



Key to Triple Aim: Keep Patients Healthy and Engaged with Digital Health Data

Healthcare organizations rely on the Validic digital health platform to connect to, and access information from, a variety of clinical and fitness devices, applications and wearables.

Breaking down the industry

In 2008, the Institute for Healthcare Improvement introduced the Triple Aim, an initiative designed to reinvent healthcare by:

- Improving the patient experience of care (including quality and satisfaction)
- Improving the health of populations
- Reducing the per capita cost of healthcare¹

Then, in 2009, the Affordable Care Act called for the healthcare system to create value by delivering better results at reduced costs, adding urgency to the Triple Aim objective. With the landmark legislation continuing to unfold, healthcare organizations across the country are scrambling to achieve this three-pronged goal.



Industry leaders and influencers have recently agreed that all three objectives can be met, at least in part, by keeping patients out of the hospital and away from the doctor's office – by delivering improved outcomes, remote touch points and monitoring, and continuous population and patient engagement. This approach has a number of benefits: Populations are healthier, patients are happier, and costs are reduced when people are able to be cared for beyond the four walls of a healthcare facility. In fact, many readmissions are avoidable and, therefore, unnecessary resource burdens on the healthcare system.

Produced in partnership with

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Ryan Beckland
CEO & co-founder
Validic

“The modus operandi of the U.S. health system has always been when you have a negative health event of some kind, that’s when you go see the physician. It doesn’t make a lot of sense when you realize that 80 percent of healthcare costs are consumed by preventable conditions,” said Ryan Beckland, CEO and co-founder of Validic, a technology platform company based in Durham, N.C.

Leveraging digital health

To treat patients remotely, healthcare organizations must get data into their IT systems and ultimately in front of providers. Doing so means that a variety of devices will inevitably come into play. “The Triple Aim is going to manifest itself through technology. That is the only way to do it,” Beckland said.

The need for mobile technology is indisputable. During a recent testimony before a Congressional subcommittee, Gary Shapiro, president and CEO of the Consumer Electronics Association, noted that devices provide an unprecedented opportunity to care for America’s aging population, as well as the 56 million Americans with disabilities. “As our population ages and the number of caregivers shrinks, smart home devices enable seniors to live independently and comfortably at home, retaining their quality of life into their golden years,” he said. “Connected devices can remind seniors to take their medication, refill their prescriptions and help prevent accidental over- or under-doses.”³

At the same time, a growing number of consumers are leveraging mobile devices and wearables to stay healthy. According to a report from research firm IHS, the wearable technology market reached \$8.5 billion in revenues in 2012, with 96 million devices shipped. By 2019, an estimated 230 million devices will be sold, which will account for about \$32 billion in revenue.²

While the information generated by these devices provides value to the user, many patients are looking to get more out of the information by calling upon providers to review and respond to the data as part of the typical care routine. Leaders are putting a lot more thought into remote patient monitoring strategies, telemedicine strategies and achieving 360-degree patient views through in-home mobile devices and apps. Fortunately, clinicians and other healthcare stakeholders are acknowledging the value of such data as well and are eager to capitalize on it.

In fact, electronic health records vendors such as Cerner and MEDITECH have recently partnered with Validic to provide their users with a connected device data platform – which, in turn, can help them meet their strategic goals such as helping customers better manage populations and drive lower healthcare costs.

“Given Validic is device- and platform-agnostic, our alignment provides a much broader reach to clinical and wellness data to help propel our digital health strategy to healthcare organizations we serve, including the acceleration of remote patient monitoring, telehealth and wellness initiatives,” said Brian Carter, senior director and general manager, personal health at Cerner.



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CTO & co-founder
Validic

“Research shows that second to the data contained in electronic health records, healthcare professionals want to access the data that is generated by mobile devices,” Beckland said.

Accessing mobile health data

A variety of healthcare organizations are using Validic to collect data from remote devices – and, in turn, fuel initiatives that are leading them to move toward enhanced care experiences, improved outcomes and reduced costs (see chart on page 5).

“Healthcare organizations are using technology to support clinical management in a whole new way because our platform makes it so easy to access data from mobile devices,” Beckland said. “Ultimately, Validic is the only way they can adopt all of the innovative technologies to truly reach the patient experience, clinical care and outcomes results associated with the Triple Aim.”

Patient-generated digital data supports strategic objectives including enhanced patient engagement, improved clinical outcomes and reduced costs. Leading healthcare organizations, such as Oakland, Calif.-based Kaiser Permanente, are looking to give their staff members access to such data. After deciding to implement a remote patient monitoring program to see more patients remotely than in person – and support its move toward achieving the Triple Aim – Kaiser sought a reliable means to connect clinicians with the much coveted data.

However, leaders quickly discovered that gathering data from the burgeoning number and variety of devices used by its nine million members was a formidable task. In fact, they found that building one-to-one connections was a resource-draining burden for the engineering and developer teams. It can be difficult for healthcare organizations to have the time and resources to build connections with thousands of personal devices, especially when there are constantly new devices and software upgrades being added to the market.

“Kaiser tried building the integration using their own internal resources to connect directly with all the fitness trackers, scales and other clinical monitoring devices. After doing a couple of these, though, they realized that there had to be a more efficient way,” said Chris Edwards, chief marketing officer at Validic.

