



Update: large scale data initiatives



## UK Biobank

- founded 2006
- 500000 participants
- questionnaire, blood and urine samples
- medical record follow up 30 years



## UK Biobank

- no feedback/strict anonymity
- SNP genotyping
- exome sequencing on subset



## Genomics England/100,000 genomes

- established 2013
- company owned by Dept of Health
- government/charity/industry collaboration
- Oct 2018 expanded goal to 5 million genomes in 5 years



## Genomics England/100,000 genomes

- July 2019 database release exceeds 100K WGS
- hundreds of DNA samples nominated by NHS each week
- primarily rare diseases and cancers



## Precision Medicine initiative/All of Us

- Obama initiative 2015
- operated by NIH
- launch 2017
- summer 2019: 175000 participants