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Beyond Evidence-Based Research: Big Data & Practice-Based Evidence



Research has contributed a large amount of data to the health and human service industry, much of which has come in the form of evidence-based recommendations to help improve the efforts and services of individual providers. But acquiring evidence-based practices through this approach is costly on two fronts – it takes large amounts of money to organize and conduct randomized controlled trials, and it takes a long time to deliver the findings to practitioners in a usable form. This month, I had a chance to speak with Dennis P. Morrison, Ph.D., Chief Clinical Officer at Netsmart about possible solutions to those two problems.

“We need to go beyond evidence-based research,” Dr. Morrison said. “There are plenty of evidence based protocols out there, but our love affair with evidence-based treatments is probably incomplete. There is a 17-year science to service gap, which means that this research will not hit a clinician’s desktop for 17 years. That’s way too long. And, that assumes they actually adopted the treatments, and they aren’t. The half life of industry knowledge is six years, which means if you knew everything today, in six years half of that information would be obsolete. Our traditional education models just can’t keep up.”

Data systems have long been about clinical data storage, clinical decision support, and improving organizational billing functions, but the move to big data means your data investment needs to expand for maximum leverage and competitive advantage.

The slow and incomplete adoption of research findings in professional practice is a serious flaw for an industry that seeks better coordination for science, policy, and practice; as well as the integration of health care services currently siloed in different care systems. Providing additional best practices through the same research to service channels is unlikely to speed a more widespread adoption. That is where “big data” comes into play.

“Another part of this is big data,” Dr. Morrison said, “which gives you practice-based evidence. This is where it’s all going. We can run real time research analysis on that data, and turn that around immediately. We can feed that back to clinicians, to larger data sets, and trends start emerging to what seems to be working.”

Accumulating “Big Data”

Technology that collects user information and electronic health records (EHRs) that store and share patient health information are adding to the rapidly increasing information collection that is called “big data.” The term “big data” generally refers to the situation where multiple large data sets are combined in ways that permit previously impossible analysis.

Organizations can use new large scale analytical tools to find previously undiscovered trends and relationships to make better predictions. Accessing these data sets will be critical for answering that ever important question in the health care industry – How do you know (and prove) your interventions are effective?

“From my perspective, I think the short answer to that is outcomes,” Dr. Morrison said. “We have had long, long conversations in the industry about outcomes. On one hand, some say we do not have the right metrics, so therefore you can’t measure the stuff. Others say we have too many metrics. The short answer is, you have to measure stuff, and it’s that process leads to some of the challenges.”

But, the philosophical outlooks and education of many organizations and individual clinicians is a hurdle to the successful collection of new data, the proper understanding of the data, and the deployment of new practices based on that data. “In our industry you have a culture that is not just unaware, but actively resistant to metrics,” said Dr. Morrison. “Some clinicians say this is an art, not a science. The reality is, there are measures that can prove this stuff.”

What Should You Measure?

Dr. Morrison notes that organizations should measure the normal clinical assessments, such as functional assessment (how is the person doing in life?) and symptomology (is the person’s condition improving?). But he adds that satisfaction – is the patient satisfied with the treatment, and the provider? – is one that most organizations aren’t prepared to identify.

“Satisfaction ranks up there [in importance] because it is the only thing that correlates with treatment compliance” Dr. Morrison said. “The people who come to behavioral health care professionals, and our industry is not particular good at treating them as customers. It is pure and simple customer service. Most people can’t judge the quality of the clinical service, but they can judge the customer service very well. In my mind satisfaction ranks right up there as something we really need to measure.”

Large Data Warehouses

“The real opportunity is in the larger data warehouses,” said Dr. Morrison. “The whole idea behind evidence-based practice is, if you do treatment a certain way, you’ll get certain outcomes. Practice-based evidence flips the paradigm, and says we really are agnostic about why the treatment is effective, and we will try to replicate why certain treatments are working. If someone is getting superior outcomes, we’d like to know what they are doing to get those outcomes. It allows you to start drilling into the data in a way you never could with small data.”

Data systems have long been about clinical data storage, clinical decision support, and improving organizational billing functions, but the move to big data means your data investment needs to expand for maximum leverage and competitive advantage, where data collection efforts will include using new diagnostic tools, remote patient monitoring equipment, and EHRs, “drilling into the data” and understanding that data means understanding four important categories (see [One Of The Many Advantages To EHRs: The Ability To Use Your Data For Strategic Decision Support & Market Differentiation](#) [premium members](#)):

1. Data - Raw symbols with no significance beyond its existence
2. Information - Data that is processed to be useful and can provide the basic answers to the "who," "what," "where," and "when" questions
3. Knowledge - Application of data and information that answers "how" questions the collection of information with the intent to be useful
4. Wisdom - An understanding of "why"

And, using data in five important ways:

1. Development of Organizational Strategy – Using data to assess internal resources against external environment
2. Design of Operating Unit Plans To Support Strategy Implementation – Using data to conduct operational business unit gap analysis and set performance standards
3. Management of Performance – Using data to manage the organization's operations to the performance metrics required for success
4. Evolution of Market Positioning – Using data to compare organizational performance against competitors to gain competitive advantage
5. Participation in Performance-Based Contract Arrangements – Using data to prospectively estimate (and manage) performance

"We need to make clinicians data informed, but we always want the clinicians to make the decision," said Dr. Morrison. "What is the content we want to give them, and how do we give it to them in a way they will accept? If I write the key to life's happiness to you in Russian, and you don't speak Russian, we have a problem."

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Thornton, Cory W. (2012, September). *Beyond Evidence-Based Research: Big Data & Practice-Based Evidence*. OPEN MINDS Management Newsletter.

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