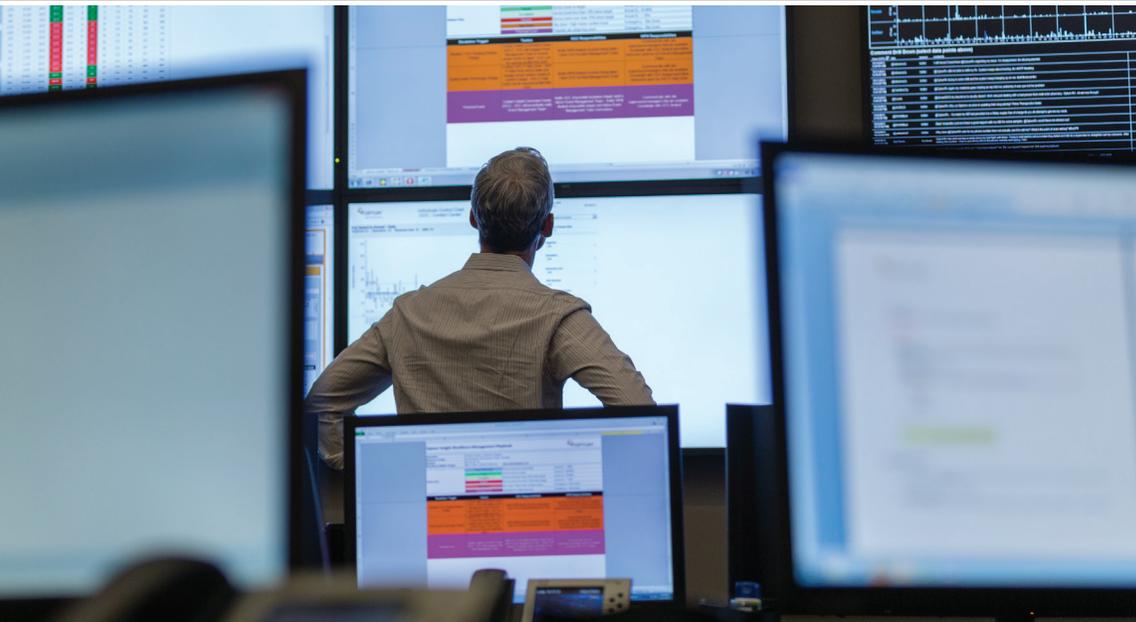


Gaining market intelligence from electronic health records



You know how your drug is performing in the marketplace, but do you know why it's performing as it is? The "how" can be quantified in many ways. Prescriptions written, sales figures and adherence rates are just a few of the most common. But when you're interested in the "why," traditional data sources available to both you and your competitors don't cut it. You need to know what's driving the decisions made by the people prescribing and using your drug.

A lot of the thinking that goes into those treatment and drug-usage decisions can be gleaned from electronic health records and, more specifically, the provider/patient conversations that are recorded there.



Written by:
Michael Sanky
Principal Consultant

Study the notes

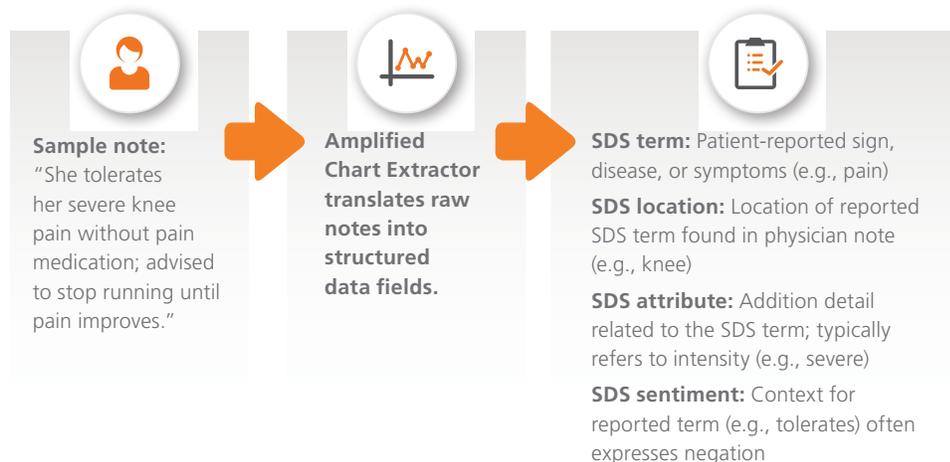
Optum™ has access to electronic health records (EHRs) for more than 40 million de-identified individuals through our strategic services relationship with provider groups. As you might guess, the provider notes from the EHRs contain an incredible amount of rich information about how your drug is being used. Provider notes, however, are not all that useful to you in their original form. That's because they are written in a number of different settings by a wide range of professionals, including office administrators, nurses, primary care physicians and specialists, often using different lexicons, references, spellings and formats.

