AAPA- PAEA Research Fellowship

Exploring the *All of Us* Research Hub

August 12, 2021

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NIH National Institutes of Health

Goals of Today’s Presentation

- Share the mission and objectives of the *All of Us* Research Program
- Offer AAPA-PAEA Research Fellows an opportunity to learn more about the *All of Us* Research Hub and how to access data, tools, and surveys

All of Us Research Program Overview

Thank you to our participants and community partners!

All of Us Community and Provider Partner Network *(as of Jan 2021)*

AAFP

AAPA American Academy of Physician Assistants

AAHIVM American Academy of HIV Medicine

ANAC Association of Nurses in AIDS Care

American Association of Colleges of Nursing

American Association on Health and Disability

ACCESS assisting. improving. empowering.

APHA American Public Health Association For science. For action. For health.

Greensboro AHEC Area Health Education Center Connecting People, Education, and Health

TEXAS AHEC EAST WACO REGION

CENTRAL COLORADO AHEC

National Pan-Hellenic Council

BLACK WOMEN'S HEALTH IMPERATIVE

CENTERLINK The Community of LGBT Centers

W. MONTAGUE Cobb NMA HEALTH Institute

Community Council Advancing Solutions...Empowering Lives

Jain Society of Metropolitan Washington JSMW Live and Let Live

LULAC

NACCHO National Association of County & City Health Officials The National Connection for Local Public Health

NAHN National Association of Hispanic Nurses

National Baptist Convention, U.S.A. Incorporated

NBNA National Black Nurses Association, Inc.

NHCOA NATIONAL HISPANIC COUNCIL ON AGING

NHMA National Hispanic Medical Association

NRHA NATIONAL RURAL HEALTH ASSOCIATION

UNIDOSUS STRONGER COMMUNITIES. STRONGER AMERICA.

NATIONAL Minority Quality Forum

the Y YMCA

NIH U.S. National Library of Medicine

Asian Health Coalition

DELTA RESEARCH AND EDUCATIONAL FOUNDATION CREATING POSSIBILITIES ... IMPROVING LIVES

Fifty Forward

National Alliance for Hispanic Health

Stanford MEDICINE

Thank you to our consortium partners!

The Participant Center

America's Blood Centers

The Behavioural Insights Team

BlueCross BlueShield

careevolution HEALTHCARE TECHNOLOGY

DXC.technology

fitbit

Medscape

MONTAGE MARKETING

NATIONAL BLOOD COLLABORATIVE
BLOOD SOLUTIONS | TRUSTED SOURCE

waves

patientslikeme

PicnicHealth

QTC
A Leidos Company

Quest Diagnostics

San Diego Blood Bank Foundation

Sage BIONETWORKS

Scripps Research Translational Institute

SENSIS

SYNC FOR SCIENCE

URBAN ONE

Walgreens

WebMD

Communications & Engagement

WONDROS

THE UNIVERSITY OF UTAH

PYXISPARTNERS
PATHWAYS TO PROGRESS

HPO Network

(Health Care Provider Organizations)

RMCs

All of Us California

- UC San Diego Health
- UCI Health
- UCSF University of California San Francisco
- UC DAVIS HEALTH
- CEDARS-SINAI
- USC University of Southern California

Illinois Precision Medicine Consortium

- Northwestern Medicine
- THE UNIVERSITY OF CHICAGO
- NorthShore University HealthSystem
- RUSH
- COOK COUNTY HEALTH
- THE UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE PEORIA CHICAGO ROCKFORD URBANA
- UI Health UIC

All of Us New England

- BRIGHAM HEALTH BRIGHAM AND WOMEN'S HOSPITAL
- PARTNERS HEALTHCARE
- MASSACHUSETTS GENERAL HOSPITAL
- BOSTON MEDICAL CENTER EXCEPTIONAL CARE. WITHOUT EXCEPTION.

Trans America Consortium

- Henry Ford HEALTH SYSTEM
- Essentia Health
- Baylor Scott & White HEALTH
- SPECTRUM HEALTH
- RELIANT MEDICAL GROUP Part of OptumCare
- HealthPartners

New York City Consortium

- Columbia University Medical Center
- NYC HEALTH+ HOSPITALS
- NewYork-Presbyterian
- Weill Cornell Medicine

All of Us Southern Network

- UAB SCHOOL OF MEDICINE The University of Alabama at Birmingham Selma Family Medicine
- UAB SCHOOL OF MEDICINE The University of Alabama at Birmingham Montgomery Regional Medical Campus
- The University of Mississippi MEDICAL CENTER
- UAB MEDICINE
- Tulane University
- LSU Health NEW ORLEANS
- UAB SCHOOL OF MEDICINE The University of Alabama at Birmingham Huntsville Regional Medical Campus
- THE UNIVERSITY OF ALABAMA University Medical Center
- Cooper Green Mercy HEALTH SERVICES
- USA HEALTH
- HUNTSVILLE HOSPITAL

All of Us SouthEast Enrollment Center

- UNIVERSITY OF MIAMI MILLER SCHOOL of MEDICINE
- U
- EMORY UNIVERSITY
- MOREHOUSE SCHOOL OF MEDICINE
- UF UNIVERSITY of FLORIDA
- Grady

All of Us Wisconsin

- Marshfield Clinic Health System
- GUNDERSEN HEALTH SYSTEM
- WISCONSIN UNIVERSITY OF WISCONSIN-MADISON
- Froedtert & MEDICAL COLLEGE of WISCONSIN

All of Us Pennsylvania

- University of Pittsburgh
- TEMPLE UNIVERSITY

University of Arizona and Banner Health

- THE UNIVERSITY OF ARIZONA
- Banner Health

FQHCs (Federally Qualified Health Centers)

- Cherokee HEALTH SYSTEMS
- JACKSON-HINDS COMPREHENSIVE HEALTH CENTER
- SAN YSIDRO HEALTH
- Community Health Center, Inc.
- Cooperative Health
- HRHCare COMMUNITY HEALTH

VA Medical Centers

- VA U.S. Department of Veterans Affairs

Participant Technology Systems Center (PTSC)

vibrent

Biobank

MAYO CLINIC

Data & Research Center (DRC)

VANDERBILT UNIVERSITY MEDICAL CENTER

BROAD INSTITUTE

verily

Columbia University Medical Center

SCHOOL OF PUBLIC HEALTH UNIVERSITY OF MICHIGAN

Northwestern Medicine

UTHealth The University of Texas Health Science Center at Houston

Genomics Partners

Baylor College of Medicine

JOHNS HOPKINS MEDICINE

UTHealth The University of Texas Health Science Center at Houston

HUDSONALPHA INSTITUTE FOR BIOTECHNOLOGY

BROAD INSTITUTE

color

PARTNERS HEALTHCARE

W UNIVERSITY of WASHINGTON

The *All of Us* Research Program: An Innovative Research Effort

- **Diversity at the scale of 1 million people or more**
- **Focus on participants as partners**
- **Longitudinal design, ability to recontact**
- **Multiple data types:** EHR, surveys, baseline physical measurements, biospecimens, genomics
- **National, open resource for all:** broadly accessible to all researchers with open-source software & tools
- **Security and privacy safeguards** for all participant data

The *All of Us* Research Program: Our Mission

Our Mission

To accelerate health research and medical breakthroughs, enabling individualized prevention, treatment, and care for all of us

Nurture relationships
with one million or more participant partners, from all walks of life, for decades

Deliver the largest, richest biomedical dataset ever
that is easy, safe, and free to access

Catalyze the robust ecosystem
of researchers and funders hungry to use and support it

Build and maintain a strong *All of Us* Team
capable of achieving the program’s mission

Building a Diverse *All of Us* Researcher Cohort

- Creating a demographically diverse researcher cohort: promote responsible and ethical use of our data, return value to our participant communities, and accelerate research impact.

- Encouraging student assemblies and early-stage investigators: bring fresh, creative perspectives & innovative research outcomes.

- Ensuring access for researchers from various institutions/organizations: establish a truly equitable resource for all.

How will *All of Us* lead to discoveries?

Participants Share Data

Participants share health data online. This data includes health surveys and electronic health records. Participants also may be asked to share physical measurements and blood and urine samples.

Data Is Protected

Personal information, like your name, address, and other things that easily identify participants will be removed from all data. Samples—also without any names on them—are stored in a secure biobank.

Researchers Study Data

In the future, approved researchers will use this data to conduct studies. By finding patterns in the data, they may make the next big medical breakthroughs.

