.7%)*

*Top answer was “No problems”
Is your practice independent, or is it owned by a hospital or integrated delivery network?

- Independent (63.3%)
- Owned by a hospital/integrated delivery network (27.9%)
- Other (please specify) (8.8%)*

*Top answer was “Federally Qualified Health Center”

My practice:

- Has a fully implemented EHR (59.2%)
- Does not currently have an EHR (16.8%)
- Uses an EHR selected and provided by a hospital or our corporate parent (14.5%)
- Has selected an EHR, or our corporate parent has, but it is not yet fully implemented or optimized (9.5%)

What is the primary reason you haven’t purchased an EHR?

- We don’t believe it would improve patient care (40.9%)
- They’re too expensive (24.4%)
- We couldn’t find a product that met our needs (9.9%)
- We’re planning on purchasing one in the next 12 months (7.9%)
- We’re owned by a hospital or health system, and we’re awaiting implementation of our parent’s EHR (7%)
- We’ve heard too many horror stories (6.6%)
- We’re thinking of affiliating with, or being acquired by, a hospital or health system, and would expect to access our new parent’s EHR (3.3%)
How long did your EHR implementation take to complete from the time you made the purchase — meaning all software and hardware was installed, and all providers and staff were trained and using the system as needed?

- A month or less (13.1%)
- Up to 6 months (37.2%)
- More than 6 months; less than a year (21.2%)
- More than a year; less than 18 months (12.8%)
- More than 18 months (15.7%)

Has your practice employed extra staff (such as medical scribes or IT personnel) to better use the EHR?

- Yes (48.3%)
- No (51.7%)

How has the EHR affected the number of patients you can accommodate per day?

- We see fewer patients (46.1%)
- We see more patients (8.2%)
- We see the same number of patients (45.7%)

Have you seen a return on your investment as a result of your EHR?

- Yes (25.7%)
- No (74.3%)

Has the EHR improved patient documentation at your practice?

- No (41%)
- Yes (59%)
How satisfied are you with the vendor you selected?

- Very satisfied — I would highly recommend it (16.1%)
- Satisfied — I would recommend it, but I’m sure other vendors are just as good (39.7%)
- In the middle — our vendor is mediocre; I probably wouldn’t recommend it (27%)
- Dissatisfied — I wouldn’t recommend it and wish I hadn’t used it (8.2%)
- Very dissatisfied — I would switch to another vendor if I could (9%)

This is my practice’s:

- First EHR (62.1%)
- Second EHR (27.1%)
- Third or greater EHR (10.8%)

Did you purchase outright a client-server-based EHR system (that is, where the software is hosted on your own servers), or are you leasing access to an EHR service that you access online (sometimes referred to as a cloud-based system), while paying a monthly fee?

- We own our software, and it’s hosted on our own servers (55%)
- We use a cloud-based system for which we pay a regular fee (45%)

Have you attested to Stages 1 or 2 of the government’s Meaningful-Use rules for EHR adoption?

- Just Stage 1 (23.2%)
- Both Stages 1 and 2 (55%)
- No, we failed to meet the requirements and are making adjustments (3.9%)
- Not yet but we are working on it (10.8%)
- No, we’ve declined to participate in Meaningful Use and will accept a penalty (7.1%)
Did you feel your practice was prepared for Stage 2?
- Yes, we have attested (57.9%)
- No, our vendor wasn’t certified for Stage 2 (6.3%)
- No, we couldn’t meet the requirements of Stage 2 and decided to opt out (9.9%)
- Not yet, we’re behind but would still like to attest (25.9%)

Has your practice conducted a HIPAA risk analysis?

Yes (62.3%)  No (37.7%)

If not, do you plan to do so within the next six months?

Yes (48.1%)  No (51.9%)

What is your practice doing to secure patients’ electronic protected health information (ePHI)? Check all that apply.
- Backing up data securely on a second server/other method (63.8%)
- Storing data on a cloud backup service (39.9%)
- Reading as much about HIPAA as possible (35.1%)
- Implementing rules for bringing mobile devices to work (29.3%)

Do you plan on participating in Stage 3 of Meaningful Use?

