

A brief history of precision medicine

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Attribution of Hippocrates as the “Father of Modern Medicine”

1990



Human Genome Project launched to create genetic blueprint of humans

2003



Human Genome Project maps 99% of the active portion of the human genome

2004



20 institutions representing different sectors of the health system launch the Personalized Medicine Coalition in the US

2005



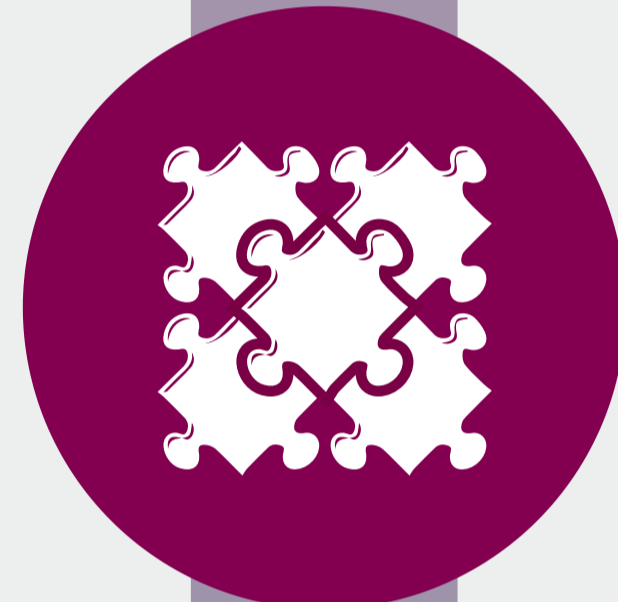
U.S. FDA brings out guidance for pharmacogenomic data submissions – a step towards regulating precision medicine and pharmacogenomics

2006



Launch of the UK Biobank, a large long-term biobank study investigating the respective contributions of genetic predisposition and environmental exposure to disease

2012



The European Alliance for Personalised Medicine launched

2013



Global Alliance for Genomics and Health formed to develop a framework for genomic and clinical data sharing, while protecting patient privacy

2015



The White House launches the ‘Precision Medicine Initiative Cohort Program’, now known as the ‘The All of Us Research Program’¹

2015



Compared with 2006, by 2015 the cost and time of per genome sequencing reduced from ~\$1,000,000,000 (taking 6-8 years) to ~\$1,000 (taking between one and three days)

2016



AstraZeneca announces ambition to sequence two million genomes over the next decade to improve understanding of genetic diversity and disease

2017 &
2018



FDA and EMA approvals of CAR T-cell therapies to use patients’ own genetically modified T cells to fight cancer

2018



US FDA approves 25 personalised medicines, accounting for 42% of all 2018 drug approvals²

2020



Nobel Prize awarded for discovery of CRISPR/Cas-9 genetic scissors to cut and edit DNA

2022



The complete gap-free human genome sequence is published

References:

¹The White House. The Precision Medicine Initiative. Available at: <https://obamawhitehouse.archives.gov/precision-medicine>

²Personalized Medicine Coalition. Personalized Medicine at FDA: A Progress & Outlook Report. Available at: https://www.personalizedmedicinecoalition.org/Userfiles/PMC-Corporate/file/PM_at_FDA_A_Progress_and_Outlook_Report.pdf