Participants Get Information

Participants will get information back about the data they provide, which may help them learn more about their health.

Researchers Share Discoveries

Research may help in many ways. It may help find the best ways for people to stay healthy. It may also help create better tests and find the treatments that will work best for different people.

Current *All of Us* Protocol

Enroll, Consent and Authorize EHR

Recruiting 18+ years old initially; plan to include children in future

Online, interactive consent

Includes authorization to share EHR data

Answering Surveys

Initial surveys:
- The Basics
- Overall Health
- Lifestyle
- Health Care Access & Utilization
- Family Medical History
- Personal Health History

Additional surveys will be released on an ongoing basis.

Physical Measurements*

Blood pressure

Heart rate

Height

Weight

BMI

Hip circumference

Waist circumference

**Based on diverse sampling and capacity*

Provide Biosamples*

Blood (or saliva, if blood draw is unsuccessful)

Urine specimen

Biosamples will be stored at the program's biobank

**Based on diverse sampling and capacity*

Wearables and Digital Apps

Share data from wearable fitness devices, starting with Fitbit

Coming soon:

Integrated apps to track mood & cardio-respiratory fitness

All of Us Scientific Framework

***All of Us* can enable research that will:**

- Increase wellness and resilience, and promote healthy living
- Reduce health disparities and improve health equity in populations that are historically underrepresented in biomedical research (UBR)
- Develop improved risk assessment and prevention strategies to preempt disease
- Provide earlier and more accurate diagnosis to decrease illness burden
- Improve health outcomes and reduce disease impact through improved treatment and development of precision interventions

How will *All of Us* lead to discoveries?

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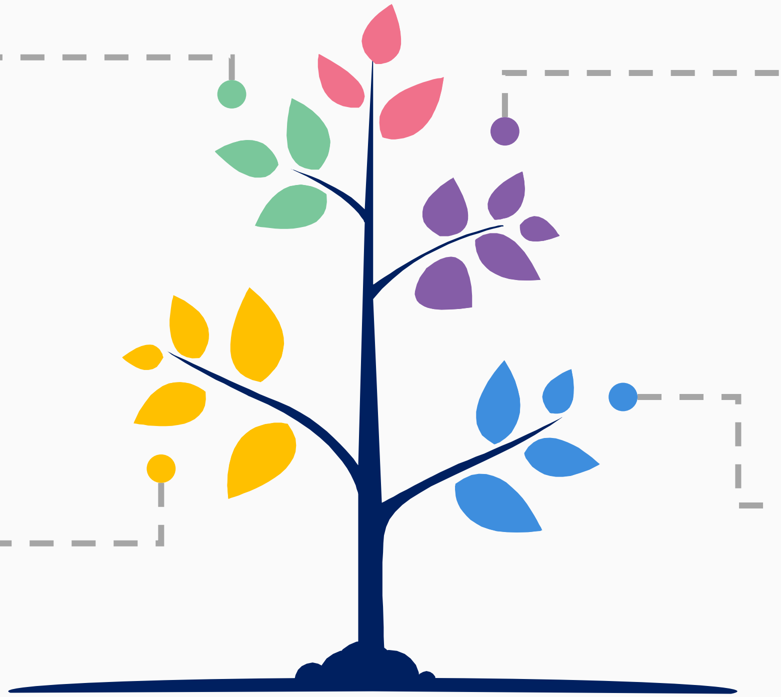
Example Use Case: Blood Pressure



Risk & Prevention

How do age-related changes in blood pressure in children and young adults impact the development of hypertension and hypertension-related conditions in adulthood?

Health Equity

What is the impact of economic stability on rates of screening, likelihood of receiving treatment, and blood pressure levels?

Diagnosis

Does ambulatory blood pressure monitoring (ABPM) or home blood pressure monitoring (HBPM) provide a more accurate estimate of cardiovascular risk?

Wellness & Resilience

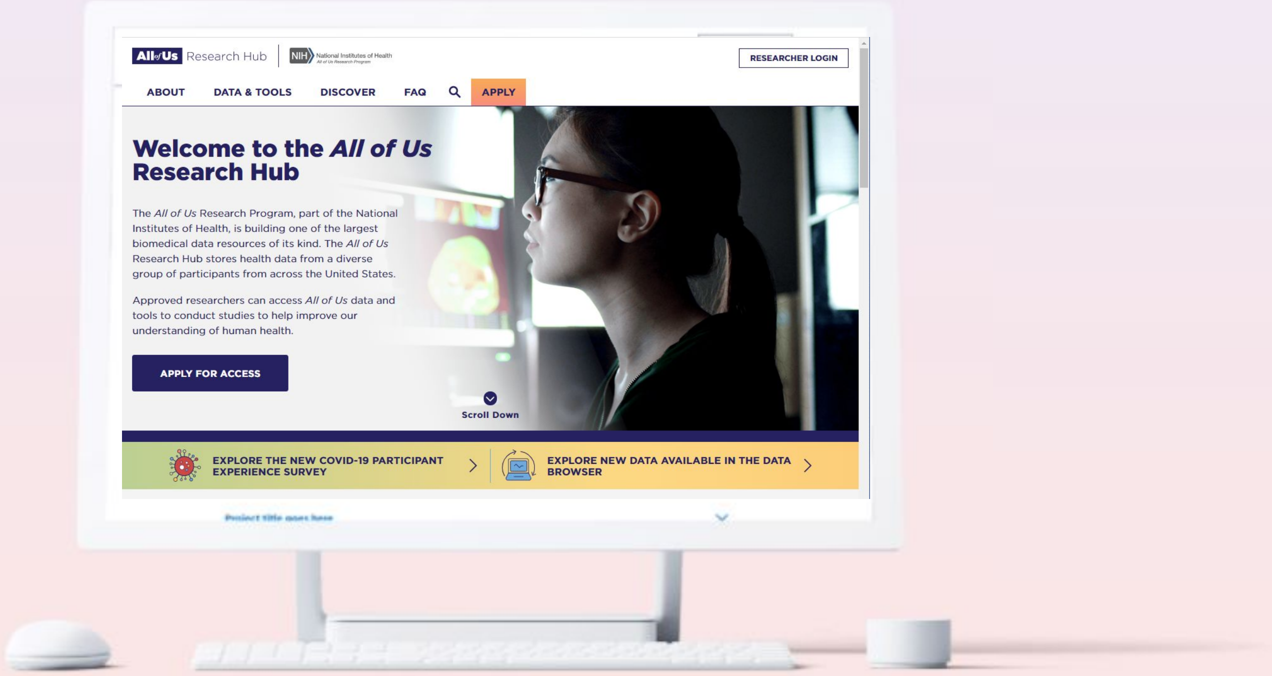
What genomic, environmental, and lifestyle factors underlie the different patterns in age-related trajectories of blood pressure, thereby increasing or reducing the risk of high blood pressure?

Treatment & Outcomes

What are effective and scalable community-based interventions to improve blood pressure levels, medication prescription and medication fill rates?

All of Us Research Hub

The *All of Us* Research Hub



Welcome to the *All of Us* Research Hub

The *All of Us* Research Program, part of the National Institutes of Health, is building one of the largest biomedical data resources of its kind. The *All of Us* Research Hub stores health data from a diverse group of participants from across the United States.