- Yes (42.3%)
- No (12.3%)
- Not sure (45.4%)
Is your practice part of a state-run or proprietary Health Information Exchange (HIE)?

**No** (75.2%)

**Yes** (24.8%)

What’s the primary reason you haven’t joined an HIE yet?

- It costs too much (10%)
- I don’t see the benefits (30.3%)
- There isn’t one in our area that suits our needs (32.7%)
- We haven’t had the time to join one (27%)

Do you think you’ve gotten value out of HIE?

- Yes (35.8%)
- No (36.6%)
- Not yet, but we’re sharing with more practices (27.6%)

How do you envision managing your major technology purchases in the next one to two years?

- We expect to invest more than we have in the past two years (26.2%)
- We expect to invest less than we have in the past two years (27.3%)
- We expect to invest about the same in technology as we have in the past two years (46.5%)

In your office, how do technology decisions get made?

- Physicians decide to invest and select products to purchase (40.1%)
- Hospital or other partner decides (21.5%)
- Managers present ideas for investment and present product options to physicians (19.9%)
- Physicians decide to invest and managers present product options to physicians (11.3%)
- Other (please specify) (7.2%)*

*Top answer was “Administration selects tech products”
Does your practice have a patient portal? **Yes** (61.9%)  **No** (38.1%)

What is the biggest challenge in utilizing your patient portal?  
- Getting patients to sign up / use the system (70.3%)  
- Work flow related to maintaining communication (15.2%)  
- Getting physicians and staff to use the system (7.8%)  
- Interoperability to other practice systems (EHR, practice management system, etc.) (6.7%)

Does your practice use telemedicine?  
- Yes (13.6%)  
- No (71.7%)  
- Not yet, but we are interested (14.7%)

Do you use any mobile communication devices in the performance of your job? (Check all that apply.)  
- Yes, I use applications on my iPhone, Android device, or other smartphone (45.4%)  
- Yes, I use an iPad or other tablet computer (32.3%)  
- Yes, I use technology that monitors aspects of my patient's health status (7.7%)  
- No (39.8%)

In the performance of your job, what do you use mobile technologies for? (Check all that apply.)  
- Looking up drug information (86.2%)  
- Looking up information on diagnosis and treatment for specific diseases (75.5%)  
- Reading journal articles (69.6%)  
- Participating in CME activities (59.2%)  
- Accessing/reviewing/patient records (58.1%)  
- Secure patient communication (27.9%)
Physicians are no fans of EHRs, but have warmed up to mobile apps. What gives?

Since the enactment of the Health Information Technology for Economic and Clinical Health (HITECH) Act in 2009, the adoption rate of EHR systems has spiked among healthcare providers. Not just hospital-based physicians, but physicians in all settings.

For instance, research from the Office of the National Coordinator for Health IT found that the percentage of office-based physicians with any kind of EHR went from a rate of 48 percent adoption in 2009 to 83 percent in 2014. The percentage of those physicians with a basic EHR, as designated by CMS through its Meaningful Use initiative, went from 22 percent in 2009 to 51 percent in 2014.

But while an EHR system is becoming as commonplace as a stethoscope, it's important to not mistake an increase in adoption for rising popularity. At the same time EHRs have become more pervasive, they have also become one of the chief sources of physicians' frustrations.

“[The EHR] is probably a major source in the disturbing uptick of burnout rates among American physicians,” says Robert Wachter, physician and professor and interim chairman of the Department of Medicine at the University of California, San Francisco (UCSF) as well as the author of “The Digital Doctor: Hope, Hype, and Harm at the Dawn of Medicine’s Computer Age.” “The Mayo Clinic published a study that showed burnout rates are above 50 percent and have gone up 9 percent in the last few years. I don’t think it’s coincidental that it’s happened at the same time as widespread EHR adoption,” he notes.

