NHGRI Genomic Data Science Analysis, Visualization, and Informatics Lab-space (AnVIL) Renewal Plans

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National Advisory Council for Human Genome Research

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National Human Genome Research Institute

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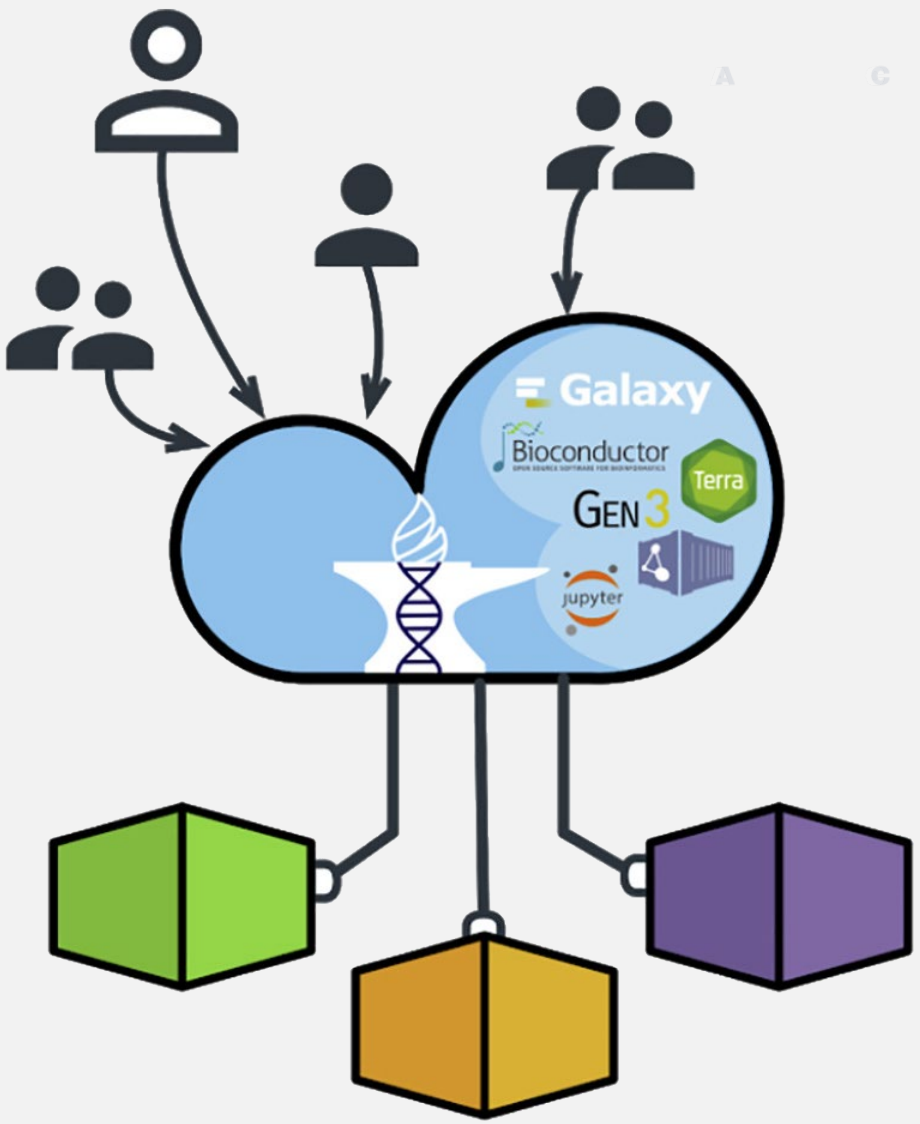
What is AnVIL?

- Cloud-based
- Genomic
- Data sharing
- Analysis platform



Inverting the model of genomics data sharing with the NHGRI Genomic Data Science Analysis, Visualization, and Informatics Lab-space (AnVIL) - Michael C. Schatz, Anthony A. Philippakis, Enis Afgan, Eric Banks, Vincent J. Carey, et al. (2022). *Cell Genomics.*

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AnVIL Program Renewal Timelines & Milestones

