

“AN INSTANT CLASSIC”

- DAVID ANSEN, *NEWSWEEK*



TOMMY LEE
JONES

JAVIER
BARDEM

JOSH
BROLIN

**A COUNTRY
FOR OLD** **H** **WIN**





Genomics: No

room for

precision

medicine in the

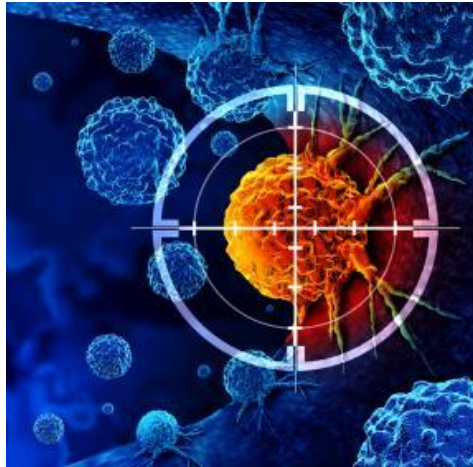
land of precision

watches?

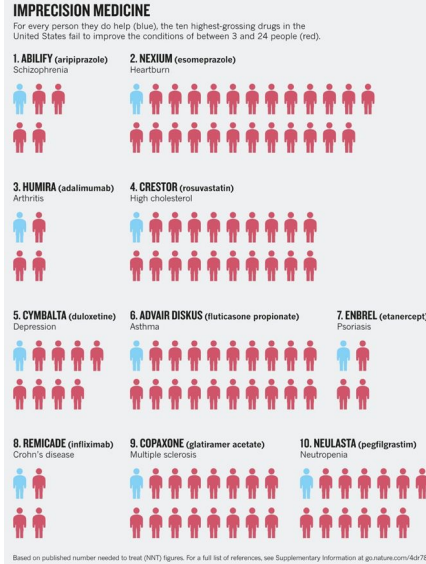


Genomic medicine - today

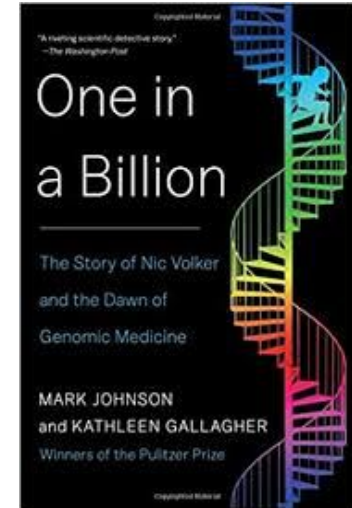
Precision oncology



Pharmacogenetics

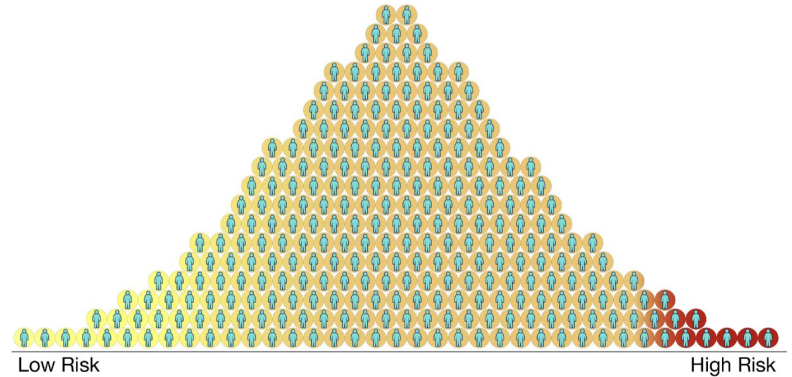
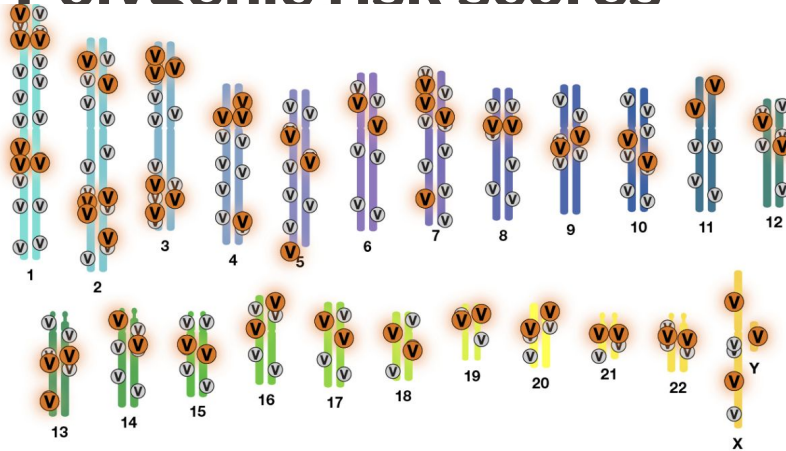


