



Using Patient Generated Health Data To Improve Patient Care

Historically, the healthcare industry has focused on enhancing the quality of care delivered to patients by improving the data collected in the clinical setting. Work has been ongoing for years to improve the quality of this data including the implementation of ERM systems that store the patient's record for each encounter and track the treatments prescribed by the care team. This electronic record can be shared by multiple providers enhancing the medical team's ability to track a patient's care over time.

This approach, however, has multiple limitations. Patients meet with their physician on average 15 minutes per visit.¹ Depending on the condition of the patient it may be weeks or months before they meet with their physician again. This means that the information the care team is using to make treatment decisions is based on a very small snapshot of the patient's life. Periodic calls to or from the patient and occasional medical tests can fill in only a portion of this information gap. All too often, a subset of the patients end up in the emergency room when this visit could have been avoided if the care team was aware of the patient's changing situation.

Further, gathering a complete picture of a patient's current condition is challenging even at the best of times since many patients are not always clear what is important to share with their care team. If a patient has hip surgery and their ankle is bothering them the next day, they may not call their doctor since it seems independent of their hip. However, clinicians know that this could be a sign of a serious condition (Deep Vein Thrombosis) and the patient should be seen immediately. Combine this challenge with a patient that is elderly or not thinking clearly due to powerful medications and the information flow coming to the care team can be even more limited.

Patient Generated Health Data (PGHD) can help address these issues. This type of data is not generated in a clinical setting by the care team. Instead, the patient is the one that is primarily responsible for collecting this information. In the rapidly expanding smart watch market consumers gather PGHD on a regular basis to monitor heart rates during exercise, workout durations, and other performance data that can be uploaded to a smart phone or computer for tracking wellness over time.

But there are PGHD systems that do more than track workout activities. Some systems provide online information on medical conditions, while others seek to improve patient care through a diverse set of capabilities that collect data on:

- Health history
- Communications with their care team
- Current treatments
- Biometric readings for blood glucose levels, blood pressure and other key measures
- Medicines prescribed and frequency they are being taken
- Lifestyle choices – their diet and exercise history
- Current symptoms – how do they feel today.

There are hundreds of PGHD applications and services available in the market place today that provides support for one or more of these capabilities. This emerging industry is undergoing tremendous flux and there is little or no standardization related to the data being collected and how it can be used to improve care. This is the first of several articles that will help readers develop a clear picture on the role PGHD will play in enhancing patient outcomes while doing so in a cost-effective manner.

For any PGHD system to positively impact patient value, the PGHD model must not only support collecting the data from the patient, but it must also share this data with the care providers in a way that provides actionable information. This can be a challenging task since care teams are already overwhelmed with gathering and maintaining the data required to support existing clinical workflows. Any effective PGHD system must reduce the burden on the care team instead of adding to it. While a seemingly impossible task on the surface, the following principles provide the foundation for achieving this aim.

- The data collection process is easy for patients
- The data gathered is specific to the conditions being monitored
- One system can be used for all conditions
- The system tracks changes in a patient's condition
- The system enhances patient and provider communications
- Management of patient activities improves through the use of reminders
- Care teams can see current snapshots of a patient's condition
- Care teams are alerted when a significant change occurs
- The system increases a care team's efficiency and ability to intervene at the right time
- The system reduces unnecessary utilization, e.g., re-admissions

Realizing each of these principles will be necessary to impact patient value. For example, it is key to have effortless input of data since patients will not use any system that is overly complicated or too time consuming. The design perimeters for this principle and the others listed above will be the subject of future publications on the Parnassus Consulting blog.

For more information on how your firm can leverage PGHD systems to improve outcomes and enhance business results please contact Jim Skulstad at Parnassus Consulting at jimskulstad@parnassusconsulting.com.

¹WebMD's 2016 Compensation Report