Keynote speaker

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Changing the Model in Pharma and Healthcare – Can we afford to wait any longer?

Innovation in healthcare delivery and Pharma requires rethinking old problems, retooling with new methodologies and revisiting the process models that are foundations of our existing knowledge discovery and clinical practice. The continuing proliferation of ubiquitous sensor data, mobile devices and the advent of 3D printing of drugs, together with a social mind shift in data ownership are clear indicators that Data is the new money. And yet, data integration remains one of the core challenges to innovation despite real-time availability of 'big data'.

Increasingly persistent, semantic data integration continues to be adopted and recognized for its dynamic data models and formalisms which make it possible to infer from and reason over interconnected contextualized 'big data', creating actionable knowledge faster and at lower cost.

While such technical advances underpin the successful strategies to drive clinical decision support and positive patient outcomes or accelerate drug design, there are equally profound initiatives leveraging the impact of social media and the willingness of patients to share their own data. Together these are the drivers that are opening the doors to new patient-centric, precision-medicine healthcare models.

In light of this, and the astronomically rising costs in research and healthcare, we have arrived at a critical turning point where it is now well within our reach to change how drugs are developed, how trials are performed and how patients are treated - moreover, we can do this with huge benefits for otherwise unsustainable industries. Using comparative effectiveness and side effect analyses for every patient, and by basing treatments on solid prognoses and therapy decision support, we can and must change discovery and healthcare into a data driven and patient centric paradigm. This will change the playing field definitively and the socio-economic benefits will be enormous.

With several examples I will show that not only is this possible today, but that such approaches already have traction; (i) in Pharma for assessing the impact of excipient choice on drug stability and efficacy, pre-clinical toxicity assessment, and providing integral systems views on drug safety, (ii) in Government for the FDA's cross species biomarker initiative to reduce animal testing and (iii) in Health Care for organ transplant rejection assessment and COPD.