Growing knowledge of human genetics is changing the way physicians and researchers approach diagnosis of cancer risk as well as treatment of various types of cancer. This course offers a unique way for professionals to learn about key cancer genetics concepts and cutting-edge clinical applications from leading Harvard Medical School faculty. Participants will:

- Understand the links between genetics and cancer
- Get an inside look at tumor sequencing approaches and analysis
- Learn how genomics knowledge is advancing precision cancer treatments

## Topics Covered

### Overview of Cancer Genomics
- What is Cancer?
- The Promise of Precision Oncology

### The Genetics of Cancer
- Germline and Somatic Mutations
- Cancer as a Genetic Disease
- Cancer Mutations
- Cancer Progression
- The Hallmarks of Cancer
- Cancer Gene Functions
- Clinical Linkage: The Genetics of Gastrointestinal Stromal Tumors (GIST)
- Interactive: Cancer Pathways

### Cancer Genomics and Tumor Sequencing
- Sequencing Sample Types
- Sequencing Approaches
- Sequencing Analysis
- Variant Allele Frequency
- Interpreting Variation
- Mutational Signatures
- Clinical Linkage: Tumor Sequencing
- Interactive: Cancer Mutations

### Precision Oncology
- Cancer Therapeutics
- Kinase Inhibitors
- Monoclonal Antibody Treatments
- Active Immunotherapies
- Drug Resistance

The HMX Pro Series offers a new online learning experience designed to get busy professionals up to speed on the latest advances in medicine. Concepts are taught using whiteboard-style videos and animations and reinforced by interactive elements, true-to-life scenarios, and real patient cases to enhance learning.