Cancer Pharmacogenetics
G. Liu, PMCC/OCI

Background

• Genetics of the Pharmacokinetics and Pharmacodynamics of Drugs
• Clinically affects efficacy or toxicity

Discovery, Modeling

Validation
- Association
- Prediction

Deep Sequencing
In silico modeling
Functional Testing

Knowledge Synthesis
And Translation
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## Observational Datasets/Trials

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- To identify patients for recruitment/genetic testing,
- as cases or controls, or for cohort analysis
Potential for Collaboration Using “Big Data”

• Validation of trial-derived pharmacogenetic markers
  – Multiple validation datasets

• Effectiveness analysis in real world
  – Expanded patient populations
  – Oral compliance

• Economics of pharmacogenetic testing

• Linkages:
  – CCO data, >65 yrs old, pharmacy data
  – PROMs data (CCO – ON-PROST)
  – Long term follow-up of trial patients
  – Ontario Health Study