Palantir Foundry –
Impact Study

Turbocharging research at the NIH

HEALTHCARE

CHALLENGE

The NIH wanted to enable precision medicine by better understanding how genetic and other factors impact drug efficacy. But the scale and intricacy of data from High-Throughput Screening (HTS) robots, genome sequencers, mass spectrometers, and other instruments made it extremely challenging. Scientists had to painstakingly harmonize data from many sources, and informaticians had to do substantial pre-processing work on the data. Existing tools were originally developed with informaticians in mind, and their complexity prevented researchers from accessing, analyzing, and publishing their findings in a timely way.

SOLUTION

The NIH uses Foundry to integrate and harmonize scientific data from dozens of internal and external sources. Processing, normalizing, and analyzing this data in Foundry allows new modes of informatician / biologist collaboration via:

Direct connection to online and offline experiments

Online and offline experiments are ingested, processed, and normalized automatically. This enables biologists to view the results of their experiments and plan next steps. The data is joined with genomic data and open-source datasets for further analysis.

Data accessibility for researchers

Researchers independently analyze experimental data using intuitive templates built by informaticians. With the ability to link those results with past experiments and validate their conclusions, researchers can quickly understand how likely a compound is to become a successful drug candidate.

Traceability and privacy protections

Data provenance is fully traceable, allowing researchers to examine analytical conclusions. Granular access controls secure all data, ensuring the privacy and security of highly sensitive information.

IMPACT

- NIH researchers have uncovered insights in hours that used to require months of data gathering and manipulation.
- One lab predicted novel drug combinations for use in an oncology setting, which were then experimentally validated in vitro. In vivo follow up is currently underway for several of these combinations. If successful, this will lead to a clinical trial.
- A different lab validated a gene signature for drug response found in internal experiments. They compared observations from public genomic data with the findings from clinical data, increased their confidence in the initial finding, and defined precise experimental follow-ups.