Two key components

Limited Competition RFA

Support and improve existing infrastructure

1. AnVIL of today
2. AnVIL of tomorrow
3. Why a limited competition RFA?

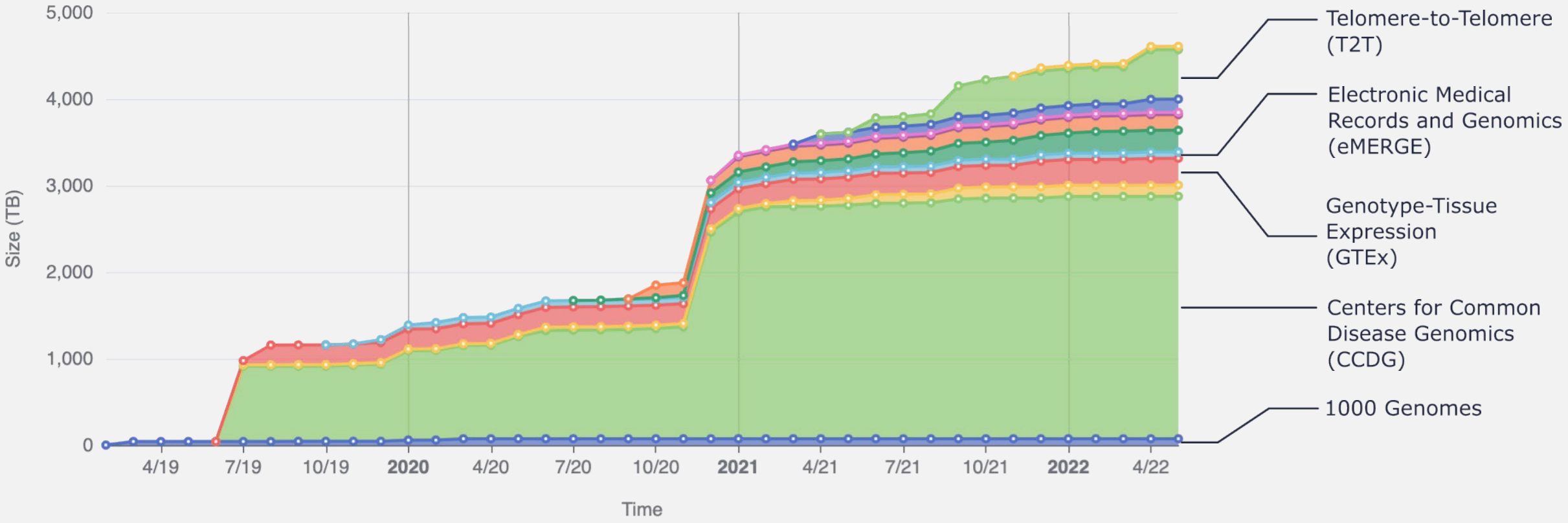
Open Competition RFA

Add clinical components

What is AnVIL today?

