Providers

Providers are the boots on the ground in healthcare: the doctors, nurses, and a myriad of other care professionals who interact with patients and their families to treat them. Their efforts are important to people's well-being, and very often spell the difference between life and death. This is where the rubber meets the road, where the clinical knowledge created by research, the pills and devices developed by life science companies, the financial coverage provided by insurance companies, the healthcare benefits provided by employers, and the support by all the business functions of hospitals and other healthcare settings all come into play. As such it is a vitally important fulcrum for analytics to support clinicians with information, knowledge, and the tools to improve practice.

The providers included in the case studies are very large, ranging in revenues from just under $1 billion to over $150 billion. They are integrated delivery systems that provide a continuum of care from hospital to outpatient care in an organized and coordinated way and are accountable for the populations they serve both clinically and fiscally. Because they are accountable, they are more incentivized to use analytics and make continual improvements.

The Whats

These five best practice providers in **Part IV** **(http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/part04#part04)** , including Partners Healthcare System, Catholic Health Initiatives, Veterans Health Administration, Air Force Medical Service, and HealthEast Care Sytstem, have been at the vanguard of health analytics partly because of four common areas of content and focus:

- They were early adopters of electronic health records (EHRs). EHRs support their patient care strategies, such as care coordination, disease management, and use of care protocols, by increasing the availability of individual patient and population data and by improving communication among providers. Partners Healthcare, the VA, and the Air Force had EHRs in place systemwide by the early 1990s. Note that only 35% of U.S. hospitals had adopted EHRs by 2011.[2] **(http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch17#ch17end02)** Early wins from EHRs included Computerized Provider Order Entry (CPOE) systems, which improved the accuracy of physicians. medication orders, and also measuring adherence to medication guidelines. For example, adverse drug events were cut in half after the introduction of these systems at a Partners hospital.
- The leadership for clinical analytics is clear at these organizations. They want to achieve clearly articulated institutional goals such as reducing medical errors, achieving uniformly high clinical quality, improving chronic disease management, and using clinical resources efficiently. One of the keys to the transformation of the VA was a performance measurement system that was used to hold senior managers accountable for improvement in performance measures. The analytics undergirding the accountability system include tracking metrics and reporting on them through dashboards. Similarly, HealthEast set out on a "quality journey" to become the benchmark for quality in the Twin Cities area and deployed analytics for measurement and improvement strategies.
- They use a clinical data warehouse for research purposes. For example, Partners uses it for postmarket surveillance to detect problems with drugs and medical devices after they are released to the market. The VA detected an outbreak of a rare form of pneumonia and was able to determine that a certain nasal spray was the cause. The warehouse also provides the data foundation for supporting many forms of research, which can garner big revenues for these institutions.

- Finally, these institutions use analytics for business and finance functions including optimizing revenue, understanding employer attrition, claims adjudication, and reimbursing physicians based on performance metrics such as cost-effective use of imaging services.

The Hows

Much of the work in analytics in healthcare today is building capacity specifically related to connecting the data "pipes" and integrating the data including various forms of clinical, operational, and financial data. The Partners case study demonstrates the issues involved in deciding what goes into an enterprise level analytics design versus a hospital-specific design. Similarly, the overarching question of **Chapter 19** **(http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch19#ch19)** , "Catholic Health Initiatives," is how does a healthcare organization translate data into actionable information for every stakeholder across the enterprise? The need for an efficient and scalable data warehouse is discussed in **Chapter 21** **(http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch21#ch21)** , "**The Health Service Data Warehouse Project at the Air Force Medical Service (AFMS)** **(http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch21#ch21)** ." It addresses the challenges of finding, acquiring, improving, and integrating data and reducing long lead times and frustration on the part of users. **Chapter 22** **(http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch22#ch22)** , "**Developing Enterprise Analytics at HealthEast Care System** **(http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/ch22#ch22)** ," focuses on how to organize analytic teams at different levels to accomplish different purposes.

Payers

Payers, including a multitude of commercial health insurers, employers, and governments, provide the financing for the high cost of health services in the United States. Payers face epic challenges, including the advent of health information exchanges, health insurance exchanges, new Affordable Care Act (ACA) regulations on coverage, premium reviews, profit margins and mandates, new provider models such as Accountable Care Organizations (ACOs), and a huge new pool of customers who were previously uninsured. Payers also face the dual demands to 1) change their business model of providing wholesale insurance to employers to providing retail health and insurance services to individuals while also 2) focusing on the health and management of populations.

Payers had gotten into a routine of managing the economics of benefits and coverage, premium pricing, and various insurance products, but were not as actively engaged in managing health and medical care of members/employees as they were for the brief but noteworthy managed care era of the 1990s. Now, the tenor has changed and the pendulum has swung back and beyond such that insurers are changing the very nature of their business by blurring the lines between payers and providers to ensure better business results and also by changing their mission to become a health company and/or to become an information company where insurance is just one product line for these organizations.

The analytics challenges and opportunities are daunting. Payers have relied on claims data as their intelligence source to understand their business but will need to rely on diverse data to address the above challenges. This diverse data coupled with need to comply with unrelenting regulations will necessitate the review of legacy systems, the capacity of existing data warehouses, and a heightened need to integrate, process faster, discover insights, and contribute regularly to the bottom line.

There are two chapters in **Part IV** **(http://content.thuzelearning.com/books/McNeill.2947.17.1/sections/part04#part04)** on payers, including a