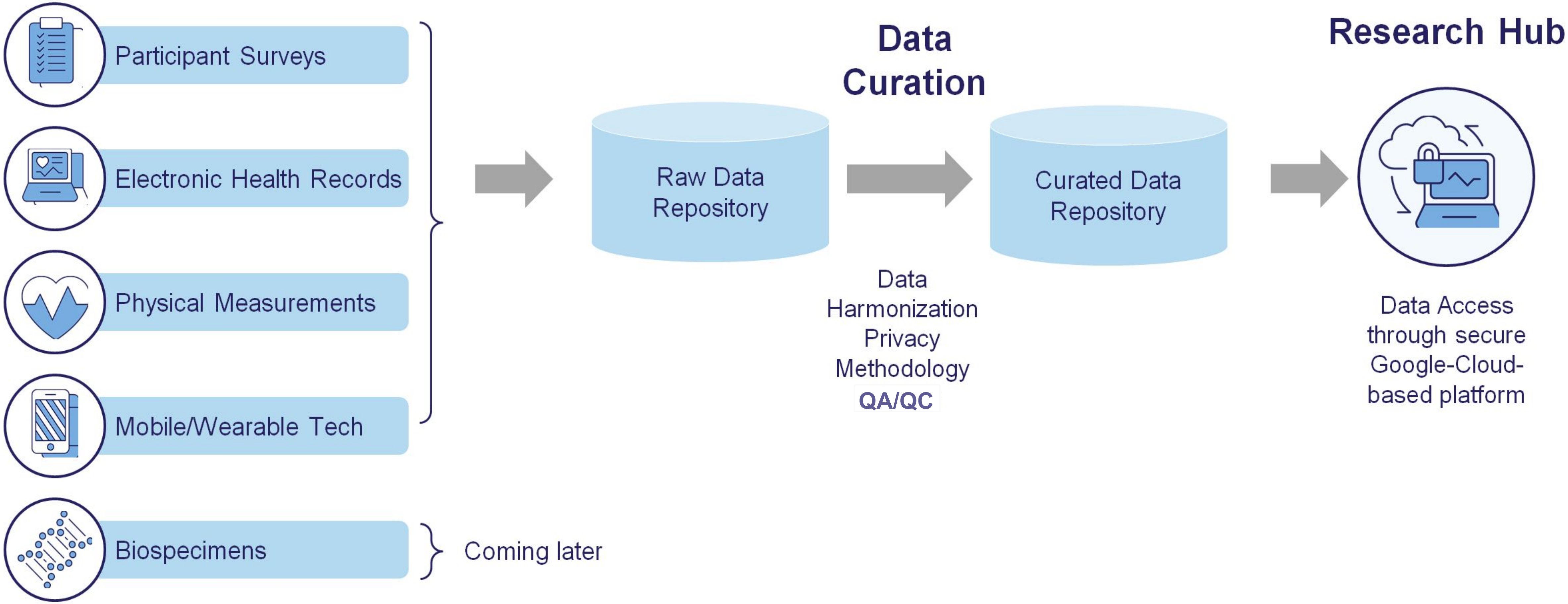
Approved researchers can access *All of Us* data and tools to conduct studies to help improve our understanding of human health.

Learn. Discover. Connect.

https://www.researchallofus.org/

All of Us
DATA & RESEARCH CENTER

All of Us Research Data Pipeline



Data Collection from Consented Research Participants

- Participant Surveys
- Electronic Health Records
- Physical Measurements
- Mobile/Wearable Tech
- Biospecimens

Coming later

Raw Data Repository

Data Curation

Data Harmonization
Privacy Methodology
QA/QC

Curated Data Repository

Research Hub

Data Access through secure Google-Cloud-based platform

Principles of Access & Privacy: “Share Widely and Wisely”

Broad and Open Access

A data resource for *All of Us* *(Academic Researchers* *<u>and</u>* *Community Scientists)*

Removal of unnecessary barriers to access

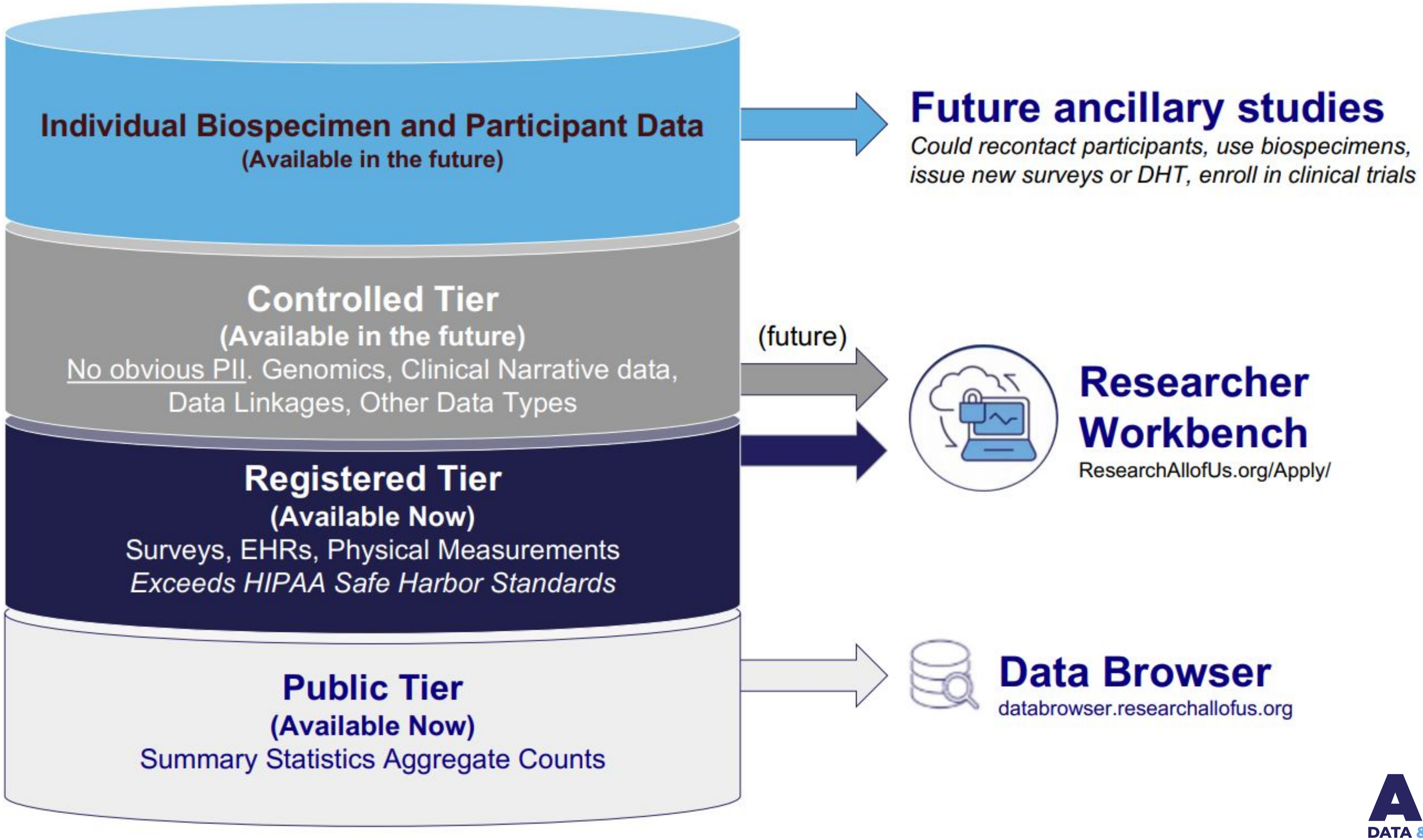
Commitment to Protecting Privacy

Privacy first, privacy always

Strive to build a system that participants can trust

All of Us
DATA & RESEARCH CENTER

Data and resource access is tiered.



Individual Biospecimen and Participant Data
(Available in the future)

Future ancillary studies
Could recontact participants, use biospecimens, issue new surveys or DHT, enroll in clinical trials

Controlled Tier
(Available in the future)
No obvious PII. Genomics, Clinical Narrative data, Data Linkages, Other Data Types

(future)

Registered Tier
(Available Now)
Surveys, EHRs, Physical Measurements
Exceeds HIPAA Safe Harbor Standards

Researcher Workbench
ResearchAllofUs.org/Apply/

Public Tier
(Available Now)
Summary Statistics Aggregate Counts

Data Browser
databrowser.researchallofus.org

All of Us
DATA & RESEARCH CENTER

The Research Hub

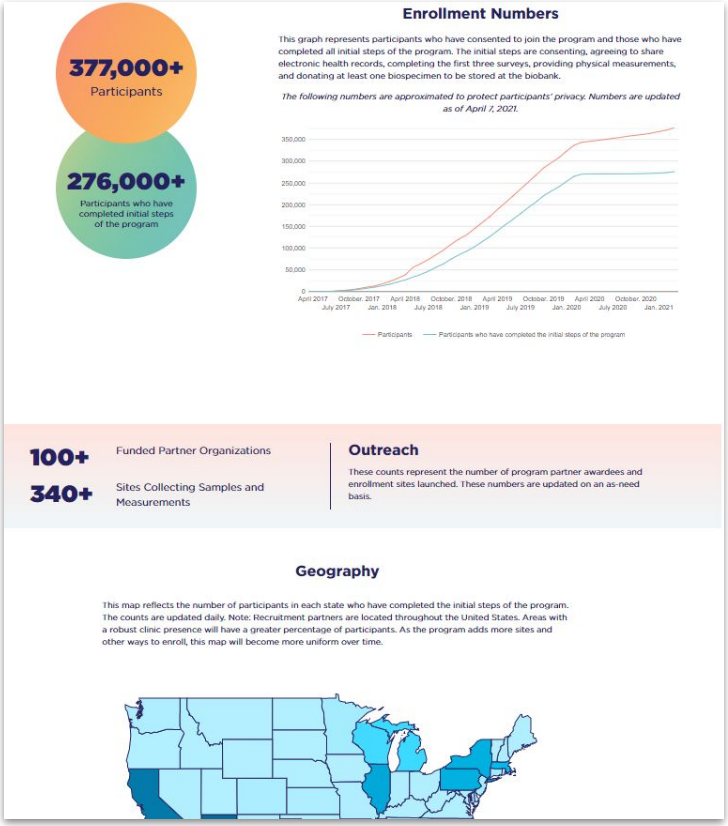
The Research Hub is home to *All of Us* data, research tools, and research projects.