Data sharing

More than 4 petabytes, 600,000 subjects, 20 research networks



https://anvilproject.org/overview/data-consortia

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Analysis platform

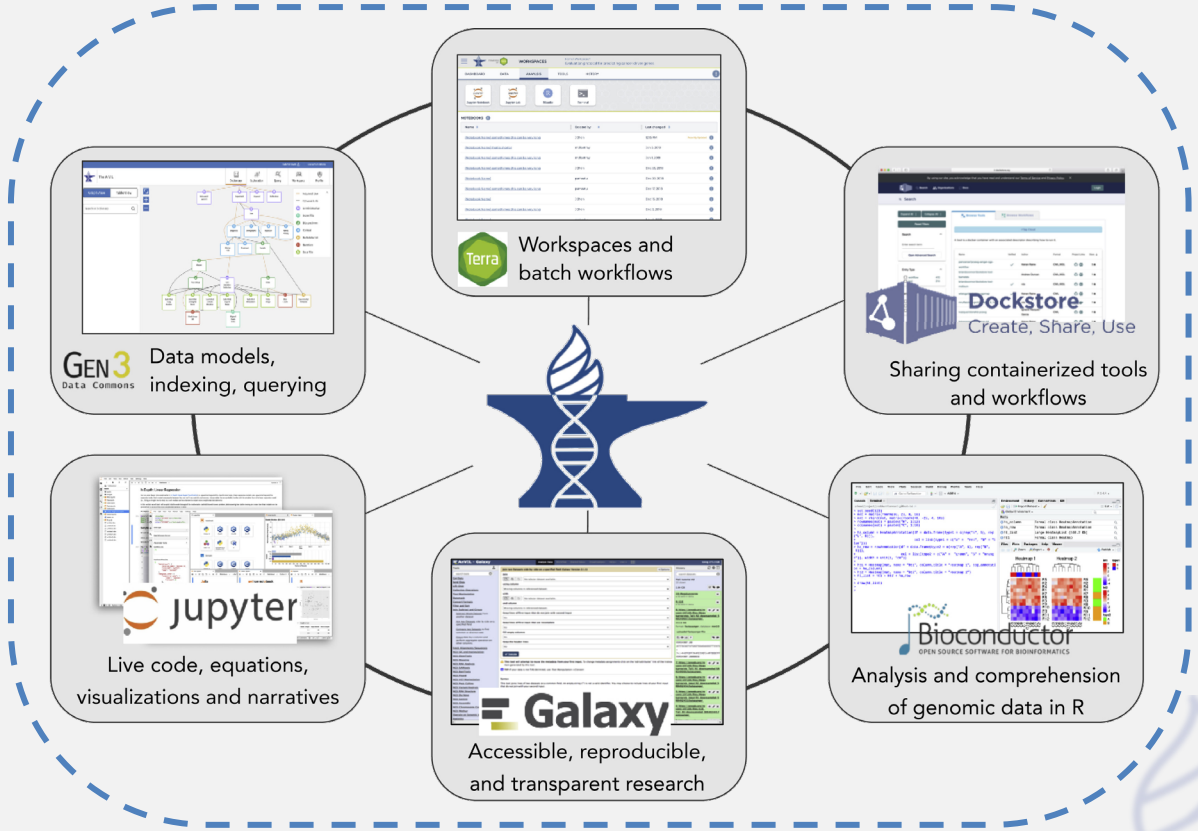
Terra: 284 public workspaces

Dockstore: 1,051 analysis workflows

Bioconductor: 2,083 software packages

Galaxy: 8,568 tools (incl. PharmCat)

Jupyter, Gen3, seqr…



FedRAMP

FedRAMP certified

Global Alliance for Genomics & Health

Collaborate. Innovate. Accelerate.

HL7 FHIR

Implemented on Google Cloud Platform

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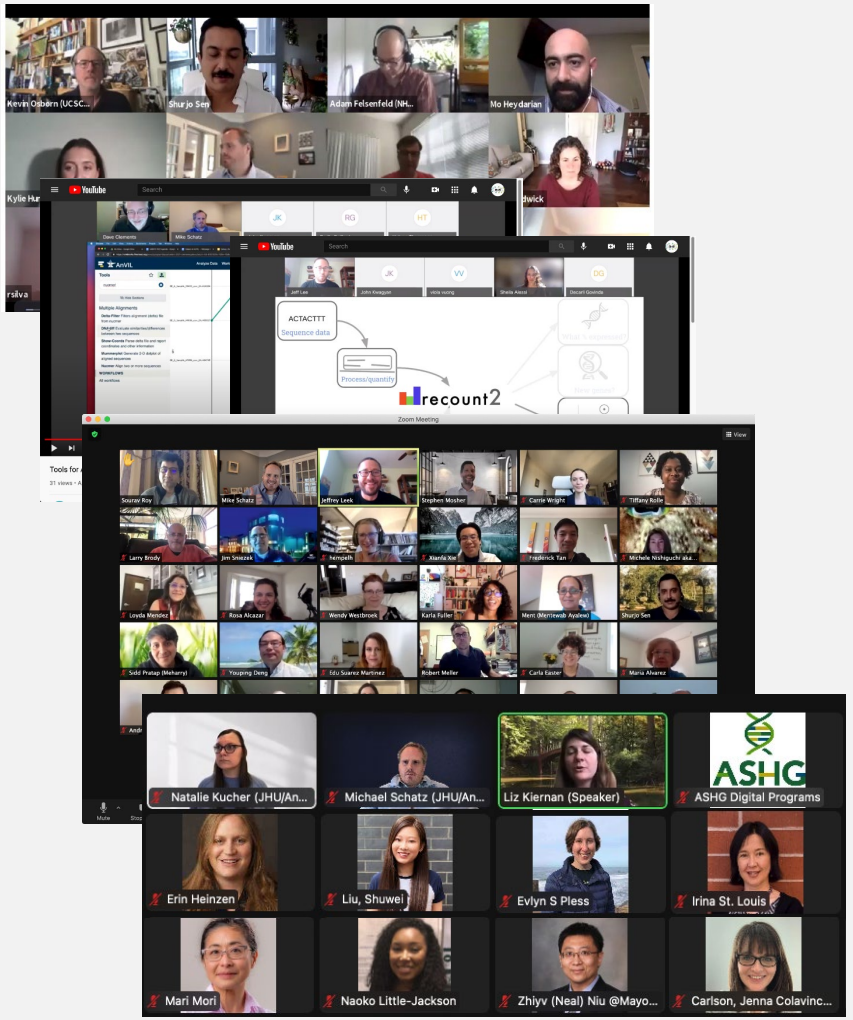
Outreach and user engagement

