IGNITE Highlights and Opportunities: Economic Considerations

Overview of presentation

1. Discuss the role of economic analysis in genomic studies

2. Identify the challenges to incorporating such analyses

3. Describe how IGNITE is addressing these challenges
   - Current IGNITE projects
   - Potential future projects in the IGNITE Network

Role of Economic Analysis in Clinical Adoption

Requirements for genetic testing

1. Have clinical value in the practice setting

   AND

2. Be economically viable in such settings

   i. Genetic testing should only be widely implemented if it can be shown to be high value medicine.

   ii. Genetic testing will only be widely implemented if providers are properly incentivized to adopt it

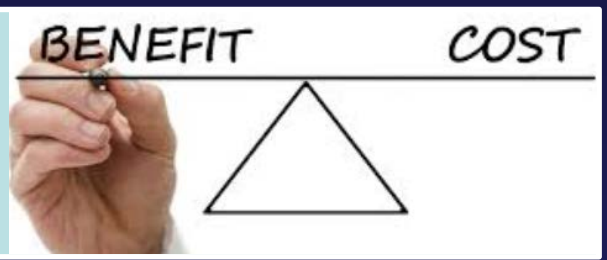
Economic analysis alongside clinical studies will generate the information needed to support widespread adoption

Challenges to Incorporating Economic Analysis in Genetic Studies

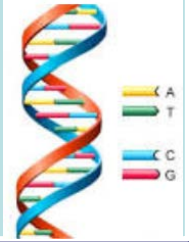
Economics and genetics are two disciplines separated by a common alphabet

Need to move from multidisciplinary to interdisciplinary models of team research

Cost Effectiveness



Geneticist



Broad term that may include:

- Cost of reducing an event?
- Cost include genotyping?
- Cost of care between groups

Economist

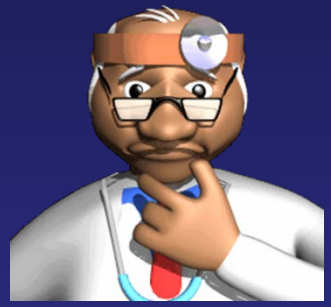
Very specific term different from:

- Cost benefit
- Cost utility
- Cost of illness
- Cost analysis

What economics-related questions SHOULD be answered?

Which questions should receive highest priority and by whom?

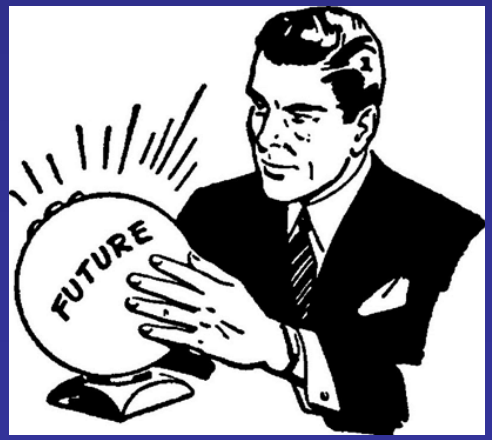
Policy-makers



Providers

Payers

In a rapidly evolving field, how do we anticipate future priorities?



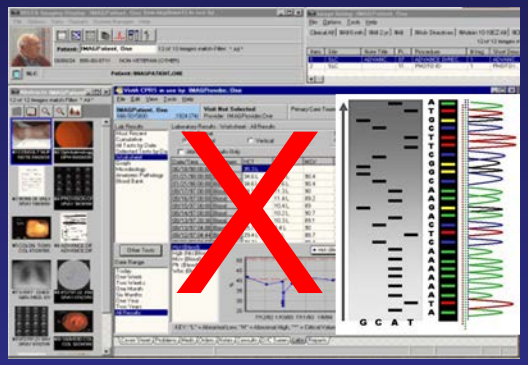
What economics-related questions CAN be answered?

