

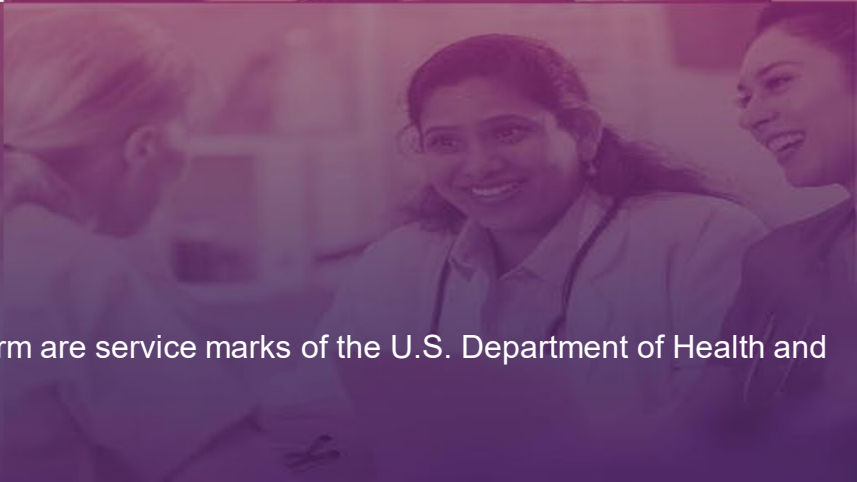
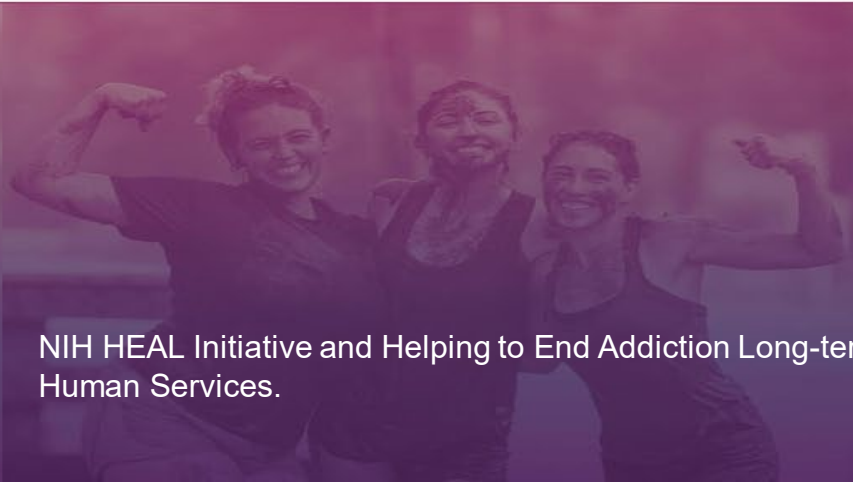


**NIH
HEAL
INITIATIVE**

Strengthening the Discoverability and Searchability of Data in a Secure Compute Environment for Analysis

The University of Chicago - Center for Translational Data Science

May 17, 2021



NIH National Institutes of Health
HEAL Initiative

NIH HEAL Initiative and Helping to End Addiction Long-term are service marks of the U.S. Department of Health and Human Services.

HEAL Platform Addresses Key Challenges

- **Finding Data**
 - Diverse data types, generated by different projects and organizations, stored in multiple locations
 - Users with varied backgrounds and specialties
- **Accessing data**
 - Across multiple sources and permissions protocols
- **Analyzing Data**
 - Securely, transparently, reproducibly
 - Share and collaborate on data curation, data analysis and development of analytic tools
 - Obtain compute resources for analysis in a cost-effective manner

Important Facts About the Platform



Securely exposes data stored in HEAL-approved repositories



User-friendly interface for **search & data discovery** over study metadata



Workspaces providing **computing power and software tools** (STRIDES compatible)



Data provider(s) grant **approval for data access**

HEAL Data Platform Makes Data FAIR

Findable

- Provides an intuitive interface to search over metadata for HEAL studies and related datasets
- Each study and dataset is assigned a unique, persistent identifier

Accessible

- Authenticated users can request and receive access to controlled-access data by data providers
- Metadata can be accessed via an open API