Rare diseases



Genomic medicine - tomorrow

Polygenic risk scores



Polygenic risk scores

Genomics plc and MassMutual's program enables more policyowners to understand health risks through innovative genetic testing

April 10th, 2024

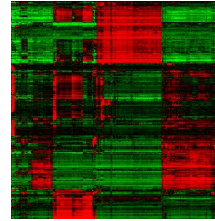
The program offers eligible MassMutual policyowners aged 35-70 access to polygenic risk testing via a saliva test that identifies hidden risk for eight common conditions: atrial fibrillation, breast or prostate cancer (depending on biological sex), cardiovascular disease, high blood pressure, high low-density lipoprotein cholesterol, low bone density and type 2 diabetes.

In addition to learning about their risk for each of the conditions, policyowners also receive actionable, tailored health advice and a report they can review with their doctor to reduce the chances of developing the condition.

Exposome



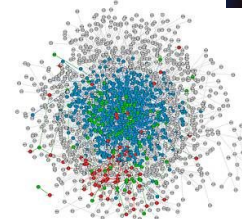
Epigenome



Transcriptome



Genome



Proteome

Social networks



Life style



Metabolome



Metagenome

Socio-economic conditions



Genomic medicine across the world

- United Kingdom:

As of 30 November 2023, the UK Biobank has unveiled data from whole genome sequencing of its **half a million** participants.

- United States:

'All of Us' Research Program (NIH) aims for **1 million** genomes.

- Japan:

Development of the JG1 (Japanese reference genome)

- United Arab Emirates:

The Emirati Genome Programme, using AI for genomic data.

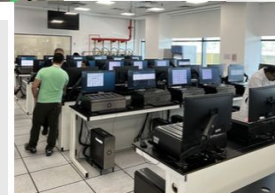
350'000 human genomes

Egypt: **100,000 genomes**

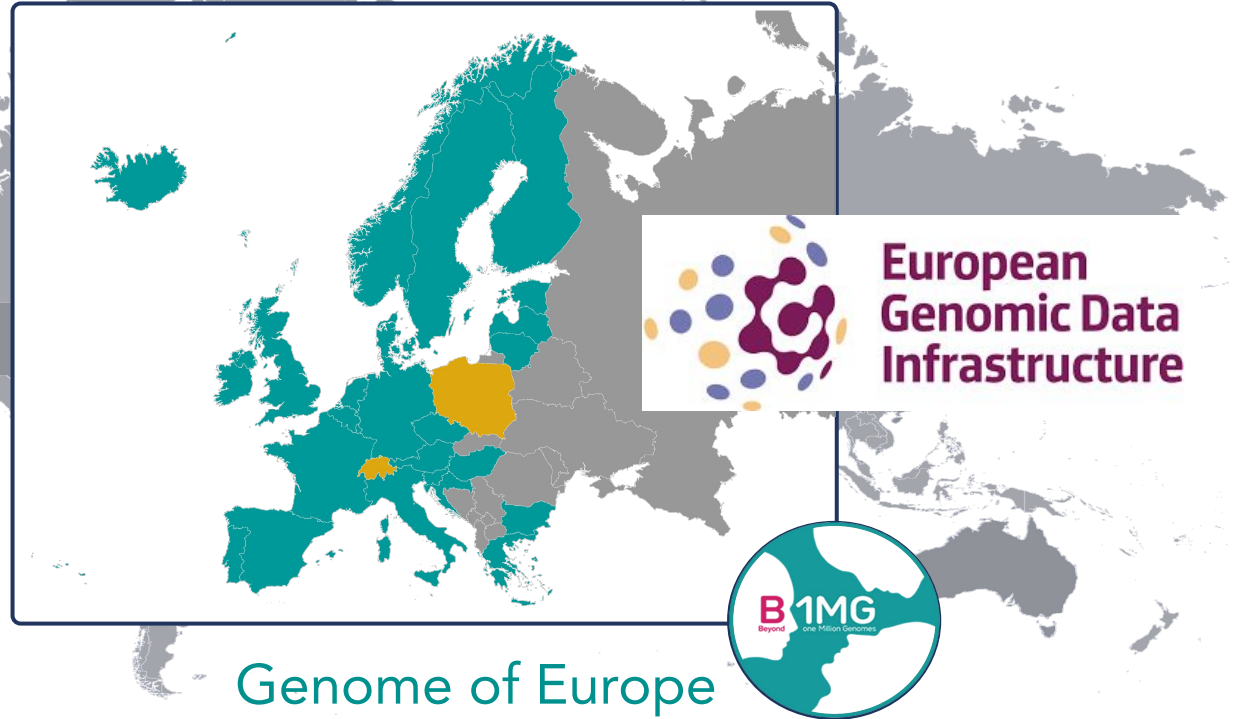
->Personalized and preventive healthcare.

