

Notes from Healthcare Analytics Industry Panel - September 27, 2012

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General notes

- Healthcare is data rich but information poor. Now the tools are available to analyze the data.
- Analytics teams focus is on looking for people with math and stats skills. They work with IT professionals, but they are not IT professionals.
- Need is for predictive and proactive information from patient data. Focus is on using the information to increase economies of scale, and cost effectiveness.
- EMR/EHR products are too focused on one patient encounter and include a lot of textual information which is difficult to analyze with analytics tools.
- Critical skills/knowledge: Practical experience, capstones, case studies are critical.
- Difference between analysts and analytics professionals: analysts use computer tools to move data around and produce reports; analytics pros use math and stats skills to look at patterns in the data and derive meaningful and relevant information.
- The emphasis is on info, not data; the emphasis is on deriving meaning out of the data; not on the data manipulation tools/technology
- The business and clinical side overlap very much
- For good case studies, look at industries outside of healthcare. Industries that have done analytics much better than healthcare.
- An analytics team is comprised of: a bunch of IT professionals who plan and interact with the databases; Some more mature analyst professionals who combine enough IT and biz background to be able to effectively interact with clinicians; a few project managers who understand the domain and the technology; and one or two guru data analytics professional who have the high level stats/ data analytics skills, can look at huge data sets and find patterns
- Analytics professionals in healthcare come from a wide range of backgrounds: polysci, IT, clinical...

Critical skills/knowledge:

- Standard quality measures – how to present the information and be heard especially when the information is not “good news”
- How much stats/math is a discussion and may depend on the actual job.
- Intellectual curiosity about the data.
- Descriptive stats, inferential, and predictive stats, and statistical significance. Curriculum can be adapted from other domain areas with programs that focus on large population analytics, like sociological sciences.
- Info graphics, visualization.
- Ability to look at the data from different perspectives.

- Critical thinking skills; critical asking skills; ability to “critique” the database
- Understanding and ability to analyze the information customer chain; chain of decision makers
- Data lineage – where did the data come from – be cautious about where the data comes from
- Requirements management; why do you need this info; for what purpose; investigative skills
- Understanding the vocabulary of healthcare; regulatory pieces
- Need only an overview of healthcare finance
- Healthcare policies
- LEAN practices
- Writing business requirements
- Cross section between domain knowledge and technology
- ETL (database skill)
- HL7
- Different systems in the healthcare org and the different types of data they produce
- Focus on the user experience: data → info → presentation
- Clinical protocol compliance
- Leadership and project skills
- Ability for students to build credibility very quickly (practical experience, internships...)
- Ethics course
- Process workflow, data flow, from patient administration, through discharge and transfer (ADT)
- SPSS - Statistical Package for the Social Sciences - (computer program used for survey authoring and deployment, data mining, text analytics, statistical analysis, and collaboration and deployment (batch and automated scoring services)

Trends:

- Big data is getting bigger. Genomics will push it even further.
- Consolidation of data across disparate organizations, units, groups - Data sharing
- Point of care analytics – real time quality – real time point of care intelligence
- Multiple care pathways
- Natural language processing – linguistic processing skills – to analyze all the text entered in patient charts
- More emphasis on predictive analytics
- Cloud and social; computing analytics – How “patients” use social media