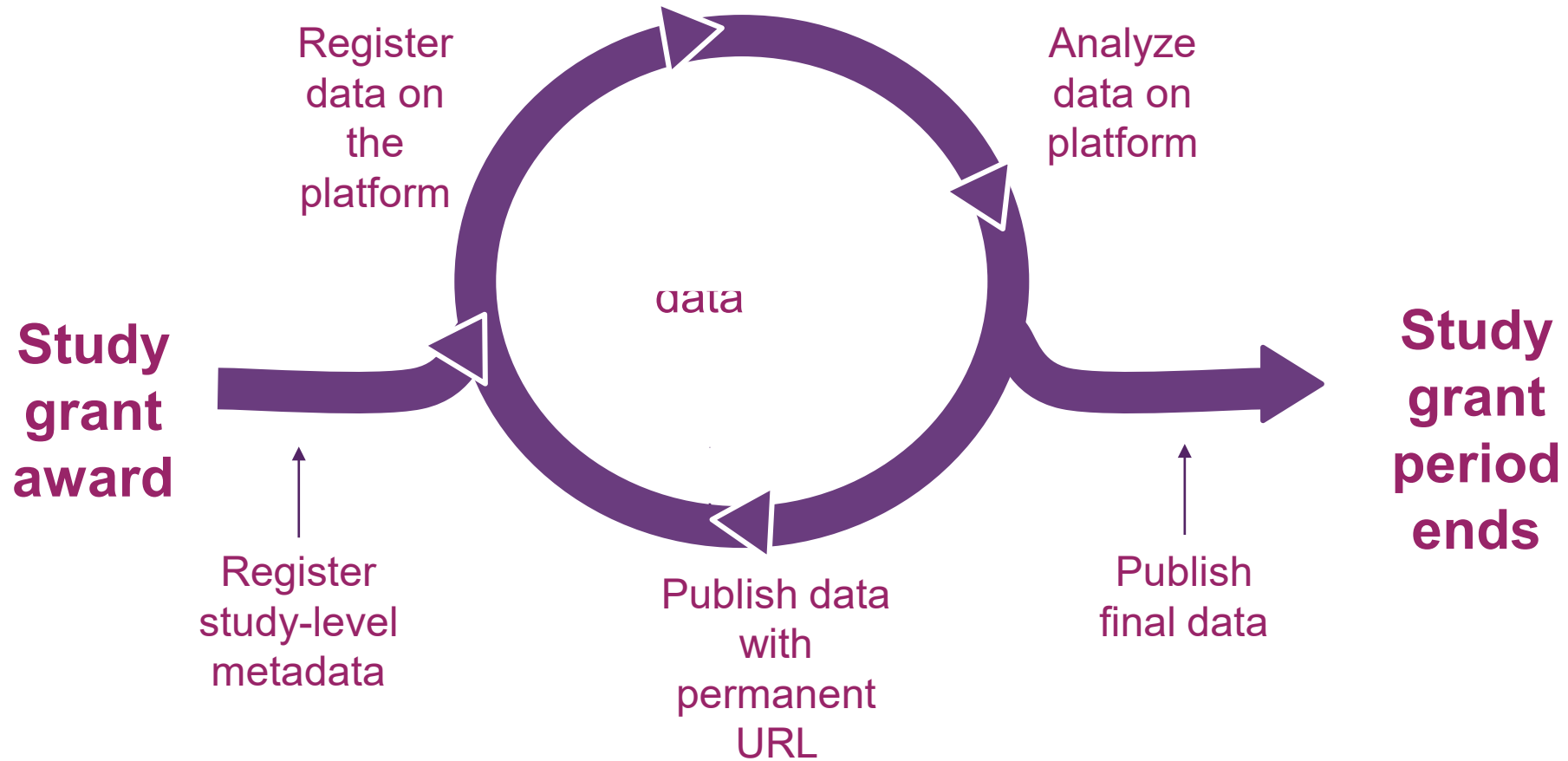
Interoperable

- Facilitates discovery and joint analysis of HEAL and related datasets via standard metadata vocabularies
- Export datasets to workspaces with software tools