To successfully mine the gold in provider notes, Humedica, an Optum company, uses Natural Language Processing (NLP) to create semi-structured variables for research that represent concepts in domains, including drug prescription rationale, clinical measurements, therapeutic and diagnostic procedures, family history, and signs, diseases and symptoms. Humedica's NLP system, the Amplified Chart Extractor (ACE), brings to light invaluable details and insights for researchers and marketers, including:

- Provider observations
- Patient history, statistics, labs and vitals
- Original date of diagnosis (which can extend the time frame of a study)
- Signs, diseases and symptoms (SDS)
- Medications, both prescribed and OTC
- Treatment rationale and plans

Optum then makes this information available and accessible, along with other data from the EHR, in a software platform known as NorthStar™, which puts you right in the middle of the provider/patient conversation, where incredible granular detail about patient assessments can be gathered. For example, when a patient talks about pain, ACE pulls out details such as whether it's dull or sharp, moderate or severe, rare or constant, or increasing or decreasing. NorthStar puts this intelligence at the fingertips of marketers to see what is driving treatment changes impacting brand performance. From there, you can fine-tune and pinpoint your marketing and communications so you're sending the right message to the right audience.

Taking a structured approach



NorthStar uses natural language processing (NLP) to translate provider notes into data that can be aggregated across a patient population so it can be more easily analyzed and used to drive marketing decisions.

Here is a real-world example of how this technology can help you get a clearer understanding of your drug's momentum.

A company experiencing delays in its diabetes pipeline wanted to expand the market for its existing diabetes drug. Using Northstar and Optum clinical data, they found that the clinical profile of patients who use their drug was not what they assumed it was.

The company was under the impression that their drug was being used by patients who have clinical profiles similar to those taking GLP1 and basal insulin products. What they found was that there was a much closer connection between the clinical profiles of patients taking their drug and patients taking SFUs. This allowed the company to expand their market by also targeting patients using SFUs.

Putting it all together

Now, since Optum possesses clinical and claims information on several million individuals, we are able to shed even more light on a drug's performance in many cases. Using an integrated approach that produces data that is both clinically rich and claims complete, we can examine cost metrics with clinical specificity in a way that is unprecedented in the industry today.

In the end, we can provide comprehensive, population-level data and clinical intelligence that can help you answer the most important questions about your brand and product portfolio, including:

- What clinical factors are influencing treatment decisions?
- Which classes and brands are competing for the same clinical profile?
- Who are you losing business to?
- How do you identify unmet needs and market opportunities?
- Are you attracting the right patient segments, based on your product's unique clinical profile?

You can use these answers to allocate your resources most effectively and hone your marketing messages. With integrated claims and clinical data, you'll gain insights into patient and physician behaviors that can help you accelerate the growth of your brand and capture a greater market share.

See how Optum can help reveal deeper insights into your drug's performance.

Call: 1-866-306-1321

Email: connected@optum.com

Visit: optum.com/life-sciences



11000 Optum Circle, Eden Prairie, MN 55344

Optum™ and its respective marks are trademarks of Optum, Inc. All other brand or product names are trademarks or registered marks of their respective owners. Because we are continuously improving our products and services, Optum reserves the right to change specifications without prior notice. Optum is an equal opportunity employer.