Physicians dove into the EHR era with an undeniable lack of enthusiasm for the technology. There is, however, an outlier in this realm. It seems as if mobile health (mHealth) technologies are something physicians are actually interested in.

“When you talk to physicians about EHRs and they are unhappy about a situation, they’ll say, ‘It shows me too much stuff, it requires too many clicks, it has too many screens, it slows me down.’ The smartphone apps on the other hand are designed to show them what you need. They give you just enough functionality,” says Bradley Lee Howard, a physician and the executive medical director at consulting firm, Clinovations, a division of the Advisory Board Company.

While the EHR desktop applications feel “forced,” according to Howard, who was also former chief medical informatics officer at Presence Health, the mobile apps are less of a “ball and chain,” he says. Perhaps this explains the uptick in physicians who access and use mobile-enabled EHRs, from 50 percent in 2013 to 78 percent this past year according to the 2016 Physicians Practice Technology Survey.

“Physicians are mobile for two reasons. Number one, anybody hates to be tied to a PC for any reason — whether they are in healthcare or not,” says David Lee Scher, a cardiologist and founder and director of DLS Healthcare Consulting, LLC. “Number two, I think mobile is
that physicians are no different. “Can I get the EHR on my tablet is never a question [that is asked during implementation]. It’s what can I do with it? The expectation is that they will have it.”

WORK FLOW IMPROVEMENTS
In this regard, utilizing mobile devices may be a better fit for the physician’s work flow than the desktop EHR. Joshua Bock, a Mesa, Ariz.-based chiropractor and managing partner of a 24-physician practice, certainly of the belief that mobile technology improves clinical work flow. He says doctors in his practice use iPads and a mobile EHR app frequently to allow roaming around the building from room to room and quickly accessing pertinent information. It also relieves clinicians of the pressure to capture everything at the time they are in front of the patient, he says.

“You can capture after [the physician has] left the room. When you have time to put your thoughts together, you don’t have to do this on-the-fly medicine. You can turn around and capture that information five minutes later, an hour later, two hours later, when you actually have downtime. It just manages your work flow easier. The mobility piece of this gives them the freedom to not have to do it in the room,” says Bock.

Cory Annis, an internal medicine physician as well as the owner and founder of Unorthodoc, a direct primary care (DPC) practice in Carrboro, N.C., says that her mobile EHR app fits her practice better than one on a desktop. She says being in a DPC practice means high-service toward your patients and understanding what’s most convenient for them. In other words, Annis says it wouldn’t be convenient for her, or her patients, to have to go into the office every time they wanted to have a conversation.

This is why Annis uses a mobile EHR app integrated with a HIPAA-compliant texting platform. She says this allows her to have meaningful conversations with patients whenever it is convenient for both sides. Moreover, the conversations are integrated directly into the patient’s chart.

“The stride toward mobility allows you to take your work home with you. Of course, the downside is that it’s constantly present, but at least it’s not chained to a specific place,” Annis says. “It’s not just providers though. If patients can visit through their technology, this helps them. If we can visit through their technology, it helps us.”
IMPROVING THE EXPERIENCE

Naturally, the mobile EHR experience isn’t without its own issues. If it were, the 78 percent adoption rate would be closer to 100 percent. One of the biggest reasons Bock says there hasn’t been higher rates of adoption is data security. He says many physicians may have a fear that the mobile EHR app will compromise their patients’ data, and as a result, violate HIPAA rules. He also says he has issues with inputting data into an EHR mobile app. “If you speak into the system, it won’t always spell it correctly. That part is lagging,” Bock says.

Scher doesn’t believe the issues are a matter of technology, but rather usability. This is one of the chief complaints of desktop EHR systems and he says it spills over to the mobile app. “I don’t think clinicians have had any input, at least it doesn’t seem that way, with regards what is on the mobile app,” he says.