GSP/CCDG/CMG MAGIC Jamboree

Genomic Data Science Community Network (GDSCN)

Howard University Virtual Applied Data Science Training Institute (VADSTI)

American Society of Human Genetics (ASHG) Workshops



Announcing the AnVIL Cloud Credits Program (AC2) Awardees

Posted: June 03, 2021

NHGRI's Genomic Data Science Analysis, Visualization, and Informatics Lab-space (AnVIL) cloud genomics platform is pleased to announce the awardees of the pilot phase of the AnVIL Cloud Credits (AC2) Program.

Awardees

Seventeen proposals were received from 14 different institutions and of these, the AC2 Review Committee (AC2RC) has awarded 6 proposals with cloud credits. Those awardees include:

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What will AnVIL be tomorrow?

What will AnVIL be tomorrow?

A multi-functional discovery platform for genomics
(from the AnVIL workshop report)

1. Increasing tool availability
2. Improving interoperability
3. Addressing barriers to cloud computing
4. Supporting the clinical research community

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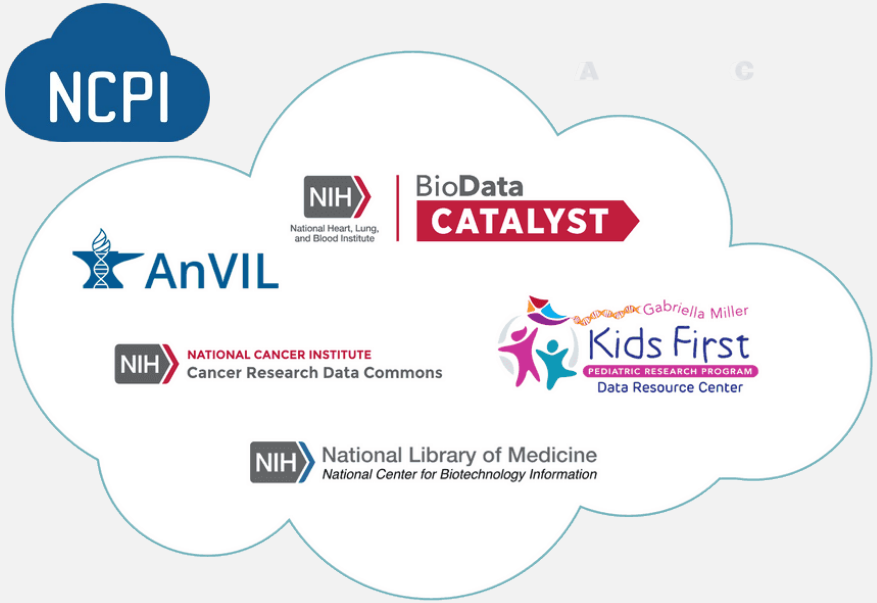
Increase tool availability

- Best practice workflows
- Simplify data harmonization and integration
- Support user-developed tools
- Cost estimators, “tools about tools”
- Improved searching

Improve interoperability

- NIH Cloud Platforms Interoperability Efforts (NCPI)
  https://anvilproject.org/ncpi

- Enable cross-platform:
  - Authentication and authorization
  - Data discovery
  - Dataset, workflow, and result exchange



NIH Researcher Auth Service

GA4GH Data Repository Service

Fast Healthcare Interoperability Resources

Address barriers to cloud computing

- Reducing cost barriers
- Simplifying data access
- Improving the user experience
- Supporting curriculum development
- Empowering limited-resource institutions

Why a limited competition RFA?

Why a Limited Competition RFA?

- Leverages NHGRI's investments in AnVIL
- Minimizes user disruptions
- Allows new requirements
- Incorporates input from peer review

Mechanism of support

- Two Cooperative Agreement (U24) awards
- Five years, FY 2023 - FY 2027
- Limited to current AnVIL awardees

	FY23	FY24	FY25	FY26	FY27
Total Cost	$6.5M	$6.5M	$6.5M	$6.5M	$6.5M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