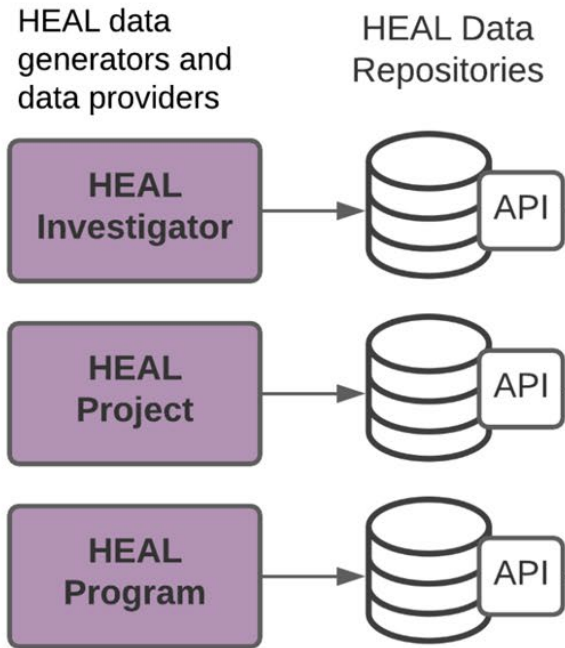
Reusable

- Facilitates reproducibility of results, development of shareable tools and collaboration between investigators

An Investigator's Journey: Start registering (meta)data right away!



HEAL Platform: Flow of study metadata and data



- Investigators upload data into NIH approved repository
- Investigators register study-level metadata, data pieces, and data permissions on platform

*API: Application Programming Interface

HEAL Platform: Flow of study metadata and data

Investigators access the HEAL platform

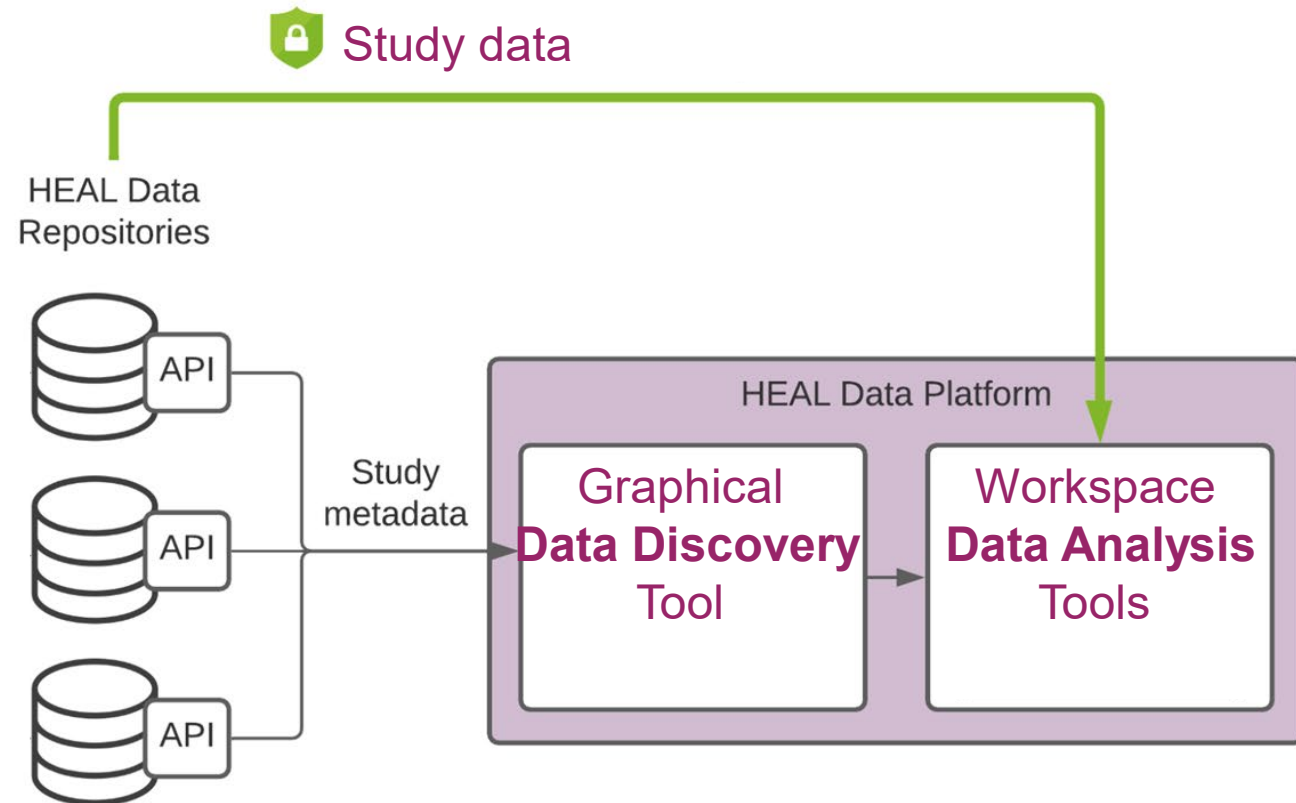
On the HEAL platform, investigators can:

Find Studies

Using an accessible graphical data discovery tool, and ask for access

Analyze Data

In secure workspaces, using analysis tools like RStudio, Jupyter notebooks, etc.



*API: Application Programming Interface

Data Discovery

Data contributor provides structured study metadata

- Can be provided before data are available
- Can be modified/updated as necessary

Discovery on the HEAL platform - ability to find datasets using:

- Study characteristics
- Tags
- Text-based search of all study metadata text

Discovery via link(s) from a publication

- Each study page and dataset has a permanent URL, so it may be included in publications and elsewhere to refer to the study or dataset

Data Discovery Interface (Beta)

Browse Data [↑](#) | Documentation | [Logout](#)

NIH HEAL INITIATIVE HEAL Pre-Prod Data Platform

Discovery | Workspace | Profile

Tags by category

32
Studies

Enhancing Pain Management

- Clinical Research
- Pre-Clinical/Translational

Improving Treatments for Opioid Misuse and Addiction

- Opioid Disorder
- Prevention & Treatments
- Novel Medications

Demographics

- Justice Involved Populations
- Pediatrics
- Social Determinant of Health

Other

- Back Pain
- Technology

Filter by category
0 selected
Download Manifest
Open in Workspace

	Research Focus Area	Research Program	Administering IC(s)	Institution(s)	Tags	Access
<input type="checkbox"/> Project Title <input type="checkbox"/> Facilitating Opioid Care Connections: System level strategies to improve use of MAT and movement through the opioid care cascade for defendants in a new Opioid Court system	Translation of Research to Practice for the Treatment of Opioid Addiction	Justice Community Opioid Innovation Network	NIDA	New York State Psychiatric Institute	<ul style="list-style-type: none"> Opioid Disorder Justice Involved Populations 	🔒

Data Discovery Interface (Beta)

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NIH HEAL INITIATIVE HEAL Pre-Prod Data Platform

Discovery Workspace Profile

32 Studies

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Data Discovery Interface (Beta)

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Filter using free text search

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Analytical Workspaces

Browse Data [↑](#) | Documentation | [🔒](#) | [Logout](#)