Howard and Oldenburg both concur that developers need to give end users more flexibility and control of configuring. “It’s got to be really well designed and the work flow around it has to be designed,” Oldenburg says. “Design, design, design. Really sitting with physicians, sitting with nurses and understanding what’s frustrating about their current [user interface], what’s the context where they’d like to look something up, update something … It’s got to incorporate components of user-centered design, rather than taking your garden variety EHR and slapping a mobile front-end on it.”

OPTIMIZING MOBILE

For those physicians who have yet to use a mobile EHR app or those who have used one, but would like to optimize the user experience, experts recommend relying on the vendor to get started. Howard says practices should be “leaning” on the vendor for advancing functionality to their liking. Annis says working with the right vendor is vital.

“If you want to do this, work with a company that has a track record in responding to you. Work with people who have good customer service,” says Annis. “Work with people whose folks demonstrate that they care about what the user experience is going to be. With technology, user experience is everything. … Find people that are going to be behind you when you run into a problem, because you will run into one.”

Bock says his fellow physicians who are interested in this area need to “jump in.” They should pick the day where they are the least busy and “test drive” a mobile EHR application. Annis also subscribes to this philosophy, noting that most physicians who are hesitant to get going in this area are worried that it would open a can of worms where they’d be forever at the patient’s beck and call. She has seen it a different way though.

“If patients know they can reach me, they tend to be respectful of when they try to reach me,” says Annis. “When people know you on a personal level and feel you are really there for them, they don’t want to exhaust that resource. My worst weekends are when I’m on call for doctors whose patients I don’t know well. I have to start from the ground up. If they are my own patients, it’s much easier to solve their problem [faster] than it is for someone I don’t know. Patients I know well and who know me well treat this 24/7 access with great respect. What’s wrong with that?”

Gabriel Perna is managing editor for Physicians Practice. He can be reached at gabriel.perna@ubm.com.

“The stride toward mobility allows you to take your work home with you. Of course, the downside is that it’s constantly present, but at least it’s not chained to a specific place.”

Cory Annis, MD
It’s fairly evident how technology is affecting the physician-patient relationship in 2016 — many clinicians will say it’s for the worse. But prognosticating about how today’s nascent technologies will evolve is more difficult.

Physicians Practice asked several clinicians and researchers working on the leading edge of innovation which technology areas are likely to change the way physicians practice in 10 years. Here are the six they talked about the most:

1. VIRTUAL VISITS/TELEHEALTH
The trajectory is clear in terms of reimbursement, regulations, and market forces: Telehealth is well on its way to becoming commonplace. Technologies are getting more sophisticated to support telehealth, says Todd Evenson, chief operating officer at the Medical Group Management Association (MGMA). Even five years ago, the likelihood that patients had a camera on their home computer that would let them interact with providers was much smaller, while today it is almost automatic, he says. “I envision the simplicity will occur in leveraging the smartphone,” Evenson adds. “I can see physicians using that to engage the patient, especially those in remote locations or who can’t come to the office due to physical issues. It offers an opportunity to be less disruptive to their day. You could be in your office and connect with your physician instead of taking off part of the day to go to the doctor’s office.”

Kaiser Permanente is often a few years ahead of other organizations in technology adoption. Virtual visits are already something that is focused on at Kaiser, where the concept has been accepted by physicians and patients alike, says Michael J. Stone, an interventional radiologist who is regional co-lead of the “Innovation Engine” of the Mid-Atlantic Permanente Medical Group. “We continue to see it grow in terms of the number of video visits we have,” he says. Looking across the industry, he says, “If you can provide convenience and efficiency and decrease costs, I see no reason why it won’t continue to expand.”

There are times a virtual visit will make sense and times it won’t and practices will have to distinguish between the two. “I see it in the population health realm, where it may not be a physician interacting, but a care coordinator,” Evenson says. “The technology should disappear and just be a conduit. Providers will recognize the spaces where it is most effective.”

