Easing the Transition from Hospital to Home: Maximizing Mobile Devices for Post-Acute Care
According to the American Physical Therapy Association, nearly one in five Medicare patients discharged from hospitals are readmitted within 30 days.
That’s **2.6 million senior citizens** incurring a total of **$26 billion in healthcare costs annually**. What’s more, in today’s healthcare system, Medicare charges hospitals high penalties for excessive readmissions. In fact, once CMS published an aggressive timeline to implement value-based purchasing, private payers increasingly began encouraging hospitals to agree to risk sharing contracts that emphasize care quality and cost savings. It makes sense, then, that a key part of healthcare reform will forever be tied to a push for cost reductions, particularly as they relate to hospital readmissions.

Under the Patient Protection and Affordable Care Act (PPACA), in fact, the CMS established a program that reduces payments to hospitals for certain readmissions occurring after October 1, 2012. The CMS defines an unacceptable readmission as one that takes place within 30 days after discharge from either the same or another institution for any of the three measures endorsed by the National Quality Forum: congestive heart failure (CHF), pneumonia, and acute myocardial infarction (MI). These three disorders account for a large portion of the economic burden on healthcare in the U.S., with CHF, pneumonia, and acute MI racking up $1.7 billion, $1.1 billion, and $693 million, respectively, in total costs in 2011.

“The idea is to avoid unnecessary office visits and to prevent admissions, readmissions, and repeat visits to the ER,” explained Win Burke, CEO of iGetBetter, a supplier of mobile digital health solutions for post-acute care transition and long-term population health management. “If patients are coming back, healthcare facilities will need to spend more money to make them well.”

A major challenge in ensuring this continuity of care across healthcare settings lies in the effective communication of information between care providers and institutions. This includes advising care providers of the patient’s medications upon his or her admission to the new institution, reconciling the patient’s medications upon discharge, ensuring the patient has access to medications and medical supplies at home, using health information technology (HIT) to ensure providers have access to complete care plans, and providing adequate patient education. Failures in these key areas can lead to negative outcomes and disrupt the patient’s healthcare journey.
Improving Access to Digital Health Data

In today’s digital health ecosystem, a patient transitioning from hospital to home often uses one or more biometric devices, such as weight scales, blood pressure cuffs, glucometers, and activity trackers, often from different manufacturers. These, in turn, are connected to mobile devices running on a myriad of platforms including Apple iOS, Google Android, and Microsoft Windows. iGetBetter allows its physician users to provide daily instructions to their patients regarding care plans and how to best track biometric information from various devices and self-recorded data.

Being able to collect data from multiple devices, regardless of their manufacturing source or which software platform they are connected to, is an important part of providing the best possible care to the patient. That’s why the company partnered with Validic, an organization that offers a ready-built technology platform and application program interfaces (APIs) for accessing digital health data while allowing iGetBetter to continue its focus on helping providers monitor and manage patients.

“We looked at other solutions but found that in almost every case the vendor either didn’t have a wide range of devices available or was single-platform dependent, like Apple Health Kit, for example,” offered Burke. “Writing APIs to Fitbit and all the different device manufacturers is something an early-stage company like ours can’t afford to do economically. The flexibility of this solution is a huge cost savings and still allows clinician users to literally choose any device they want to connect with for their patient care plans.”

Prior to working with Validic, Burke and his team found that it took up to two people two months each – or four “people months” total – to create an interface for just one application on just one type of device and then successfully test it in a production environment.

“If you think about working with even 10 different vendors, each with the same level of complexity, we would spend 40 person months just on device interfaces,” said Burke. “In contrast, with an experienced back-end partner in place, it took us two months of lab time but only one month of one person’s time on actual development to make the system work. Doing the arithmetic, the savings were huge.”