“The Public Website”

“The Workbench”

Public tools enable researchers to learn about data.

Data Snapshots



377,000+ Participants

276,000+ Participants who have completed initial steps of the program

Enrollment Numbers

This graph represents participants who have consented to join the program and those who have completed all initial steps of the program. The initial steps are consenting, agreeing to share electronic health records, completing the first three surveys, providing physical measurements, and donating at least one biospecimen to be stored at the biobank.

The following numbers are approximated to protect participants' privacy. Numbers are updated as of April 7, 2021.

100+ Funded Partner Organizations

340+ Sites Collecting Samples and Measurements

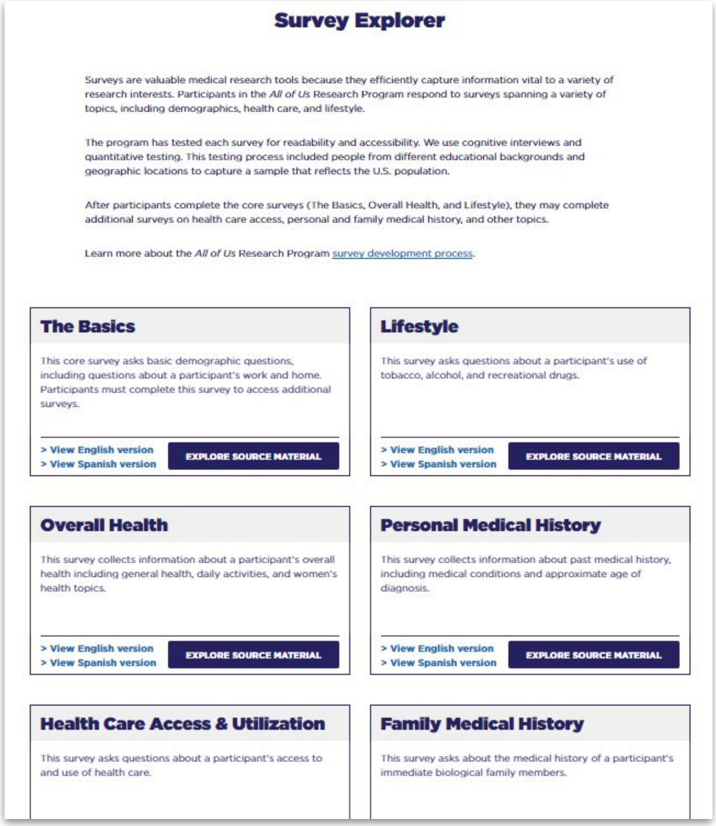
Outreach

These counts represent the number of program partner awardees and enrollment sites launched. These numbers are updated on an as-need basis.

Geography

This map reflects the number of participants in each state who have completed the initial steps of the program. The counts are updated daily. Note: Recruitment partners are located throughout the United States. Areas with a robust clinic presence will have a greater percentage of participants. As the program adds more sites and other ways to enroll, this map will become more uniform over time.

Survey Explorer



Survey Explorer

Surveys are valuable medical research tools because they efficiently capture information vital to a variety of research interests. Participants in the *All of Us* Research Program respond to surveys spanning a variety of topics, including demographics, health care, and lifestyle.

The program has tested each survey for readability and accessibility. We use cognitive interviews and quantitative testing. This testing process included people from different educational backgrounds and geographic locations to capture a sample that reflects the U.S. population.

After participants complete the core surveys (The Basics, Overall Health, and Lifestyle), they may complete additional surveys on health care access, personal and family medical history, and other topics.

Learn more about the *All of Us* Research Program survey development process.

The Basics

This core survey asks basic demographic questions, including questions about a participant's work and home. Participants must complete this survey to access additional surveys.

Lifestyle

This survey asks questions about a participant's use of tobacco, alcohol, and recreational drugs.

Overall Health

This survey collects information about a participant's overall health including general health, daily activities, and women's health topics.

Personal Medical History

This survey collects information about past medical history, including medical conditions and approximate age of diagnosis.

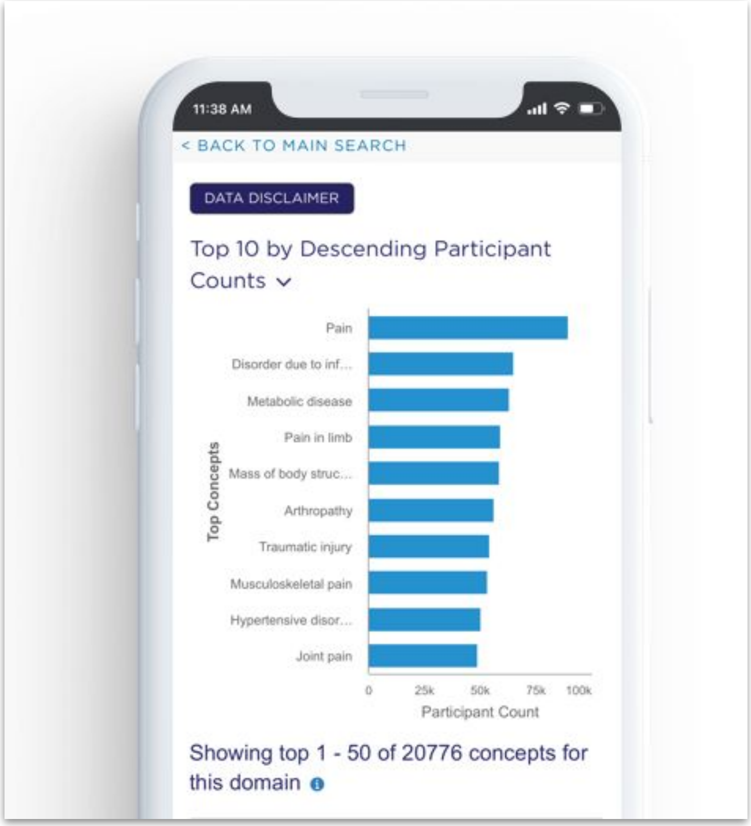
Health Care Access & Utilization

This survey asks questions about a participant's access to and use of health care.

Family Medical History

This survey asks about the medical history of a participant's immediate biological family members.