2. WEARABLES AND REMOTE MONITORING
The potential to improve both individual and population health is clear through wearable technology and remote patient monitoring, says Susan Hahn Reizner, a faculty member and adviser to the Masters in Health Informatics Program at Northwestern University. “An essential element of population health management is enabling patients to care for themselves in their homes, with the right tools and education,” she says. Wearables have the potential to support both. They can collect vital biometric data directly from the patient, and that data can then be used to personalize treatment and generate alerts in real time. Depending on their conditions, situations, and needs, patients can be monitored in a variety of different ways and with vastly different wearable devices, she adds.

What does this mean for the physician practice of the future? Wearable technologies will be used to keep patients healthier and out of hospitals, particularly by helping those with chronic diseases to develop and stick to healthy lifestyle choices and habits, according to Hahn Reizner. Managing chronic diseases more effectively also requires monitoring how well patients adhere to prescription drugs, dietary restrictions, and exercise regimens.
as elements of their treatment and health maintenance plans. Patients with diabetes, asthma, and chronic obstructive pulmonary disease (COPD) will benefit a great deal from wearables, she says.

3. SMARTPHONE AND APPS
Joseph Kvedar, a physician and vice president of Connected Health, a nonprofit that creates and validates remote technologies to provide patient care, at Partners HealthCare in Boston, says how we think about mobile phones for continuous care will evolve as we move from paying for volume to paying for value. “As we get more aligned with value-based payments, physicians get more and more interested in these kinds of tools because they start to understand they will [improve care and reduce costs] by spreading the human resources in their practice across more patients, and these kinds of tools enable that,” Kvedar says. The current crop of young physicians, even though they are considered digital natives, have been trained to take care of patients in the office and at the bedside, not in the context of mobile health, so medical education will have to change to incorporate these concepts, he adds.

“We are kind of at the dawn of using mobile tools to help with behavioral change,” says Kvedar. “Healthcare providers are used to scaring or scolding patients into changing behavior, but we can use incentives or competitions or games using mobile tools to help people choose healthier behaviors, and doctors are just starting to get into that.”

4. MACHINE LEARNING/ARTIFICIAL INTELLIGENCE
Looking to the future, today’s nascent machine learning technologies may find their way into clinical decision support tools for physicians. Cognitive computing technologies, such as IBM’s Watson, continuously learn from previous interactions, gaining in value and knowledge over time. Watson Health is dedicated to improving the ability of doctors and researchers to harvest new insights from data to deliver personalized healthcare.

Companies such as IBM and Epic Systems are collaborating with Mayo Clinic to bring the cognitive computing capabilities of Watson to EHRs. Epic is extracting patient data from health records, delivering it to Watson to be quickly compared with massive volumes of relevant clinical data, and then sending results back into the Epic EHR. This could lead to more rapid and thorough analysis of all the factors impacting patient care.

“I think [vendors] will make inroads, absolutely,” says MGMA’s Evenson, “but there is a lot of work to do there. There are opportunities to support the clinical decision, but not replace the physician’s clinical decision-making capabilities.”

Kaiser’s Stone agrees that machine learning technologies will play a bigger role in the practice of the future. “The amount of medical data published is so vast that no physician could read it all, let alone memorize it, so we have to use technology to harness all this data that we have. In areas like personalized medicine, as we get more and more data we will have to use computers to best use that data,” he says.

This type of learning is already having an impact via various population health and data analytics tools. For instance, the identification of high-risk events seems to be quite prevalent. What is missing is the work flow process to integrate such “insights” into action in real-time, says Munzoor Shaikh, director of the healthcare practice of West Monroe Partners, a Chicago-based business and technology consulting firm. The more connected the patient and provider worlds become, the greater the opportunity for partnership via real-time interventions, says Shaikh. He gave an example: If a patient is calling the customer service group to find out whether a certain item such as adult
diapers are covered by the health plan, this becomes an opportunity to partner in developing deeper levels of “patient trust.” For example, one patient advocacy group his firm works with asks why the person is inquiring about adult diapers and finds that in a large number of cases they are able to uncover that the patient or the patient’s spouse has colon cancer. Thus, they are able to help. “Analytics based on old data can help, but real-time analytics such as this can be done in a combination of people and technology,” Shaikh says.