Data limitations: most studies in the U.S. rely on readily available administrative data that do not include costs of:

Training

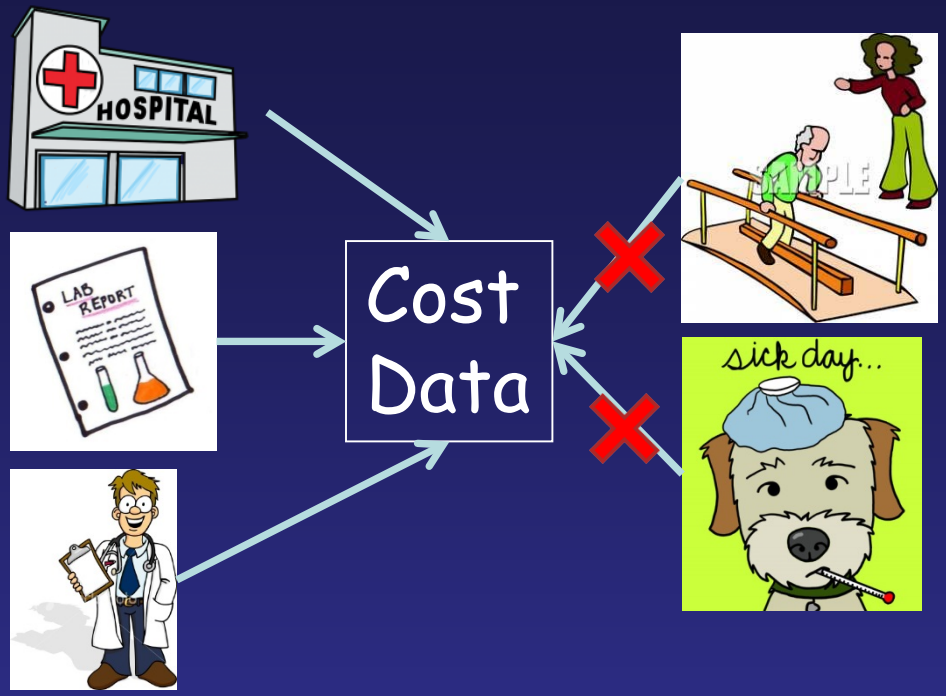
Data collection

Information processing



- ICD-9/10, CPT, or HCPCS codes often reflect what is needed to receive reimbursement and, therefore, do not provide the most accurate and complete description of the event
- Consequently, it is not always easy to determine genetic-related events based on CPT or ICD9/10 codes

Additional economics-related questions CAN be answered?



- EMR data often does not include data after discharging, thus costs, such as long term rehabilitation, are often difficult to capture

Modeling limitations: most models consider the average impact of singular genetic tests and do not consider:

Interactions

Gene A x Gene B = ?

Co-morbidities

Polypharmacy

IGNITE's Current Economic Projects

IGNITE demonstration projects addressing costs

- Indiana University INGENIOUS trial

  Prospective RCT designed to determine the effect of PGx genotyping on total health care costs in an underserved population

- University of Maryland Personalized Diabetes Medicine Program

  Tracking health care costs and patient valuation of genotyping following a monogenic diabetes genotyping intervention with input from a panel of payer representatives

- Mount Sinai GUARDD Study

  Evaluating differences in cost of care through patient surveys and EHR review for patients, comparing those who do and do not receive genetic testing

IGNITE efforts on genotype testing reimbursement

- "Unifying the Evaluation and Implementation of Genomic Medicine" meeting:

  August 18, 2016. Network-wide meeting of payers, device manufacturers, NHGRI and IGNITE network members, providers, and patients focused on the evidence required for genetic test reimbursement

- CPT coding changes:

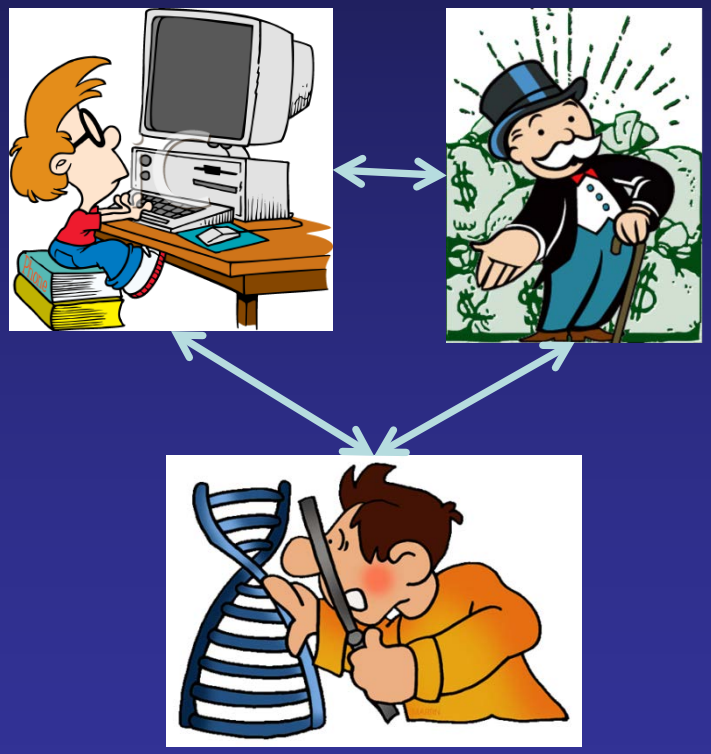
  IGNITE members submitted applications to the AMA for CPT code additions, or changes for several genetic tests. Two coding changes approved by (Mol Path Advisory Group; Aug 2016)

- Pharmacogenetics Working Group Clopidogrel study

  Evaluating the impact of CYP2C19 genotype guided antiplatelet therapy on adverse event costs

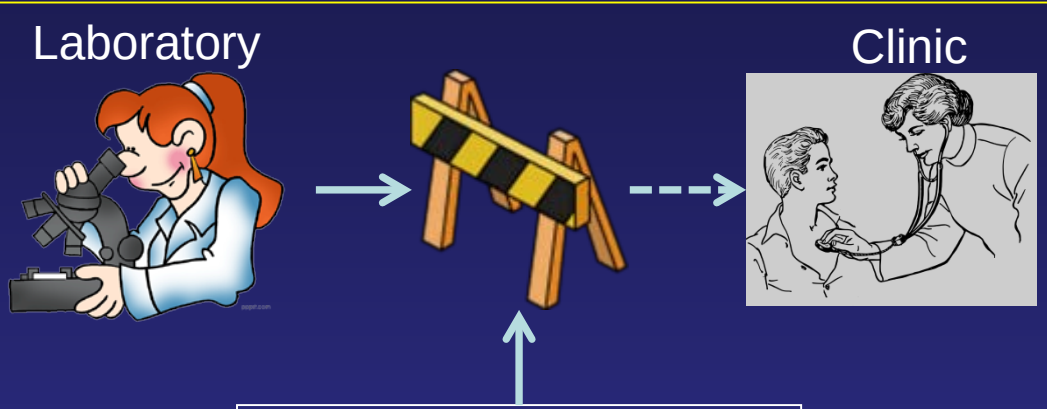
Opportunities for IGNITE Network Future Economic Projects

Create an incubator for methodological expertise in the economics of genomic medicine implementation



- Identify priorities for economic evaluation in genomic medicine
- Identify the best science and data for economic analyses
- Develop standardized methodologic tools to evaluate the economic impact of genomic medicine

Foster pooling of data that will improve the ability to detect factors that moderate the economic impact of genomic medicine



Define socio-economic & environmental factors

Validate findings in multiple socio-economic populations and institutional settings

Address through research, policy, and implementation strategies

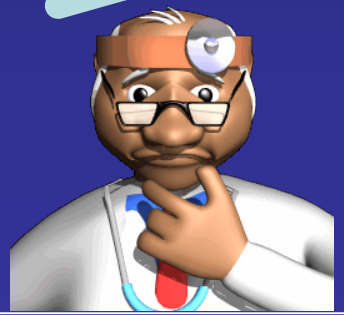
Use data-driven cost sensitivity analyses to elucidate the key factors that contribute to the economic cost and benefit of genomic medicine

Developing a credible information conduit from bench scientists to payers, policy-makers, and providers

Site 1 | Site 2 | Site …

IGNITE
Implementing GeNomics In pracTicE

Collectively,
- Combined expertise and reputation
- Generation of evidence for clinical utility
- Reimbursement information from genotyping laboratories



Guideline development | Payer reimbursement | Provider Adoption