Data Browser

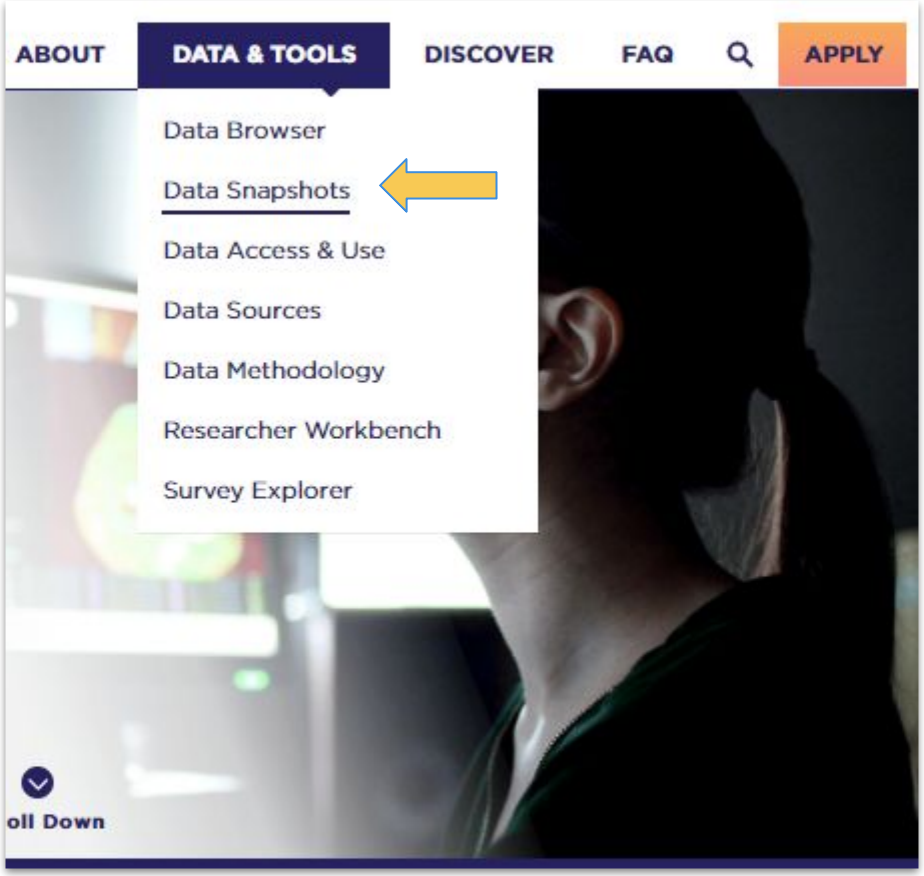


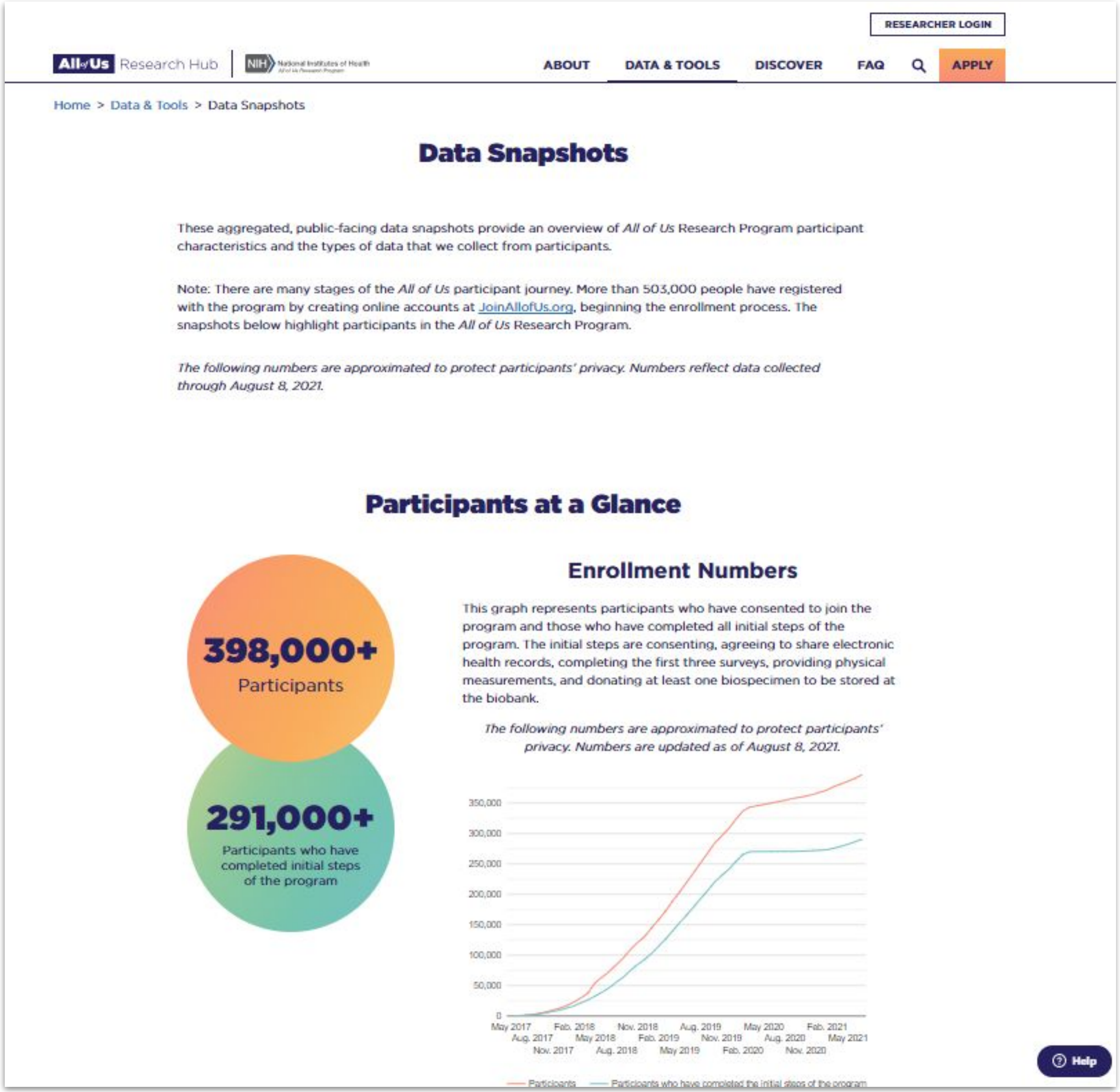
Top 10 by Descending Participant Counts ⌄

Showing top 1 - 50 of 20776 concepts for this domain

Source: https://www.researchallofus.org/

All of Us
DATA & RESEARCH CENTER





Data Snapshots

These aggregated, public-facing data snapshots provide an overview of *All of Us* Research Program participant characteristics and the types of data that we collect from participants.

Note: There are many stages of the *All of Us* participant journey. More than 503,000 people have registered with the program by creating online accounts at JoinAllofUs.org, beginning the enrollment process. The snapshots below highlight participants in the *All of Us* Research Program.

The following numbers are approximated to protect participants' privacy. Numbers reflect data collected through August 8, 2021.

Participants at a Glance

398,000+
Participants

291,000+
Participants who have completed initial steps of the program

Enrollment Numbers

This graph represents participants who have consented to join the program and those who have completed all initial steps of the program. The initial steps are consenting, agreeing to share electronic health records, completing the first three surveys, providing physical measurements, and donating at least one biospecimen to be stored at the biobank.