5. RE-THINKING THE WAITING ROOM EXPERIENCE
Futurists see a wealth of opportunity to leverage tech tools to make the waiting room experience more efficient and effective for medical practices. “There are a lot of business technologies around scheduling, billing, and connecting with staff around your visit, and the special needs you may have around a visit,” says Evenson, who believes many of those processes are ripe for re-invention.

Doug Given, a physician and chief executive of Health2047, a Silicon Valley startup funded in part by the American Medical Association, agrees. Health2047 is exploring innovative solutions to the biggest challenges facing the nation’s 1.1 million physicians. It has targeted systemic change revolving around practice work flow. “You can take the waiting room experience and turn it into a desirable consumer customer experience, involving something educational, motivational or behavioral, so this is time well spent,” says Given.

“You could have better logistical support of the scheduling during the course of the day. If the doctor gets involved in a difficult case and now everything is going to run an hour late for the day, you could communicate by text and other media and treat the patient like the customer you really care about. Those things can all be automated. I think the doctor’s office of the future can really benefit, particularly from the kind of customer relationship management software … perfected in other parts of the economy.”

West Monroe’s Shaikh says some provider systems focus on being “digital,” but envision the digitization only within their four walls, automating medication dispensing and transferring EHR records. “There is a much larger digital world to be cognizant of in the overall ecosystem that providers should start becoming more familiar with,” he says, such as social media. One provider system executive he works with mentioned that the organization never had a “digital marketing officer” before, but is now looking to create and fill that position.

6. PERSONAL HEALTH RECORDS
A recent survey from Wolters Kluwer Health found that 80 percent of patients want greater control over their own healthcare, but only 19 percent have access to a personal health record (PHRs). One effort that has garnered great enthusiasm is a movement called Open Notes, which allows physicians and patients to chart their visits together and lets patients review their own health record. Despite the failures of early efforts by Microsoft and Google, many healthcare futurists expect PHRs to take off eventually.

With a well-designed PHR, you could have your entire health record embedded on your smartphone and completely portable, Givens says. “Imagine what that could do to quality of care and patient safety. I don’t think ownership is the right principle for patients around their data, but access to their data in a portable manner — that is coming, that is going to happen.”

In a recent study published in the Journal of Medical Internet Research, researchers from the John Hopkins University’s Department of Health Policy and Management, the National Cancer Institute, and The Ohio State University predicted that adoption of PHRs would increase to the point where 75 percent of adults will use a PHR by 2020. “Personal health records (PHRs) offer a tremendous opportunity to generate consumer support in pursing the triple aim of reducing costs, increasing access, and improving care quality,” the authors wrote. “Moreover, surveys in the U.S. indicate that consumers want Web-based access to their medical records. However, concerns that consumers’ low health information literacy levels and physicians’ resistance to sharing notes will limit PHRs’ utility to a relatively small portion of the population have reduced both the product innovation and policy imperatives.”

David Raths, is a freelance writer for Healthcare Informatics, Campus Technology, T.H.E Journal, Public CIO, and Physician Practice magazines. He can be reached at editor@physicianspractice.com.
Physicians and their practices are becoming pretty comfortable using technology, according to data from Physicians Practice's 2016 Technology Survey, which features 1,568 respondents from across the country. Apart from EHRs, which have made significant inroads into independent medical practice, there are a plethora of other technologies that can make physicians' lives just a little bit easier and are increasingly being adopted into their practices.

