

THE NEW AGE OF DIGITAL CARE FOR THE MOBILE PATIENT

New developments in digital health technologies offer providers, consumers and payers new ways of managing care and costs



In 1974, “The Six Million Dollar Man” debuted on television, and Americans were introduced to the show’s signature catchphrase: “We can rebuild him. We have the technology. We can make him better, faster, stronger.” Even then, it was evident the potential technology possessed to improve the human form. It continues to improve how we diagnose, treat and manage patients within the clinical care setting. It has also enabled us to better monitor our own health at-home, and recently on-the-go, with mobile and wearable clinical and fitness devices. Though technology has been present in healthcare for decades, the technology revolution is just beginning for the industry. Wearables, connected biometric devices and smartphone applications are helping shape consumer health, but the data from these devices is also enabling us to create a better, more efficient and cost-effective healthcare system.

Within the ever-evolving healthcare landscape, digital health technology is leading in growth for the industry. A recent study by Rock Health¹ showed digital health companies brought in \$4.1 billion in venture funding in the previous year— a 125 percent increase from 2013. And before this year is through, it could prove to be even more profitable for the thriving sector. But, what does that kind of impressive growth really mean for the healthcare industry?

Digital health technologies are powerful tools for consumers; and with access to the data from these devices and applications, they can be equally powerful for providers, enabling them to improve outcomes, more efficiently manage populations and reduce costs across the care continuum.

¹<http://rockhealth.com/reports/digital-health-funding/>

CARE HAPPENS WHERE THE PATIENT IS

It's well-documented that patients who are engaged in their healthcare decision-making process tend to have healthier outcomes. Technology can also make that process easier by starting where the patient is.

Private insurers have started to reimburse for the use of technology in clinical care, and this has been one of the most positive progressions in favor of digital health and the patient. The Centers for Medicaid & Medicare (CMS) and private insurers reimbursing for telehealth and remote monitoring has provided not only a payment model but also validation for the use of digital health technologies as a means to provide high-quality care at a low cost.

"These technologies provide a window for innovation and an opportunity for patients to more fully participate in their care," says Sandy W. Robinson, executive vice president of Nexus Informatics, Glen Burnie, Md. "Technology can also bring the health care provider to the patient." She points to patients who need to learn how to administer injectable medication. While some patients may prefer injection training in the privacy of their home, there are patients who have privacy concerns or may be reluctant to have a nurse visit their residence.





“Using technologies such as Skype or FaceTime for the virtual injection training session sets the patient at ease, provides privacy for the training encounter, and a format that makes it hands on,” Robinson says. “It’s a win-win.”

As the sophistication of digital health technologies increases, consumer interest and adoption will also increase, says Drew Schiller, chief technology officer and co-founder for Durham, NC-based Validic. Already, he notes, people are comfortable with tracking their daily activities and diet, using tools such as Apple Health or Weight Watchers. Now take that



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Co-Founder at Validic



a step further, and the benefits for patients and their treating providers jumps exponentially.

Schiller gives the example of patients with hypertension tracking their daily blood pressure values. Instead of jotting down the numbers in a notebook—a habit which often gets ignored when people are busy or they simply just stop recording altogether—to be shared with a doctor months down the road, some patients now have connected weight scales and wearable blood pressure monitors that are accessible to their provider. Sutter Health is one company currently employing these connected devices, which allows providers to see real time data about their patients' health and make adjustments as needed to medications or behaviors, before a negative medical event occurs.

Validic's Schiller notes that patient readmissions associated with post-op heart failure cost the health care industry \$5 billion a year. But by delivering connected devices—such as a scale, activity tracker or a blood pressure monitor—to these patients, again, doctors can intervene before there is a problem.

"If a post-op heart failure patient is stepping on the scale three times a day, and they suddenly gain three pounds within a 72-hour period, the provider instantly knows this patient is at risk for another heart attack, due to their fluid retention," he explains. "They can then bring the patient in to make adjustments to avoid another heart attack or hospital readmission."

