

Using Big Data to Make Big Changes to Network Development

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Developing optimal workers' compensation networks has been problematic for employers for years. There is no shortage of information, reports and analysis today. There is, however, often a frustrating lack of actionable insights — the kind that improve outcomes, save money and create more focused and sustainable programs.

As in other industries, Big Data has the potential to provide measurable benefits for workers' compensation network development. In workers' compensation, Big Data can be described as *a sound business strategy that integrates business intelligence with key performance indicators to continually evolve workers' comp programs, resulting in improved employee outcomes while controlling medical costs.*

Building a Better Network

One area where Big Data can be especially valuable is network development, where it can be used to engage providers with the best track record for treating the injuries that drive comp costs, directing injured workers to those optimal providers and continuously improving the network through data analysis and application.

More easily said than done, of course. There are a number of challenges in achieving the promise of Big Data in network development, ranging from securing the right technology to having the experts to help filter out the noise that accompanies any large data set.

With the right strategy, technology, tools and resources, however, these goals can be achieved. Developing a Big Data strategy for provider networks encompasses four key areas:

1. Quantitative framework — a process that objectively measures provider performance and uses that data to develop a numerical evaluation — a biostatistically calibrated quantified ranking based on patterns of care, cost and outcomes within specific geographies and specialties.
2. Qualitative assessment — based on such information as claimants', adjusters', and nurses' satisfaction scores.
3. Analytical tools — the technology and methodology used to gather, analyze and report findings.
4. Service delivery — the processes that use the data to hold providers accountable for their results and to put conclusions from the data into action.

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The Value of Quantitative and Qualitative Evaluation

To date, many workers' compensation programs have done well collecting the quantitative data needed for network development. The industry knows how to gather information on key program performance indicators (KPIs) such as return-to-work data, average medical cost per lost time claims, injuries per thousand employees, medical indemnity spending per year, and the frequency, duration, cost severity, and location of injuries.

These metrics do enable performance monitoring, but Big Data can bring in other data sources, including claims, medical bill review and utilization review systems.

Once useful information has been gathered from these data sets, more insights into quality can be developed. Collecting data on quality can be challenging, however, because those who collect and use this data often have concerns about reporting bias or the potential for skewed results from incomplete information.

The Dark Spaces in Big Data Corners

What's more, despite the value and promise of data gathering and analysis, there will always be dark spaces, times when the data is not good enough or there is not enough data to provide a statistically valid analysis. Often there is more data on medical groups than there is on individual providers. There are also challenges in some rural areas because often it is difficult to obtain enough data to achieve statistical relevance.

So it can be difficult to get the granular data that is most useful to quality network development. Because of these dark spaces, it will be necessary to gather information from other sources.

One way to address concerns about gathering information about quality is to look for reputable and reliable external resources. Consider the example of Internet search resources. Looking for a restaurant, consumers can use Yelp and find comments from recent visitors. Or they can use the *Michelin Guide*, an internationally recognized source of restaurant evaluations by experts, or search online for reviews by bonafide restaurant critics.

DO YOU HAVE THE RIGHT DATA?

To secure actionable analytics from a Big Data approach to managing workers' compensation injuries, incorporate analysis and reporting from a wide range of data sets, including:

- 1 Consider the injured worker's diagnosis related to comorbidities/confounding factors.
- 2 Check the prognosis as it relates to the injured worker's medical condition.
- 3 Take into account the functional status of the worker; what alternative jobs could he/she perform?
- 4 Assess provider billing practices and use of high-end coding.
- 5 Compare provider treatment plans to best practice guidelines.
- 6 Analyze return-to-work success in both a full- and part-time capacity.
- 7 Measure approval rates and compliance with utilization reviews.

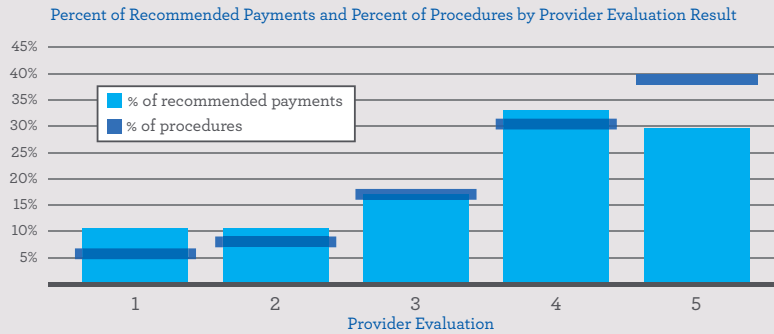
Gathering Wisdom

For those developing workers' comp networks, there are several sources to consider who have deep knowledge and experience, but whose expertise is rarely tapped. For example, one of the best ways to secure expert-level insight is through local case managers who have current, real-world experience with the treating providers in their communities. These local nurse case managers know providers' reputations and their willingness and ability to meet best practices. They know patient experiences with these providers.

Also, adjusters can offer useful insights into providers' levels of cooperation with claims management processes, claims history, and more. Claimants themselves can provide information about their own experiences with providers through surveys that ask such questions as: Did my provider listen to my concerns? Did she fully explain my condition and treatment options? Was she available to answer questions and address concerns? In addition, trustworthy providers will be able to provide first-hand feedback on how a particular provider interacts with other providers and is perceived by patients, plus other relevant observations.

Such information-gathering efforts are necessary because they provide the wisdom of people involved in delivering care to injured workers every day. Incorporating their insights into quantitative ranking systems enables employers to stratify providers in a more nuanced fashion. Gathering such information involves asking a few additional questions and conducting direct field outreach. This information can be supplemented, as needed, through web-based or telephone surveys to gather relevant findings cost effectively.

Use Big Data to build more robust provider evaluations. Analyze where your dollars are being spent based on provider evaluation scores and try to steer to top-performing clinicians.



Bringing it all Together with Actionable Analytics

The strategy behind the use of Big Data in workers' comp is to gather relevant data from as many sources as possible. It's important to look at claimants' demographic data, financial data from bills, and utilization review (UR). UR data can show, for example, how often a provider's treatment plan is denied or approved as well as details of treatment down to the line level.

Once all this data is gathered, employers face the challenge of bringing it all together and filtering out statistically insignificant data, including information that may be insufficient. That is why it is crucial that analysts and subject matter experts thoroughly review the data related to each claim. Consider what might happen if the data showed a reduction in medical spending. A technical analyst might attribute that result to a new program, but a more experienced analyst would know that a state might have recently instituted a new fee schedule and this fee schedule had a significant effect on spending.

When the data generated through the Big Data approach is compiled it can be used by algorithms to yield useful information for decision makers and network managers. Successfully applying the analytics from Big Data also requires strong operational processes that facilitate the development of actionable reports. Operations also will want to create systems to hold decision makers accountable for using the information provided, monitoring progress, and continually updating processes.

Big Data Will Work in Comp

The combination of more robust data, experts to analyze findings, and systems and processes to enable actions makes up the infrastructure needed to identify the best providers and to ensure that claimants are directed to them. Since all these elements must be in place for Big Data to play a big role in workers' compensation programs, it's incumbent on employers, payors, managed care organizations, vendors and industry leaders to ensure that we gather, analyze, report on and, most importantly, act on the data. Turning insights into action is the only way to gain value from promising technology and new approaches in workers' compensation.