Not surprising, a clear majority (78 percent) of practices say they use billing and coding software. Far more interesting, from our perspective, is that roughly a third of respondents say they use technology to conduct data analytics (33 percent) and manage their revenue cycle (29.4 percent), and 16 percent use technology to facilitate patient check-in and registration (a 2 percent increase over 2015). While small, this number is significant given the fact that every dollar counts in medical practices, especially so for the smaller groups. In fact, when asked “What is your most pressing information technology problem?” after citing EHR-related problems, 8 percent of survey respondents said, “Costs to purchase and implement other technologies.”

In this regard, solo physician or two-doc practices are less likely to purchase and use new technologies, according to consultant Laurie Morgan of California-based practice-management firm Capko & Morgan, yet paradoxically, she says they are the ones that stand to gain the most help from technology.

“I think that smaller practices in my experience have been reluctant to look at some of these tools, partly because if they have looked in the past they have found that it just isn’t available for the platforms they are using, or maybe they thought it was it was too expensive,” she says. “But actually they can benefit from it so enormously because they have smaller teams and everyone is trying to do multiple jobs, so this technology can actually help a smaller practice even more, potentially, than a larger one.”

In an industry overwhelmed by government mandates, using front-office technology to help with data reporting just makes sense. And according to experts, the return on investment may be greater than docs think. If you are wondering which technologies would help your practice most, here are four that our experts say you should consider:

**REVENUE CYCLE MANAGEMENT**

The 2016 Physicians Practice Technology Survey indicates that 30 percent of respondents use some type of revenue cycle management (RCM) software in their practices. Tom Furr, chief executive officer at PatientPay, a payment software company based in Durham, N.C., points out that RCM can mean many things to different people. The term can encompass patient insurance eligibility verification, medical billing, claims processing and follow up, and both payer and patient collections, typically using some type of billing software and a practice management system. Practices can also outsource some or all of those functions to outside vendors. “But at the end of the day... RCM is there to help you collect your dollars,” Furr says. “The revenue cycle is the ability to capture dollars quickly and efficiently, and that is both insurance payments but also patient payments.” That’s why, he says, new high-deductible health insurance plans are becoming a game changer when it comes to spurring efforts to collect patient payments effectively.
Jeff Wood, vice president of product management for Navicure, a Duluth, Ga.-based RCM software company, agrees. Because uptake of new high-deductible plans has been relatively slow, practices are just now feeling the pinch when it comes to collecting growing patient financial responsibilities, he says. Wood uses the metaphor of the frog sitting in a pot of slowly heating water, noting that “… the [amount of patient financial responsibility] has increased every year and then all of a sudden the water is boiling, and [practices] say, ‘Wait a minute! I really have to do something about the patient [collection] side of things.’”

Aside from tightening up collection policies and procedures, physicians can look to technology to assist them in collecting patient copays and deductibles. There are several tech vendors that can provide electronic payment and collection services to practices and their patients, and in some cases, eliminate the need to send paper billing statements. Another bonus stemming from the use of an online payment solution is patient satisfaction: Both Wood and Furr say that patients are increasingly paying for services online and they want the same convenience from their medical providers.

**DATA ANALYTICS**

Thirty-three percent of respondents in the 2016 *Physicians Practice Technology* Survey use some type of data analytics in their practices. Good data analytic capabilities can be the lifeblood of a practice, Furr says. “It’s just like financial information that you get from your bookkeeper,” he notes.

“How much cash do we have in the bank? How much do we need to collect? All these basic data elements. It’s important in the RCM space to kind of understand who’s paying, who’s not paying, how quickly are you being paid, and what’s the preferred method for being paid.”

In small practices, tracking patient cost-sharing amounts can be absolutely vital, especially given the growing predominance of high-deductible health plans that shift a greater percentage of costs to patients. Matthew Parker a family medicine physician who owns a solo practice in Birmingham, Ala., says often-times he is essentially seeing patients for free, as he waits for payer reimbursement. “Practices traditionally have relied on the copays to buy supplies and make payroll occasionally, and things like that,” he says. And that is where the rub is for Parker: “I will say this … about the high deductibles — that has been a real challenge. And there are so many zero dollar copays now. It’s strangling us.”

