Breakout session on

Commercial applications of big data semantics

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General Considerations

- Markets for drug discovery, doctors and patients
- Drug repurposing: discovery off-label prescribing opportunities
- Can pharma companies mine prescribing information to find new patentable uses of drugs?
- Nanopublications offer data anonymity, and micro-licensing of data
- Pharma: association finding, knowledge discovery, new mechanisms, targets. "crude oil" -> "refineries"
- Money to be made in big data is in expert applications
- Expert applications in research science, drug companies, doctors, patients
- Opportunities with publishers
- Low knowledge / high knowledge users: mass market vs specialized
- Horizontal (data) vs vertical (applications)
- Public vs private data
- Quantitative vs Qualitative
- Pharma is mostly OK with secure cloud storage of proprietary data
- What are people upset about with healthcare that can be addressed?
Proposed Solutions

• Micro data licensing, nanopublications, micro publishing – Elsevier, PLOS, Nature; Euretos: Venture / industry funding + NSF? Potential for large audience

• Pharma/researcher killer app: define (network/area) of interest – draw real time data (data, papers, feeds…) into networks of interest – semantic prediction. +Vivo = heavy personalization – concept profiles, group formation

• Patient/Doctor killer app: intelligent prescribing (including off target) based on molecular and EMR data. Increases efficiency of drug use – happier patients, lower cost, reduced drug-drug interactions.
Associated Challenges and Opportunities

• Need:
  – Customers
  – Partners
  – Cash

• “Technology in search of a problem”