How 'Moneyball' analytics can predict population health

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*IMAGE: OPTUM*

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What does baseball have to do with healthcare? Everything.

In 1999, the immense power of applied analytics was put on display; but it wasn't at some technology conference or corporate seminar. It was on a baseball field, when the most unlikely of teams cobbled together a championship-caliber, yet under-budget roster using sophisticated analytics.

[The Oakland Athletics](http://oakland.athletics.mlb.com/) changed the world of baseball that year -– and provided a model for future adoptions of advanced statistics.

Of course, you're probably familiar with the plot of *[Moneyball](http://www.amazon.com/Moneyball-The-Winning-Unfair-Game/dp/0393324818" \t "_blank)* the best-selling book by Michael Lewis, later made into an academy-award winning film starring Brad Pitt. But you may not be familiar with the ripple effect that it's had on several inefficient areas of the business world. Most recently: Healthcare.

Like the pre-*Moneyball* Oakland A', the healthcare industry is in a rut –- and as a result, we're left paying too much and getting too little in return. Data and analytics can change that. 

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**The problem (and the solution) starts with data**

The quality of the data you have determines the quality of analysis you get. As the old saying goes, "garbage in, garbage out."

In healthcare's case, the "garbage" is old, incomplete, and –- worst of all –- hand-written medical data. The "garbage" often takes the form of "claims data": Patient records kept by healthcare providers in order to get reimbursed by insurance companies.

Claims data is the healthcare equivalent of old-world baseball statistics: Batting average, strike outs, home runs. When recorded accurately and completely, claims data gives us a broad view of a patient's heath. But, claims data can only tell us what has happened to a patient in the past, not what might happen in the future.

As the Oakland A's discovered, these old-world metrics often leave you paying more for the past, and not getting your money's worth in the present and future.

The good news: More and more healthcare providers are moving away from hand-written claims data and toward the use of Electronic Medical Records (EMRs). EMRs have infinite lifespans, allowing them to contain all available patient data, and they are fully customizable -– allowing doctors to make notes and describe the way care was administered.

EMRs are the healthcare equivalent to the sabermetrics –- advanced, situational statistics — that allowed the Oakland A's to predict which under-budget players gave them the best shot at scoring the most runs in a season. In the same way, analyzing EMRs can help healthcare providers predict which patients will need care and when. With that knowledge, providers can deliver better, timelier care without the added costs of unexpected hospitalizations.

**Sounds great in principle; but can it actually work?**

Consider this: The U.S. healthcare system wastes an estimated $55 million each year missed prevention opportunities, $210 billion from the delivery of unnecessary care, and $130 billion from the inefficient delivery of care.

We think we can change that.

Specifically, here are three costly conditions that we consider "low hanging fruit" for predictive analytics: Diabetes, $116 billion annual cost; Chronic Obstructive Pulmonary Disorder (COPD), $75 billion annual cost; and Congestive Heart Failure (CHF), $55 billion annual cost. Substantial cost savings are possible for each condition by arranging targeted interventions for high-risk patients.

Optum helped Cornerstone Heath Care of North Carolina use analytics to identify high-risk diabetics in their network by looking for dangerous blood pressure and cholesterol levels in patients who hadn’t received care in six months. Once identified, Cornerstone was able to schedule targeted interventions and shrink their high-risk population by 12%.

Using predictive analytics in healthcare works. When applied properly, analytics can help providers deliver better, more customized care at lower costs.

[Click here](http://info.optum.com/eBook_Request_Optum1) to download the Moneyball Analytics eBook and for more information and to view more case studies, visit [www.optum.com/analytics](http://www.optum.com/analytics).

*\* All facts and figures were taken from "Moneyball Analytics: Connecting and leveraging the best data across the health care continuum." Optum (various), 2014.*

https://mashable.com/2015/04/02/healthcare-analytics-brandspeak/#I4fpwpILOOqX