And the benefits for providers, patients, and hospitals? Well, they speak for themselves. In fact, one recent pilot study conducted by Partners HealthCare Connected Health in Boston, Massachusetts, demonstrated that a secure Web-based self-management program for heart failure patients is an effective way to improve patient engagement and reduce hospital utilization.
Improving Patient Engagement Through Objective Data Collection

Partners HealthCare sought to use iGetBetter as a means of streamlining the process, cutting costs, and further decreasing readmission rates while improving patient-reported quality-of-life issues. That’s why it commissioned a study to engage patients in self-managing their heart failure through objective data collection and feedback from personal connected health devices currently available to consumers. Ninety-five percent of study participants reported feeling more connected to their healthcare team and more confident in performing their care plan activities. More than half of the participants had an 89% daily adherence rate with the system.

Just down the road, another facility experienced significant results of its own. In February 2014, Brockton Hospital/Signature Healthcare in Massachusetts began using this platform to follow a monthly census of 25 to 30 CHF patients who were problematic for multiple 30-day readmissions and excessive use of emergency department resources. With the national average for heart failure patient readmissions within 30 days of discharge at about 25 percent, it’s an enormous cost to the health system. Brockton Hospital hoped if it could reduce its 30-day readmission rates to the 15 to 20 percent range, the organization could avoid penalties and implement a reasonable cost structure for shared risk contracts with insurers.

In terms of daily workflow, the care plan asked CHF patients to use a blood pressure (BP) cuff and scale both linked via Bluetooth to an iPad with an active Verizon Wireless signal. After a patient stepped on the scale, clinicians could view the patient’s BP/heart rate (HR) and weight within 30 seconds. The clinician sets normal ranges for weight/BP/HR for each patient; only those patients who record data outside of these ranges trigger an alert, which showed up on the clinicians’ iGetBetter display. Clinicians need contact only those patients who generated an alert.

The results vastly exceeded the goal. In fact, no patients enrolled in the study were readmitted to the hospital. This represented not only healthier patients in control of their disease, but a significant decrease in total medical expense across the board. Consider that the average cost of one readmission within 30 days of an initial hospitalization is $27,000 per patient. Given that Brockton Hospital’s readmission rate for chronic heart failure is 28 percent, one could expect that eight of the 31 patients would have been readmitted to the hospital without the support of this program, at a total cost of $216,000.
The program on the cardiology side has generated so much success for Brockton that the hospital is expanding from CHF to now include 25- to 35 chronic obstructive pulmonary disease (COPD) patients. The cost of a COPD hospitalization averages about $15,000, and with the new risk-sharing payment models, providers need rapid deployment of care transition solutions that can help them engage and monitor their patients. CMS has specifically targeted COPD to reduce costly post-acute care complications and readmissions and to decrease the expenses associated with population health management.

**Better Engagement Equals Greater Cost Savings**

Several hospitals have also begun to implement iGetBetter for their total knee replacement (TKR) patients as a way to reduce expensive post-surgery complications and readmissions. With the cost of TKR averaging about $25,000 per procedure, providers need rapid deployment of care transition solutions that can help them engage and monitor their patients. Pre-surgery, clinicians can communicate with patients about what they need to do to prep for surgery and can even confirm compliance before proceeding with the procedure. Post-surgery, providers can use a Web-based system to monitor wound care, pain levels, and physical therapy and can even send short videos of physical therapy exercises to a patient’s mobile device to improve compliance rates. With post-surgery complications for total knee replacement surgery typically averaging 10 percent nationwide, hospitals using iGetBetter have so far reported zero post-surgery complications with patients using the system.

As the industry continues to experience a dramatic change in payment models from fee-for-service to fee-for-value, it’s more important than ever to make the most of digital health technology to improve the physical and financial health of patients and the hospitals that treat them.

“"The Affordable Care Act is creating a sea of change in terms of payment models — moving to shared risk — and that forces much better outcomes from providers," explained Burke. "We consider it a success that these clinicians can use our system to not only play catch-up but to get ahead in every aspect of operations and care."
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Win Burke, CEO, iGetBetter
Validic is the healthcare industry’s leading cloud-based, digital health platform. Validic provides convenient and quick access to patient data from mobile health and in-home clinical devices, fitness wearables and wellness 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 health data from the best in-class digital 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 and Top Ten Innovator Disrupting Healthcare award. Validic’s leading global digital health ecosystem reaches over 160 million lives in 47 countries and continues to grow daily.

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