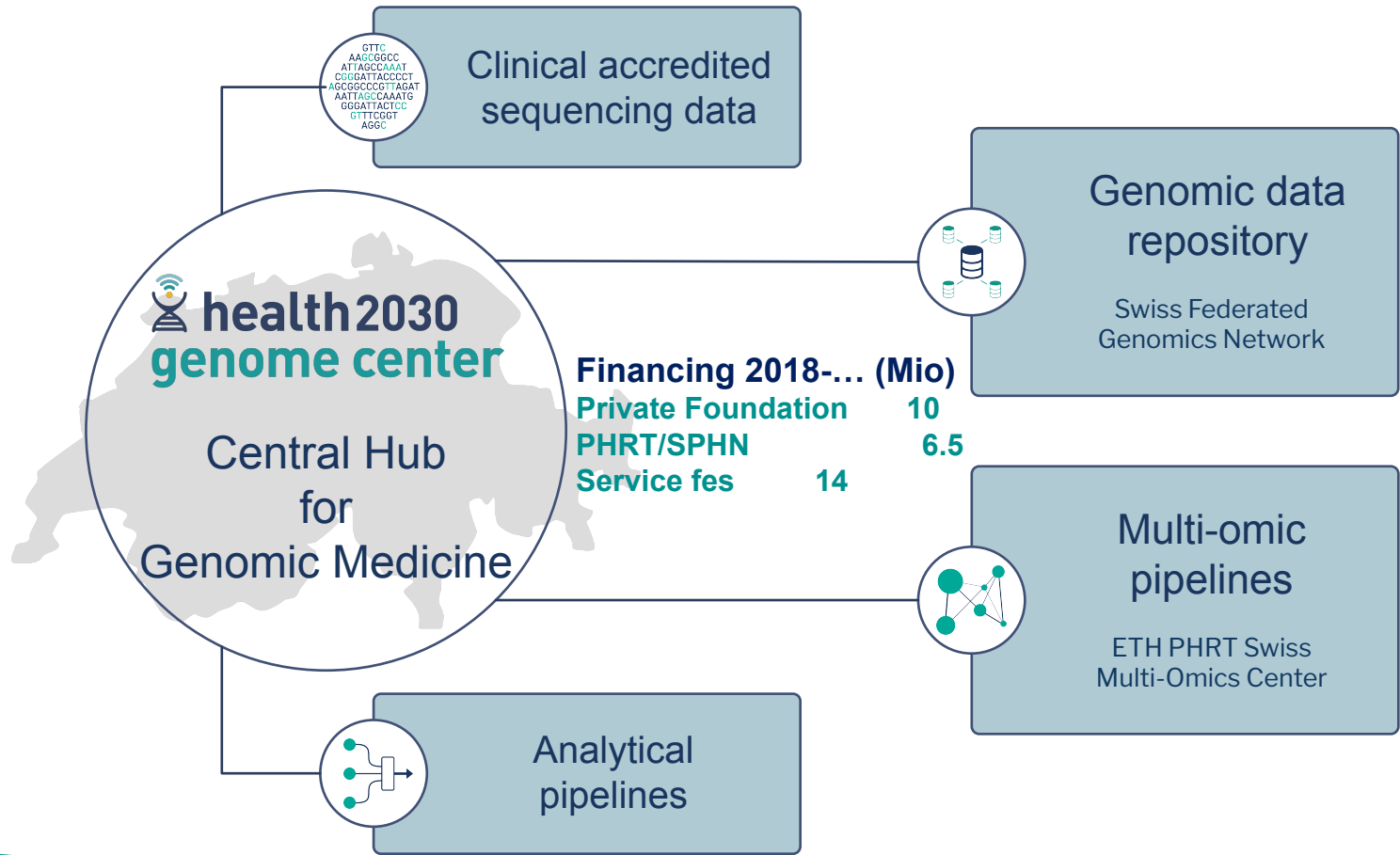
->Personalized genetic research

->Enhancing clinical analysis for rare diseases.



