Big Data & Global Flows
The Power of Analytics

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- Power and value of analytics
- The “baby with the bath water”
- Three examples
Bank Fraud
Banks and Merchants Worldwide

- **Challenge**
  - Credit Card Fraud costs $400,000,000 ($400 Billion USD) per year
  - Drives up the cost of every purchase
  - Drives up the cost of credit
  - 200-500 transactions per second 24-7-365
  - Transaction approval/denial in 2 milliseconds
  - Financial fraud models have short life span (fraud perpetrators are clever)
Bank Fraud
Banks and Merchants Worldwide

- **Opportunity**
  - Prevent paying fraudulent transactions
  - Lower the cost of credit
  - Lower the cost of goods and services
Human Genome
Public Health

Human Genome

Challenge

- 20,000-25,000 genes in human DNA
- 3 billion chemical base pairs that make up human DNA
- Drugs may make you better or kill you
- One works, one does not / which one to take?
- 13,000 prescription drugs on the market
- 1.4 billion people in EU, Japan, U.S.
Opportunity

- Cost to have genome sequenced reduced by factor of 10,000
- Made to measure drugs within 10 years
- Gene therapy, cure diseases
Public Child Care
Los Angeles County

**Challenge**

- 40% increase in child care services fraud
  - Provider fraud & recipient fraud
- Perpetrated by highly-organized fraud rings
- GOAL: Need to identify benefit recipients and service providers and predict those most likely to engage in fraud and where there might be a potentially large loss of funds
Public Child Care
Los Angeles County

- Analytics Deployed
  - Data integration
  - Data mining tools
  - Predictive capabilities
Public Child Care
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- Results
  - 85% accuracy in identification of suspected fraud ring
  - Able to effectively detect fraud before it occurs
  - Pilot program identified $31 million in fraud
  - Expected return on investment: $7 to $30 million annually
• Analytics and personal data can be a powerful, positive force
• Be careful of the unintended consequences of legislation