The simple idea of connecting devices from patients to doctors can save billions, he notes. Validic recently worked with a company to develop



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an app for Partners HealthCare, a leading integrated health system in Boston founded by Brigham and Women’s Hospital and Massachusetts General Hospital, that used just this type of technology to reduce hospital admissions in heart failure patients. In the small pilot study, Schiller says, the technology reduced readmissions by 40 percent. To scale, that would mean \$2 billion in savings to the U.S. healthcare industry.

“An explosion of options, improvements in ease of use, greater patient acceptance (including among aging populations), and increasing pressure on providers to manage costs beyond specific episodes of care — all of these factors imply that healthcare is ripe for rapid adoption of telehealth technologies,” says Joseph Johnson, managing director and partner in the healthcare services division at LEK Consulting, New York. He notes that major providers in the U.S. are incorporating digital technologies, including the VA, whose widespread use of telehealth broadens patient access to mental health clinical resources, and Kaiser Permanente, who is testing intensive in-home monitoring of chronically ill patients post-discharge.

And, he adds, the popularity of digital health technologies is not gaining traction solely in the U.S., it’s spreading across the globe. The United Kingdom recently launched Technology Enabled Care Services (formerly





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known as the 3 Million Lives initiative) to drive awareness of telemedicine, help consumers manage their own health and offer providers a new way to administer better patient care.² The European Commission is funding Advancing Care Coordination and Telehealth Development as a way to define best practices in telehealth and overcome structural and organizational barriers that could prevent its progression.

But, warns Robinson of Nexus Informatics, “Any technology is only valid if patients adopt it.” Several factors need to be considered, such as, are patients familiar enough with the technology to use it? Do patients feel comfortable without a face-to-face meeting? For some patients, digital technologies can only take care so far. “At the end of the day, some

patients need reassurance by the doctor, whether that is in person or by phone,” Robinson notes.

For providers, says LEK's Johnson, they must focus on the key elements associated with any telehealth initiative if they want to ensure ROI. Those elements include analyzing target populations, implementation approaches, clinician protocols, and workflows. “Establish a clear strategy and goals before attempting to implement a technology solution, [or] choosing a vendor.”

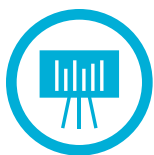
² <http://www.england.nhs.uk/ourwork/qual-clin-lead/tecs/>

BIG DATA, BIG SUCCESS

With new technologies comes a wave of new data types that providers, payers and consumers have previously not had access to incorporate or analyze in the successful delivery of care. But, today, that data can be easily accessed, scrubbed and shaped into something useful to the benefit of the patient and provider.

“Technologies, such as remote monitoring, are providing data that previously was not available,” Johnson gives as an example. “Now there are real-time feedback loops to providers and clinicians on things like blood sugar glucose levels,” says Johnson, “or biometrics that read heart rates and blood pressure.” This data is powerful, from the clinician’s point of view, particularly for managing and tracking patients with chronic conditions.

In turn, Johnson notes, the additional new data generated by digital health technologies is shaping population health as the availability of public data grows. CMS has used this data in part to publish studies focused on hospital inpatient and outpatient utilization and payment information. This



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data can help providers understand how they are performing relative to benchmark organizations in terms of managing care or associated costs.

“We can stitch data together in a way that we’re able to create sets that are more powerful and impactful in terms of making real-time clinical decisions and algorithms and predictive models,” says Johnson, “to be able to better manage patient care, and ultimately manage the outcomes for a given population.”



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CONVERGENCE OF ENGAGEMENT AND OUTCOMES

Having more data and increased insight at our fingertips is a distinct and undoubted advantage. But all the data in the world can't improve care if the patient isn't receptive to new health technologies.

"Patient education is huge through text messages and mobile apps," says Nexus Informatics' Robinson, though the efforts are only as good as the patient's receptiveness and willingness to take action. "We have all had [the] personal experience where we unsubscribe from websites because the 'push' of information becomes too overwhelming or intrusive." Striking the right balance, she says, is key.

