Technology and the Era of Personalized Medicine

Today, cheap and pervasive medical information is transforming medical care and health outcomes. Throughout the ages, every time our ability to measure things has improved, it has led to new scientific discoveries. Over the last 50 years, advances in measurement technologies have resulted in many medical breakthroughs. Recently, scientists and technologists have developed the capability to measure millions of things at once. In addition, we have developed methods for measuring infinitesimally low concentrations of chemicals and biochemicals. The ability to make many measurements simultaneously, combined with the high sensitivities of these measurements, is having a dramatic effect on medicine. In particular, genetic information is becoming a commodity. Our access to this information will transform how medicine is practiced and will empower individuals with unprecedented control over their health.