Pan-European genomic medicine initiatives





GTTC
 AAGGGCC
 ATTAGCCAAAT
 CCGGATTACCCCT
 AGCCCGCTTAGAT
 AATTAGCCAAATG
 GGGATTACTCC
 GTTTCGGT
 AGCC

Clinical accredited sequencing data



Genomic data repository

Swiss Federated Genomics Network



Multi-omic pipelines

ETH PHRT Swiss Multi-Omics Center

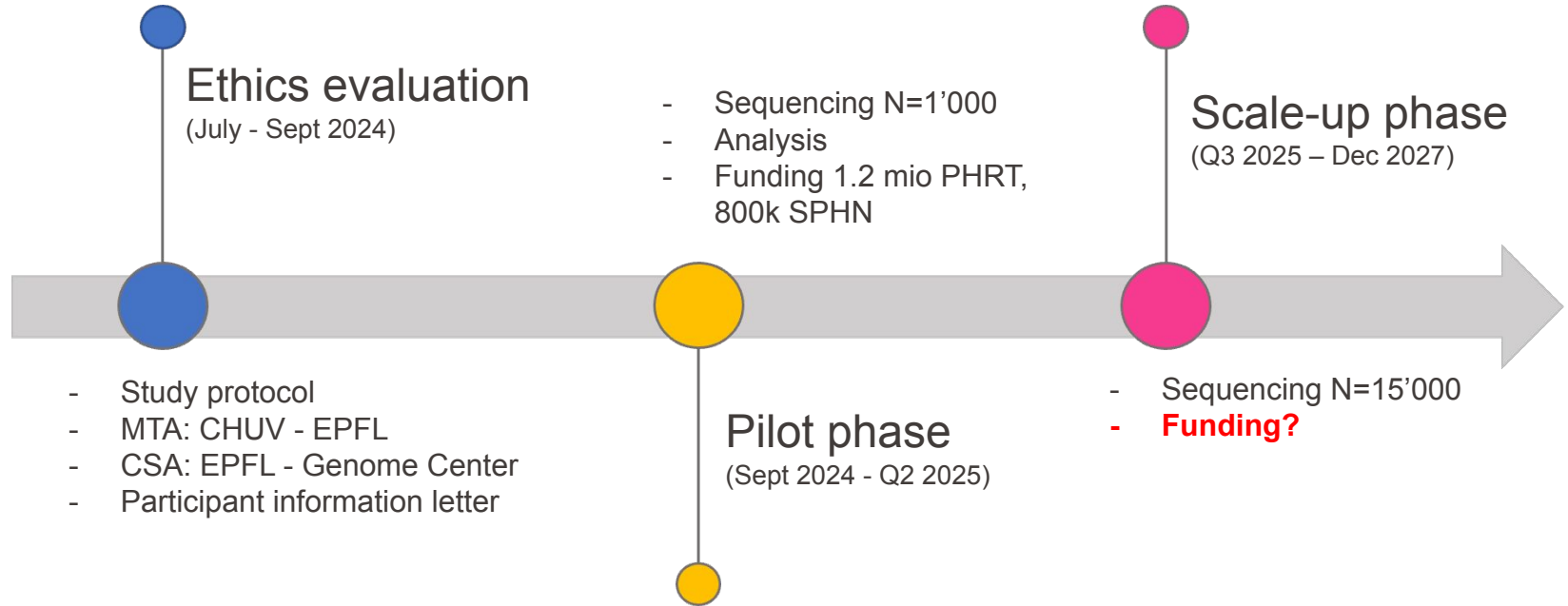


Analytical pipelines


health2030
genome center

Central Hub for Genomic Medicine

Genome of Switzerland



Questions

Switzerland did not contribute to the sequencing of the human genome; should it similarly stay out of international large-scale genome sequencing efforts?

- Has Switzerland simply no choice because it has neither the brain-power nor the technological or financial means to participate in this type of effort?
- Should it thus opt instead for a “no worry we’ll simply buy it” strategy?

Can the technical competence and background data necessary for the practice of precision medicine / personalized health be acquired without performing large-scale genome sequencing?

Should projects such as the Genome of Switzerland be financed through private or public funding?

Is Genome of Switzerland a research project or a public health initiative geared towards prevention / personalized health?