That’s where data analytics can give a practice much more power over its revenue cycle. Furr says business intelligence (BI) software will provide physicians and administrators with a dashboard of financial metrics that can be customized to meet the needs of the individual practice. “It is a visual representation of a whole bunch of data. It is very easy to understand. You can look at one page and get six, eight, or 10 different data points of interest that the doctor or the head of the practice would like to see.” The utility of a dashboard that displays key practice metrics at a glance is that busy physicians can see where their payments are coming from and how long they take to come in. In Parker’s case, knowing which of his patients will not be required to pay a copay at the office visit could give him the ability to make changes to his payer mix, for example, or adjust the types and numbers of patient visits he schedules in a day.

**POS PAYMENT TECHNOLOGY**

The 2016 *Physicians Practice Technology* Survey revealed that 26 percent of respondents use some type of point-of-sale (POS) payment terminal to collect patient copays and deductibles at the time of service. Studies show that the rate of successfully collecting patient coinsurance drops precipitously once patients leave your practice, according to a 2013 study by Greenway Health. Mary Pat Whaley, a Durham, N.C.-based practice management consultant, says not collecting at the time of service can bring a host of problems. “To me, the worst thing [a practice can] say is ‘Oh don’t worry about it, we’ll send you a bill after your insurance pays.’ I think the patient has a right to know what to expect, and if they are not expecting to pay the full freight at the office visit, they may be really shocked,” she says.

The proliferation of high-deductible health insurance plans is putting an even greater burden on practices as they struggle to collect much larger patient balances, and in some cases, explain to new patients what insurance terms (copays, deductibles, co-insurance, etc.) mean and why they have significant payment responsibilities. Patient collectibles used to make up 5 percent to 10 percent of the physician’s fee, says Whaley, with insurance being responsible for the remainder. Now that figure is closer to 30 percent of the bill. That’s why Whaley’s consulting firm, Manage My Practice, recommends using a secure credit card on file (CCF) solution. CCF technology relies on software that interfaces with a cloud-based server to securely retain patient credit card information so that practices never have to physically store credit card numbers onsite, eliminating the risk of theft, fraud, or electronic
data breaches. “The benefits are you don’t have to send out statements, you save staff time, you don’t have to chase patients to get them to pay, and payment is given upfront or a commitment to payment,” says Whaley.

**PATIENT REGISTRATION TECHNOLOGY**

A small number of practices (16 percent of respondents in the 2016 Physicians Practice Technology Survey) use some type of patient registration technology in their practices. While that number may seem low, there is great potential to streamline front-office work flow through self-service technology, says Morgan. “The whole benefit of these systems is eliminating extra work that the front-desk person would normally have to do, and also improving the accuracy of the [patient] information,” she says, “… Patients enter the information directly and it goes right into the [EHR/PM] system.” There is a range of registration technology that is available to practices: kiosks, tablets, and even patient portals. Morgan says that slow adoption is likely tied to compatibility issues with existing practice PM and/or EHR systems, but that is slowly changing as tablet/kiosk companies continue to add new partners.

Aside from collecting patient demographic and insurance information, tablets and kiosks can be used for short patient satisfaction surveys and also collecting patient copays at the time of service. Patients often don’t fully understand their insurance benefits, so it is reassuring, says Morgan, for them to look up their financial responsibility on a self-service tool. It divorces the practice from what is essentially a contract between the patient and insurance company.

“Many of these systems allow the patient to set up a payment plan too, so they can take some of the anxiety out of [the doctor’s visit] for the patient,” she says. “Definitely staff are getting better at [collections] because they’ve had to, but if there’s an opportunity to make it easier for everybody, why not take advantage of it.”

Erica Sprey is associate editor at Physicians Practice. She may be reached at erica.sprey@ubm.com.