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Clinical data analytics next big thing

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By *Erin McCann*, Associate Editor

The clinical data analytics market is about to get red hot. With the shift toward new payment models and the sheer amount of clinical data contained in electronic health records, more and more healthcare groups are looking to analytics solutions for population health management, according to a new report released Tuesday.

The clinical analytics market report, conducted by Chilmark Research, describes a relatively immature but burgeoning market for clinical analytics solutions, driven primarily by the major new challenge of population health management.

Healthcare groups are now taking myriad approaches to address their analytics needs including combining claims with clinical data. As providers increasingly seek to reduce the risk of the patient populations, this claims-based legacy will be both a starting point as well as a distraction from analyzing much richer clinical data from clinically-housed sources.

[See also: [Data analytics poised for big growth.](#)]

"There is no way around the fact that clinical data analytics will play an essential role in furthering PHM efforts," said Cora Sharma, lead analyst of the Chilmark report, in a news release. "High-touch care management processes of the past will no longer suffice as the size of the problem is too vast, resources too few and patients too numerous. However, with the exception of payers, the healthcare industry as a whole is late to the analytics game," Sharma continued.

Clinical data analytics is poised to grow at a CAGR of 37.9 percent from 10 percent adoption in 2011 to 50 percent adoption by 2016, according to a recent Frost and Sullivan market analysis.

Report findings detail, however, that despite strong market growth, it's not all smooth sailing for data analytics.

First, managing such complex and extensive data troves proves very much a **daunting task for providers** who already have a lot on their plates.

Such analytics solutions can also cost a pretty penny, and when provider organizations are currently pinching pennies due to financial woes, clinical analytics may often be put on the back burner. A common language across the industry has yet to be established, as vendors still prefer to market under terms like "big data," "population health management" and "ACO," researchers say.

Furthermore, claims-based analytics is still very much a reality. The end result, a market that creates significant challenges for those providers and healthcare organizations that seek to adopt analytics solutions in advance of payment reform driven in large part by the Affordable Care Act. These providers come from a range of payment perspectives, from those seeking P4P reimbursement, to those plowing headfirst into managing patient risk, to those that simply want to practice managing risk before they take the leap.

[See also: 5 ways hospitals can use data analytics.]

Many analytics vendors in the industry are seeking to align their brand with PHM by any means necessary, researchers say, which has led to an uptick in competition, making it increasingly difficult for vendors to differentiate themselves in the market. Report findings detail that, surprisingly, several well-known brands are still in the beginning phases of entering the market, while some other startups have seen more momentum when compared to some of the biggest market competitors.

"Clinical best of breed vendors had initially enjoyed little competition, but in the last 12 to 18 months have seen a significant increase in competition," said John Moore, founder of Chilmark Research, in a news release. "Unfortunately, we have also found a very immature buyers' market. This has led to significant confusion as to what the true capabilities are of various analytics solutions to address the strategic needs of a healthcare organization. It is our hope that this report will lead to a more educated market and wiser purchasing decisions going forward."

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Analytics project slashes sepsis deaths

Posted on Oct 20, 2014

By *Erin McCann, Associate Editor*

The folks at Penn Medicine know a little something about putting data analytics to work. After identifying three years ago that their sepsis mortality rates were higher than expected, they set out to do something about it by harnessing predictive analytics. And the results? They're impressive.

After setting its sights on leveraging clinical systems data and building out an early warning system to make it work, the three-hospital health system saw promising numbers, noted Christine VanZandbergen, associate chief information officer at Penn Medicine, who helped spearhead the analytics initiative.

"One of the reasons we chose sepsis was, in terms of altering the care pathway, there is strong evidence to suggest that if you intervene early and appropriately, you can actually decrease mortality rate," said VanZandbergen, who will be speaking at the [HIMSS/Healthcare IT News Big Data & Healthcare Analytics Forum](#) Nov. 20 in Boston.

[See also: [Clinical data analytics next big thing.](#)]

And decrease the mortality rate they did. After building an algorithm for the early warning system that identified patients likely to benefit from early intervention, Penn Medicine watched its sepsis mortality rates fall 4 percent overall, from 17 percent at baseline to 13 percent today.

Big improvements in clinical care measures certainly didn't hurt. The team saw notable progress with antibiotic administration rates, which increased 10 percent – from 13 percent at baseline to 23 percent post implementation; IV fluid bolus also increased from 15 percent at baseline to 26 percent today.

Septicemia is currently responsible for the deaths of 36,000 people each year, according to data from the [Centers for Disease Control and Prevention](#), making it the No. 11 leading cause of death in the U.S. Officials estimate average sepsis mortality rates to be more than 16 percent nationwide. In addition to the human death toll, the disease also costs the industry a pretty penny financially. It persists as the No. 1 most expensive hospital condition, costing more than \$20 billion annually.

[See also: [Healthcare analytics enters new age.](#)]

Penn Medicine's project targeting sepsis mortality rates, as VanZandbergen pointed out, had both its straightforward tasks and its difficulties. For one, "the availability of the data was also relatively easy over the trajectory because we have been up on our clinical EMR for a period of time that allowed us to ensure that our data was reliable," she added.

But, although the clinical data piece was, for the most part, uncomplicated, and the algorithm proved "pretty straightforward," she and her team's biggest challenge pertained to "designing the operational response." For this part, VanZandbergen, who will detail Penn Medicine's case study at the data analytics forum, said forging relationships with both clinical and operations leadership proved integral.

In terms of what's next, based on the success of this initiative, VanZandbergen sees more data analytics in her future – clinical EMR data, specifically. Working with data scientists and Penn Medicine's data analytics center, officials hope to further leverage EMR data as it relates to quality outcomes, far beyond sepsis.

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