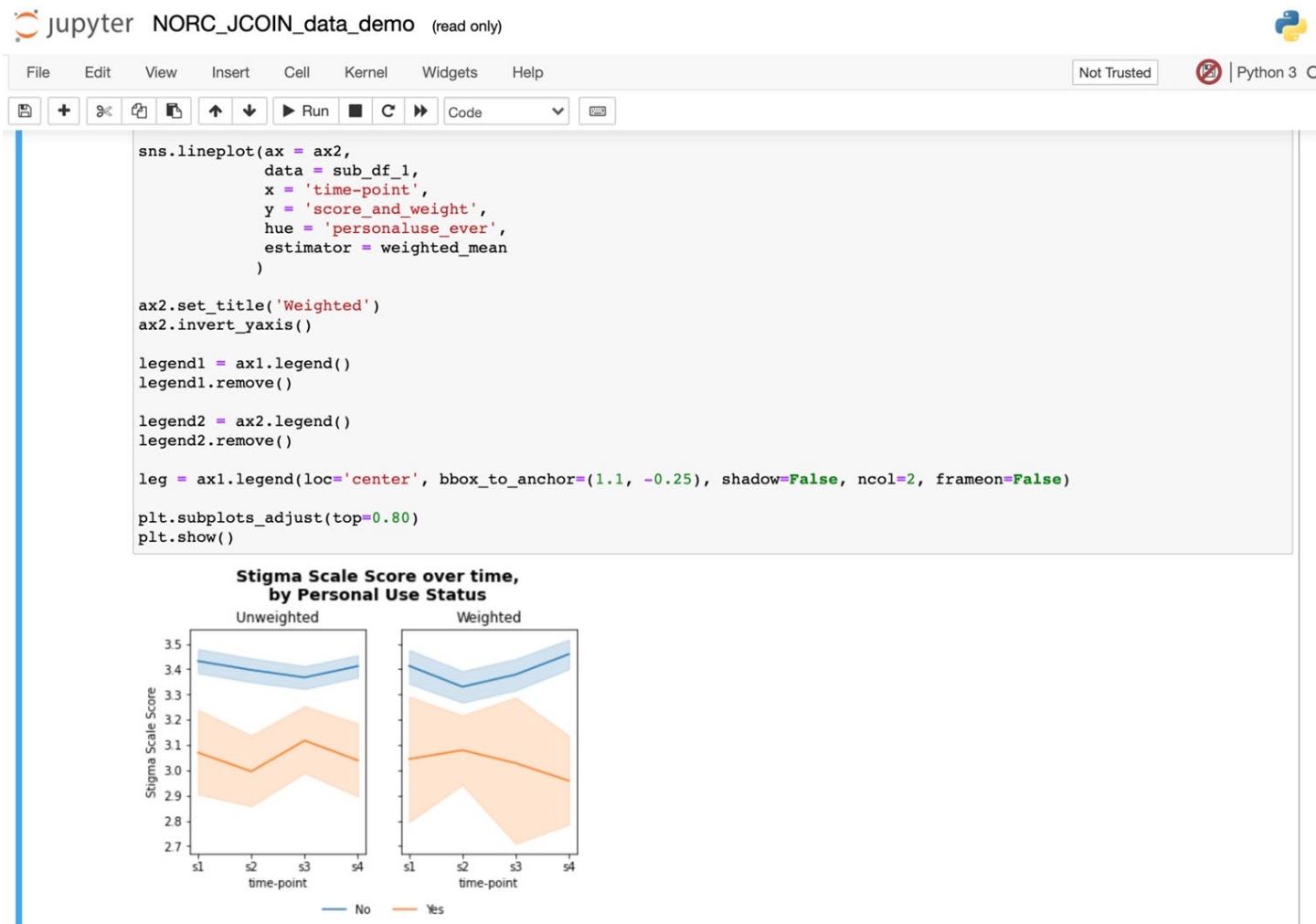
NIH HEAL INITIATIVE | HEAL Pre-Prod Data Platform

Discovery | **Workspace** | Profile

Launch notebook

 HEAL Demo 1.0CPU, 8096Mi memory Launch	 Helium Autoencoder Demo 1.0CPU, 8096Mi memory Launch	 Jupyter Notebook Bio Python 1.0CPU, 512Mi memory Launch
 Jupyter Notebook Power Python 1.0CPU, 8192Mi memory Launch	 R Studio 1.0CPU, 512Mi memory Launch	

Analytical Workspaces



Platform Security and Compliance

The HEAL Data Platform:

Provides the security and compliance required so that researchers can explore and analyze sensitive health care data

Conclusion

The HEAL Data Platform will provide a path to FAIR data:

- **Intuitive search features for and access to:**
 - HEAL studies and datasets
 - Related publicly available datasets

- **Analyze study data in a secure workspace**
 - Cost-effective cloud computing with analytic tools
 - Save analysis code and link to study data and code in publication for reproducible analysis

July 2021 launch date! 🍷



HEAL Pre-Prod Data Platform

EXPLORE, ANALYZE, AND SHARE DATA

This website supports the management, analysis and sharing of data for the research community and aims to accelerate discovery and development of therapies, diagnostic tests, and other technologies.

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If you have any questions about access or the registration process, please contact support@datacommons.io.