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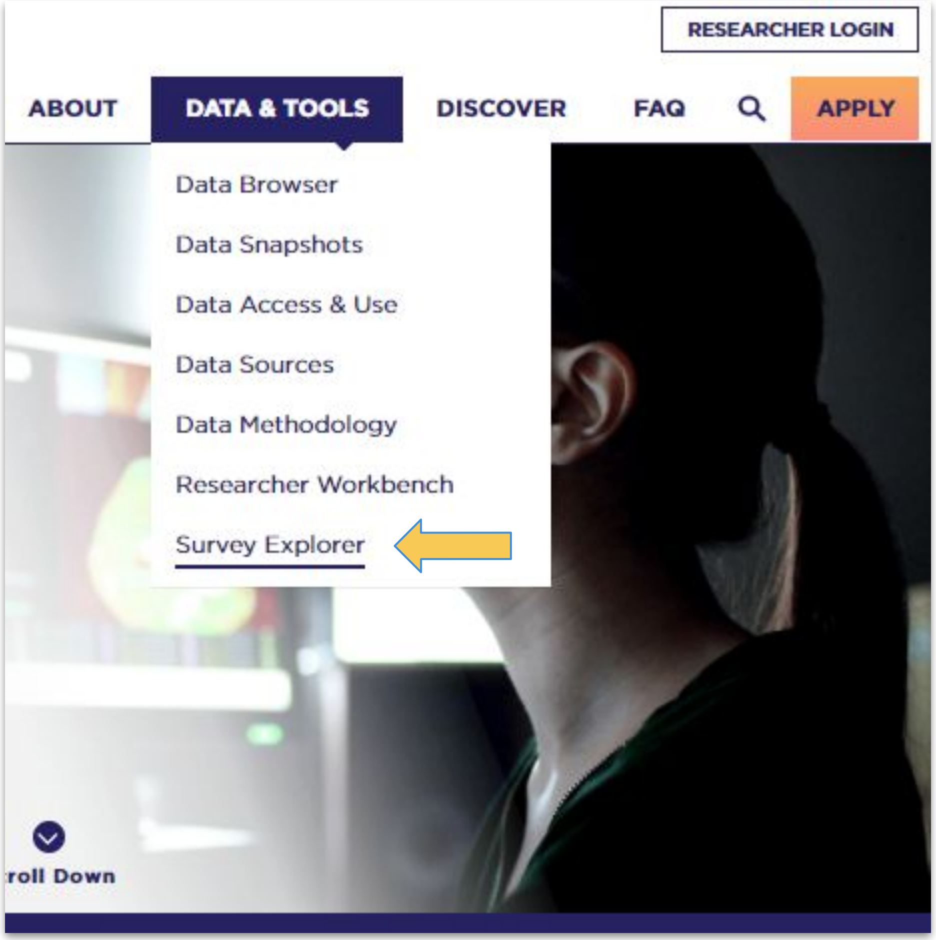
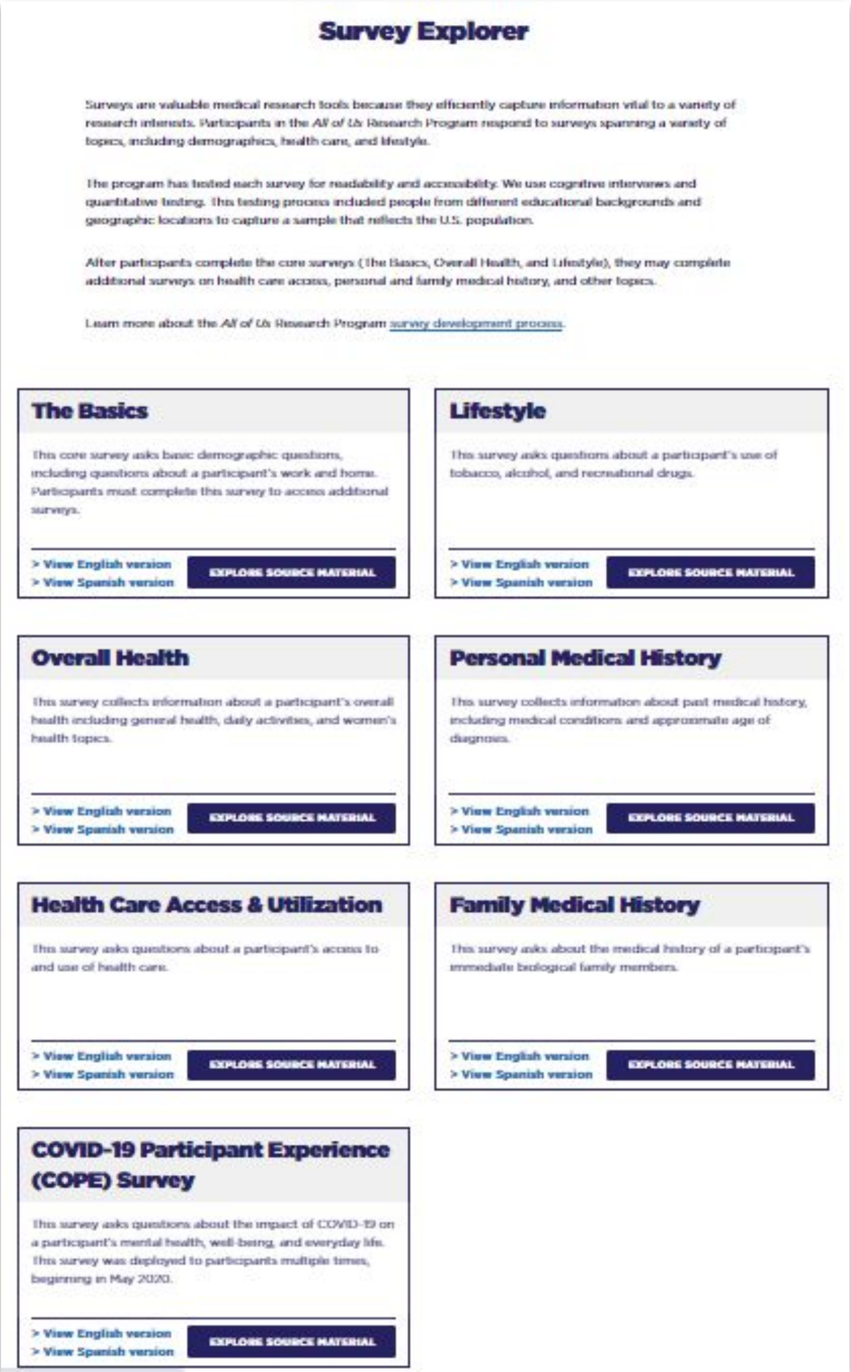


For more information about our survey development process, please read “Development of the Initial Surveys for the All of Us Research Program” (Cronin et al., 2019)



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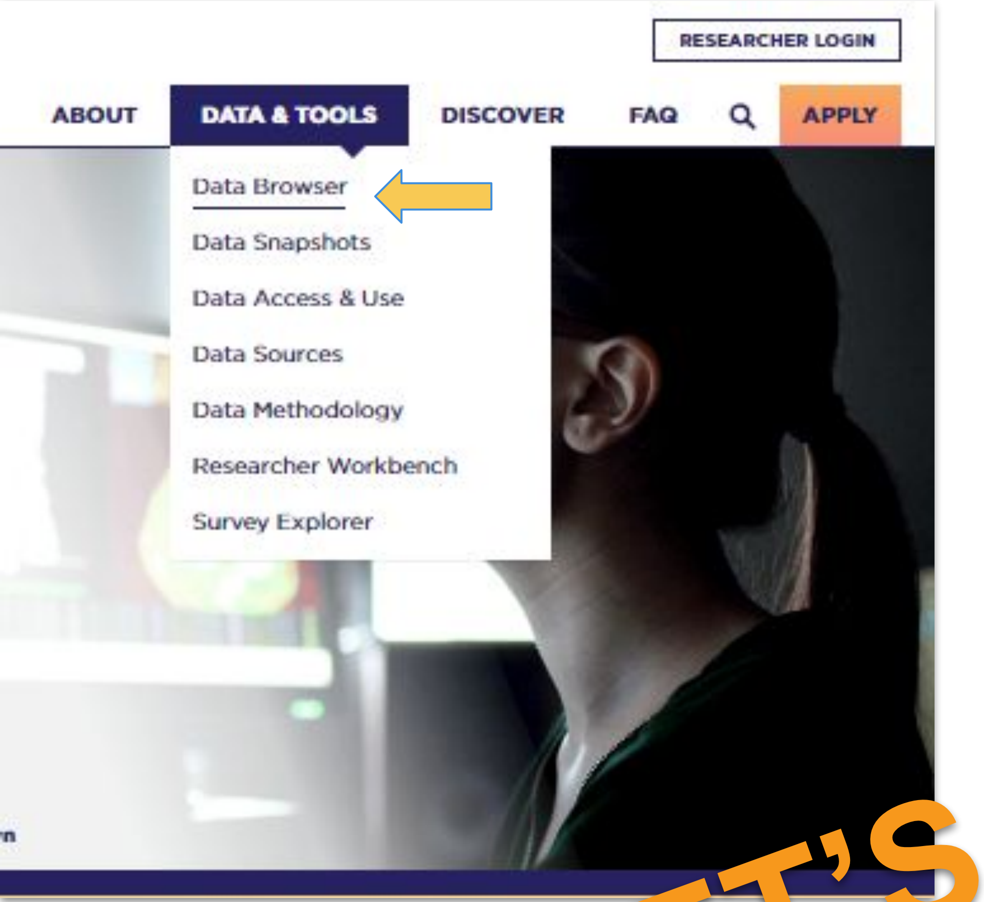
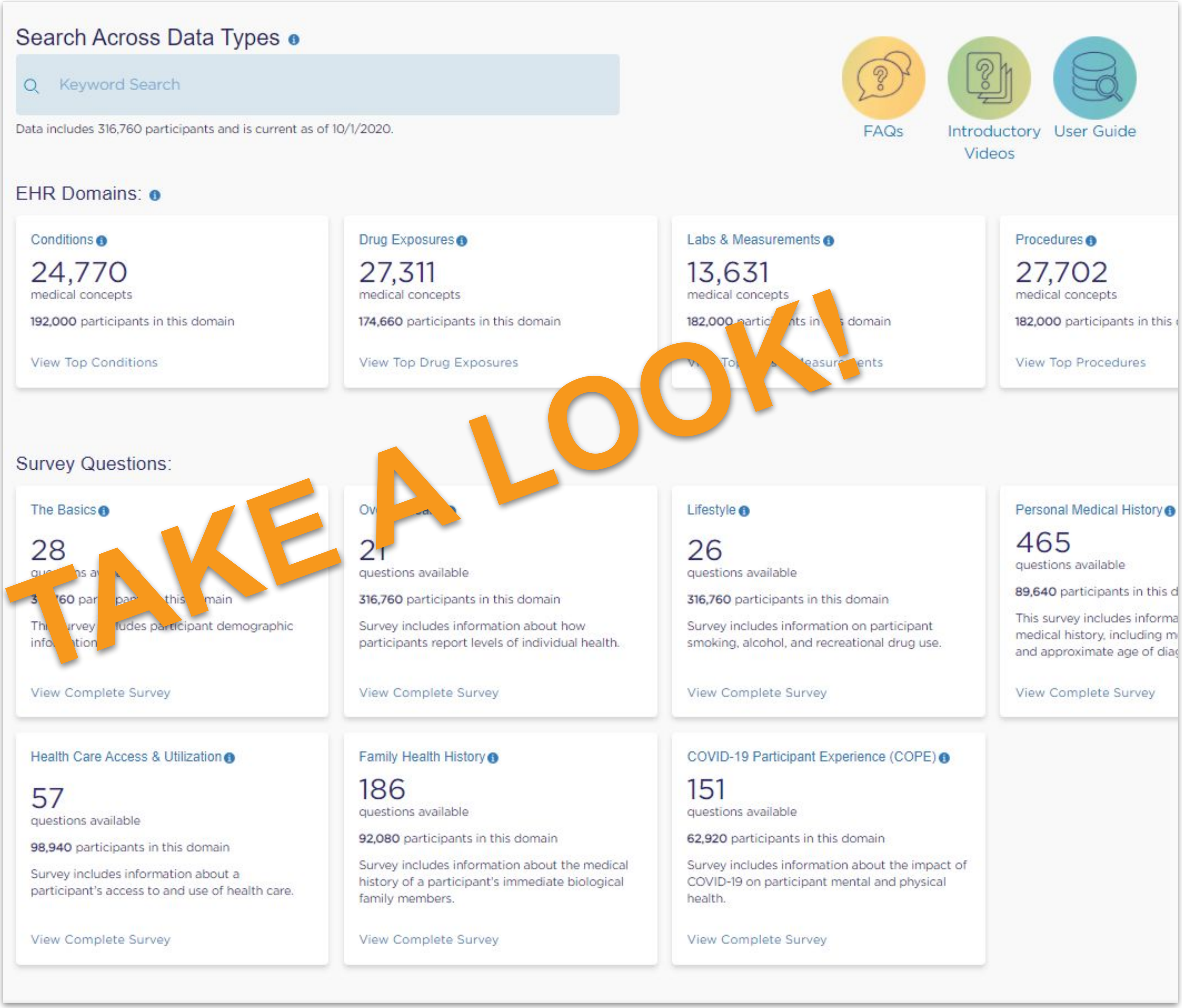
COVID-19 Participant Experience (COPE) Survey

