Rare Genomics Rare-Ed

Genome Sequencing

1866 Gregor Mendel discovers the basic principles of genetics
1953 James Watson and Francis Crick discover the double helix structure of DNA
1977 Frederick Sanger develops rapid DNA sequencing techniques
1983 Huntington's disease is the first mapped genetic disease
1990 Human Genome Project begins.
1995 First bacterial genome is sequenced.
1999 First human chromosome (22) is sequenced. EU adopts the Orphan Drug Law.
2000 NIH establishes clinicaltrials.gov
2003 Human Genome Project is Completed.
2006 Rare Diseases Clinical Research Network (RDCRN) is founded in 2006.
2008 NIH establishes Undiagnosed Diseases Program.
2011 Rare Genomics Institute (RG) was founded in 2011 to fill the healthcare gap for undiagnosed rare disease patients and supporting research in rare diseases.
2012 UK government announces 100,000 Genome Project. ENCODE study publishes papers confirming that the human genome contains 20,687 protein-coding genes
2013 The Zebrafish genome sequence is completed. First multigene sequencing diagnostic test for tumor sequencing.
2014 Cost of sequencing a whole genome reduces to $1,000. American company Illumina launches its HiSeq X Ten system
2017 First step taken toward epigenetically modified cotton.
2018-2025 All patients coming to medical attention with a suspected rare disease will be diagnosed within 1 year if their disorder is known in the medical literature.
2025 The ability to diagnose most rare diseases by 2020—is within reach.