DATA FEEDS
HEALTH CARE FORECASTS

The Boston Red Sox had a long losing streak in the World Series starting in 1918, until new owner John Henry turned it around, first in 2004 and again in 2007 and 2013. How? He used predictive analytics to study the statistics of minor league players who showed promise.

Today, big data like predictive analytics dominates the news. Predictive analytics have been used in health care to determine which populations might be more at risk for disease as well as understanding which patients have a higher likelihood of being readmitted. According to David Crockett, who practices research and predictive analytics at Health Catalyst, an outcomes improvement firm, the characteristics that make predictive analytics useful is that data is "timely, role-specific and actionable." The data tells a story, in other words; one that can help improve patient health and outcomes.

Big data and predictive analysis are being used in population health management, too, allowing organizations to better manage chronic diseases such as diabetes and heart failure. Another dimension focuses on prevention and wellness. As *Forbes'*

Bernard Marr notes, "With the world's population increasing and everyone living longer, models of treatment delivery are changing and many of the decisions behind those changes are being driven by data. The drive now is to understand as much about the patient as possible — hopefully picking up warning signs of serious illness at an early enough stage that treatment is far more simple (and less expensive)."

So how do we make our personal contributions to big data? Our supermarket shopping cards track our purchase patterns; automobile companies survey our likes and dislikes about a car we have purchased; and, in terms of health, our Fitbits and other wearables collect the number of miles we walk in a day, the number of stairs we climb, and how our heart rate correlates. Apps on our smartphones let us know how many calories we consumed and burned. We can upload this information into a database that allows us to compare ourselves to others. This data can be cross-referenced with other information about us.

We may opt to share our data with our physicians during an annual

review of our health for development of a personalized plan. If intervention is needed, our health care provider might access information about how others with similar health characteristics to ours have fared before prescribing that treatment for us. Personalized medicine is here and both big data and predictive analytics have ushered in this possibility.

For more information:
TED Talk:
http://www.ted.com/talks/kenneth_cukier_big_data_is_better_data
David Crockett, PhD
https://www.healthcatalyst.com/predictive-analytics-healthcare-technology
Bernard Marr:
http://www.forbes.com/sites/bernardmarr/2015/04/21/how-big-data-is-changing-healthcare/#523e6a732d91

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