Kevin Grabenstatter, a principal in healthcare services at LEK Consulting, echoes that sentiment. The digital technology tools to engage patients are there, and as they become increasingly sophisticated and patients are incorporating them into every aspect of their daily lives. From online portals, secure messaging with providers via mobile apps, patient financial responsibility tools, support and guidance for self-generated health information - it's a matter of meeting the patient where they are, and establishing a relationship in a way that meets their specific needs.



How does that translate into the clinical practice? Grabenstatter says that forward-thinking providers need to have a portfolio of digital health options. “When well-managed, the proliferation of digital channels for patient education can assist providers by supporting patient compliance and adherence, providing earlier flagging and escalation of potential issues, for example, a deterioration in health condition, and promoting patient loyalty,” he says. Data can drive results and outcomes that are focused on the patient’s success and improvement.



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PARTNERING FOR THE ROAD AHEAD

Recent changes in regulations and payment models mean healthcare is being incentivized to move away from a fee-for-service system to a value-based care environment. This means siloed data is no longer an option for the industry. It is now a necessity to build an infrastructure that can allow data to flow seamlessly between providers, patients, payers, or other groups. This interoperability will be critical to the future healthcare system—for continuing to improve patient care, better outcomes and reduce per capita costs

“The horizontal and vertical integration in the marketplace has caused breaks in data flow between healthcare systems — mostly because data capture and collection and transmission is supported by different platforms,” says Nexus Informatics’ Robinson.

On top of trying to communicate through different platforms is the added layer of security protocols and HIPAA compliance.

“It’s not like other sectors where you can have a pretty free-flowing exchange of data,” says LEK’s Johnson. “It’s highly regulated, and has to be secure.”





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The good news, notes Grabenstatter, is that structural changes and trends in the industry will make meeting those communication problems easier over time. Larger payer organizations are collaborating and merging with providers, providers are expanding into risk management and hospital systems are expanding into outpatient care or acquiring physician groups.

“When you have the alignment of incentives and alignment of organizational leadership structures,” Grabenstatter says, “it helps remove some of the barriers to integration needs, and can go a long way toward the seamless movement of data.”

Aligning incentives for health care professionals, insurance companies, and patients means moving the current volume-based system to a value-based one—a major shift for the industry, but one that can mean great things for the continued promotion of digital health tools.

“With this shift from volume- to value-based there comes more reasons and incentives to use the data that patients are generating,” says Schiller. “This shift is going to be a real catalyst for what propels this data into more of a mainstream influence on providing healthcare.”

As digital health technologies mature, these tools will be better able to provide the right context and care to the patients at the right place and the right time, Grabenstatter adds, and “it’s that vision that keeps us excited about this space and its potential.”

CONCLUSION

Rock Health's study found three categories experienced breakout growth — telemedicine, payer administration and digital therapies. This “suggests transformational changes in the way healthcare will be defined, delivered, and administered,” the study says.³

Achieving better individual experience of care; improving the health of populations; and reducing the per capita costs of care across populations is the ultimate goal for healthcare stakeholders. As digital technology moves forward, the need for continuous developments and innovations is greater than ever to improve the experience for patients, providers and payers.

³ <http://rockhealth.com/reports/digital-health-funding/>





Validic is the healthcare industry's leading cloud-based, digital health platform. Validic provides convenient and quick access to patient data from in-home clinical devices, wearables and patient healthcare applications. By connecting its growing base of customers—that includes providers, pharmaceutical companies, payers, wellness companies and health IT vendors—to the continuously expanding list of digital health technologies, Validic enables healthcare companies to better coordinate care across their communities, improve their patient engagement strategies and more efficiently manage their patient populations. Validic's innovative, scalable and FDA Class I MDDS technology delivers actionable, standardized and HIPAA-compliant consumer health data from the best in-class mobile health devices and applications. Validic was recognized for healthcare innovation by Gartner and received Frost & Sullivan's Best Practices and Best Value in Healthcare Information Interoperability award, as well as Top Ten Healthcare Disruptor award. Validic's leading global digital health ecosystem reaches over 160 million lives in 47 countries and continues to grow daily. To learn more about Validic, follow Validic on Twitter at [@validic](#) or visit [www.validic.com](#).

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