Kaiser turned to the Validic platform, a cloud-based technology providing a one-to-many connection to digital health apps, devices and wearables in order to deliver actionable data through one simple application programming interface. The platform simplifies the data integration process considerably, can be deployed in just a few hours and costs 90 percent less than a healthcare organization that tries to create a comparable solution on their own, according to a report from Frost & Sullivan.⁴

In addition, with Validic, providers can capture digital health information directly into their own mobile applications with Validic Mobile™. Adding Validic’s clinical Bluetooth Smart library to an iOS or Android mobile application allows users to securely connect their Bluetooth Smart-enabled clinical devices and easily share that digital health data with their healthcare organization. The company’s platform also provides a simple, secure way for healthcare organizations to access the breadth of digital health data captured through the Apple HealthKit application. Lastly, with Validic’s VitalSnap™, patients can share information from

data-locked medical devices, such as blood pressure monitors or blood glucose meters, by simply taking a picture of their readings with a mobile phone. This feature allows patients to easily track their health data with devices they use every day while giving providers almost real-time access to vital patient health information.

“Without Validic, healthcare organizations would have to independently build all of these connections with the thousands of different devices and apps out there, which could be a time-consuming, expensive feat for most. It would be like every person on your block having to build their own water well for their home,” Drew Schiller, CTO & co-founder of Validic, said.

Making the most of data

Sutter Health is another organization taking advantage of the Validic platform to proactively treat a specific patient population in an effort to realize its Triple Aim goals. The California-based health system is using data from connected devices such as blood pressure monitors, weight scales and fitness trackers to remotely monitor hypertension and heart disease patients. So, instead of having the patients come in for a visit every six months, clinicians continually receive and review patient-generated data and then make meaningful treatment adjustments along the way. Patients who are doing well and are able to manage their conditions do not have to come into the clinic for a visit, while patients who are not able to self-manage efficiently get immediate interventions.

The Validic platform enables Sutter clinicians to quickly access information and helps the organization overcome many of the other challenges associated with device connectivity such as:

Data normalization. There are about 150 data standards on the market making it difficult for healthcare organizations to work with incoming data. Validic, however, operates behind the scenes to normalize data, ensuring that the information flowing into a healthcare organization is easy to understand. At Sutter, for example, data is generated in a number of different formats by about a dozen blood pressure monitors, but the Validic platform standardizes the information and sends usable, actionable data back to Sutter.

Integration into clinical workflow. Many clinicians are often overwhelmed by the barrage of incoming, non-standardized data from patient devices. With Validic, however, healthcare organizations receive the data from one consolidated stream, making it easier to standardize and interpret the data. For example, Sutter then takes its data stream and adds algorithms to only send alerts to clinicians when patient readings fall outside of pre-established parameters. This keeps physicians connected to their patient’s data while simultaneously making the information digestible and organized.

“If the patients are taking their blood pressure two or three times a day and it is in the normal range, there would be no need for the doctor to see all of those readings. The clinicians only need to know if the readings are out of range,” said Schiller.

Device selection. If healthcare organizations had to build one-to-one connections with each of the hundreds of devices on the market, they would have to prioritize their work based on device popularity. With so many new devices and apps hitting the market, the time required

to do this would simply become too onerous. With Validic, organizations can add or change devices frequently due to the high volume of Validic’s device integration partners. Sutter, for example, tried about five different blood pressure monitors before finally settling on the preferred solution.

“There were no technical code changes at all for them to try any of these blood pressure monitors. They went through all five of them and didn’t have to change anything from an IT perspective because they were connected to Validic,” Schiller said.

STRATEGIC DIGITAL HEALTH USE CASE EXAMPLES, BY INDUSTRY SEGMENT

PROVIDERS/HOSPITALS	PAYERS
<ul style="list-style-type: none"> • Population Health Management • Patient Engagement • Discharge Planning • Chronic Disease Analytics • Chronic Disease Management 	<ul style="list-style-type: none"> • Disease Management • Cost Reduction and Management • Actuarial Models • Risk Management
PHARMACEUTICALS	PREVENTIVE WELLNESS
<ul style="list-style-type: none"> • Clinical Trials • Trial Recruiting • Brand Marketing • Remote Patient Monitoring • Patient Communities 	<ul style="list-style-type: none"> • Incentive Programs • Health Engagement Programs • Wellness Challenges • Patient Engagement

References

1. Institute for Healthcare Improvement. IHI Triple Aim Initiative. Accessed at: <http://www.ihl.org/engage/initiatives/TripleAim/Pages/default.aspx>
2. IHS Technology. Wearable Sensor Market to Expand Sevenfold in Five Years Press Release: Accessed at: <http://press.ihl.com/press-release/technology/wearable-sensor-market-expand-sevenfold-five-years>
3. Comstock, J. Mobihealthnews. At Internet of Things hearing, industry groups petition Congress for light regulatory touch. Accessed at: <http://mobihealthnews.com/45724/at-internet-of-things-hearing-industry-groups-petition-congress-for-light-regulatory-touch/>
4. Frost & Sullivan. Frost & Sullivan Industry Report and Best Value Award. Accessed at: <https://validic.com/frostsullivanaward>



About Validic

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 223 million lives in 47 countries and continues to grow daily.

To learn more about how Validic, the industry’s leading digital-health platform, can help you successfully implement your digital-health strategy, please visit www.validic.com/contact.