This survey asks questions about the impact of COVID-19 on a participant's mental health, well-being, and everyday life. This survey was deployed to participants multiple times, beginning in May 2020.





Search Across Data Types

Keyword Search

Data includes 316,760 participants and is current as of 10/1/2020.

EHR Domains:

Conditions	Drug Exposures	Labs & Measurements	Procedures
24,770 medical concepts	27,311 medical concepts	13,631 medical concepts	27,702 medical concepts
192,000 participants in this domain	174,660 participants in this domain	182,000 participants in this domain	182,000 participants in this
View Top Conditions	View Top Drug Exposures	View Top Labs & Measurements	View Top Procedures

Survey Questions:

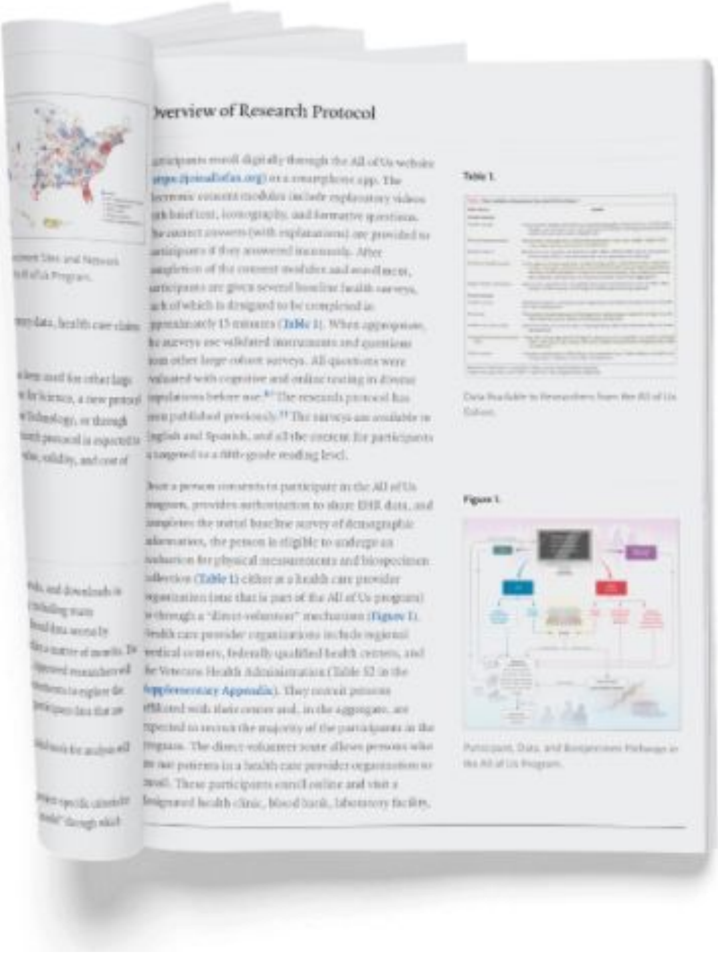
The Basics	Overall Health	Lifestyle	Personal Medical History
28 questions available	21 questions available	26 questions available	465 questions available
316,760 participants in this domain	316,760 participants in this domain	316,760 participants in this domain	89,640 participants in this d
This survey includes participant demographic information.	Survey includes information about how participants report levels of individual health.	Survey includes information on participant smoking, alcohol, and recreational drug use.	This survey includes informa medical history, including m and approximate age of diag
View Complete Survey	View Complete Survey	View Complete Survey	View Complete Survey

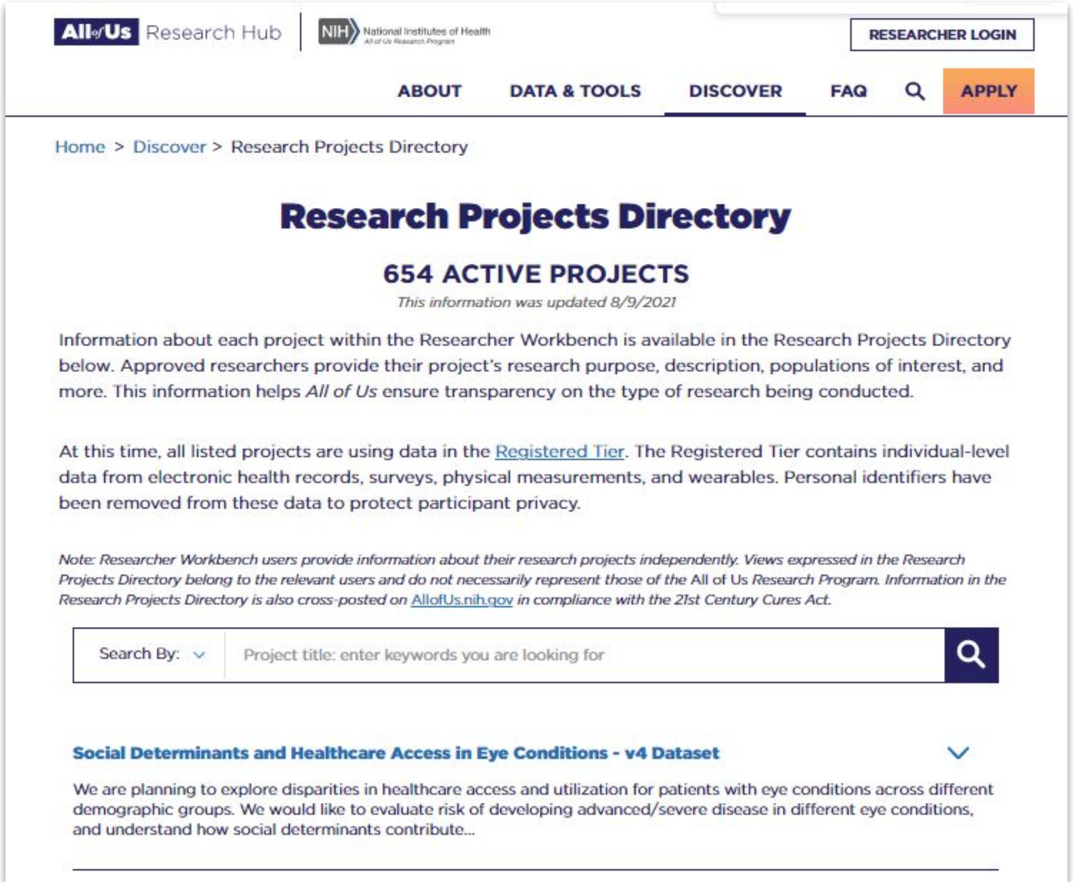
Health Care Access & Utilization	Family Health History	COVID-19 Participant Experience (COPE)
57 questions available	186 questions available	151 questions available
98,940 participants in this domain	92,080 participants in this domain	62,920 participants in this domain
Survey includes information about a participant's access to and use of health care.	Survey includes information about the medical history of a participant's immediate biological family members.	Survey includes information about the impact of COVID-19 on participant mental and physical health.
View Complete Survey	View Complete Survey	View Complete Survey

