



# Personalized Medicine

## Personalized Medicine

Personalized medicine involves the systematic use of information about each individual to select or optimize the patient's preventative and therapeutic care. It is about coming up with the right diagnosis and treatment for an individual patient or patient groups.

- 1) How does our understanding of risk change as we move from a single-gene paradigm of "genetic disease" to the multifactorial paradigm that governs common, complex disease?
- 2) Is 'race' a good proxy for genetics?

## Pharmacogenomics

A type of personalized medicine that studies how individual patients respond to medications.

- 3) Pharmaceutical companies test drugs on limited populations of individuals. Approved drugs are used on a wider range of groups including children. What are the consequences of this and how can pharmacogenomics help?
- 4) Adverse reactions to medicines accompany cancer and heart disease as a top cause of death and disability. How can pharmacogenomics reverse this disturbing trend?
- 5) Many promising drugs have been shelved due to harmful side effects. Can pharmacogenomics help to resurrect them?

## Predictive Medicine

Predictive medicine concerns the detection of genetic markers for disease susceptibility before a person becomes ill. The objective is to take preventative measures to ensure the improved quality of life and health for individuals

- 6) Does knowledge of a predisposition to develop a disease help or hinder?
- 7) What are the implications for insurance companies as well as privacy of information?

## Gene Therapy

Gene therapy is an experimental technique that uses genes to treat or prevent disease. In the future, this technique may allow doctors to treat a disorder by inserting a gene into a patient's cells instead of using drugs or surgery.

- 8) How close to reality is gene therapy?
- 9) What are the risks and the promises?