LET'S TAKE A LOOK!

Publications

The stories, projects, & publications made possible by *All of Us* are shared **publicly & transparently**.





Home > Discover > Research Projects Directory

Research Projects Directory

654 ACTIVE PROJECTS

This information was updated 8/9/2021

Information about each project within the Researcher Workbench is available in the Research Projects Directory below. Approved researchers provide their project's research purpose, description, populations of interest, and more. This information helps *All of Us* ensure transparency on the type of research being conducted.

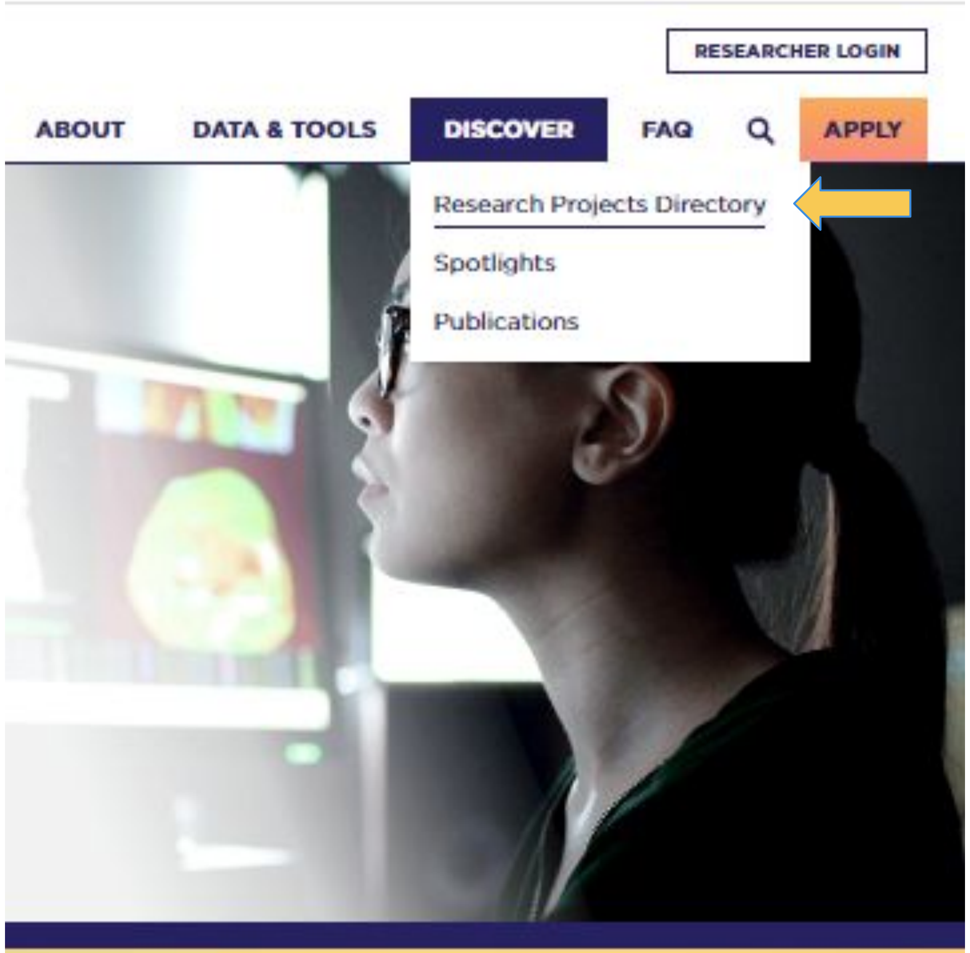
At this time, all listed projects are using data in the Registered Tier. The Registered Tier contains individual-level data from electronic health records, surveys, physical measurements, and wearables. Personal identifiers have been removed from these data to protect participant privacy.

Note: Researcher Workbench users provide information about their research projects independently. Views expressed in the Research Projects Directory belong to the relevant users and do not necessarily represent those of the All of Us Research Program. Information in the Research Projects Directory is also cross-posted on AllofUs.nih.gov in compliance with the 21st Century Cures Act.

Social Determinants and Healthcare Access in Eye Conditions - v4 Dataset

We are planning to explore disparities in healthcare access and utilization for patients with eye conditions across different demographic groups. We would like to evaluate risk of developing advanced/severe disease in different eye conditions, and understand how social determinants contribute...

Source: https://www.researchallofus.org/



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Stroke risk factors

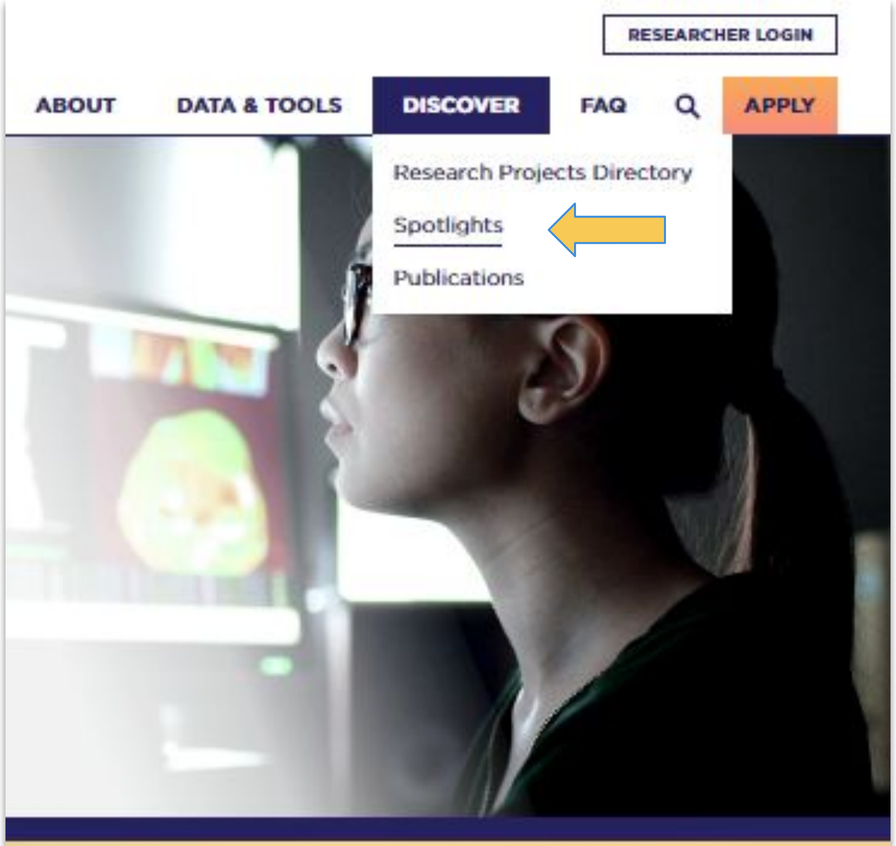
Stroke is the second leading cause of death and the leading cause of adult disability in the world, but relatively little is known about the underlying mechanisms that lead to stroke. No mechanism-based treatment or established prevention for hemorrhagic stroke...

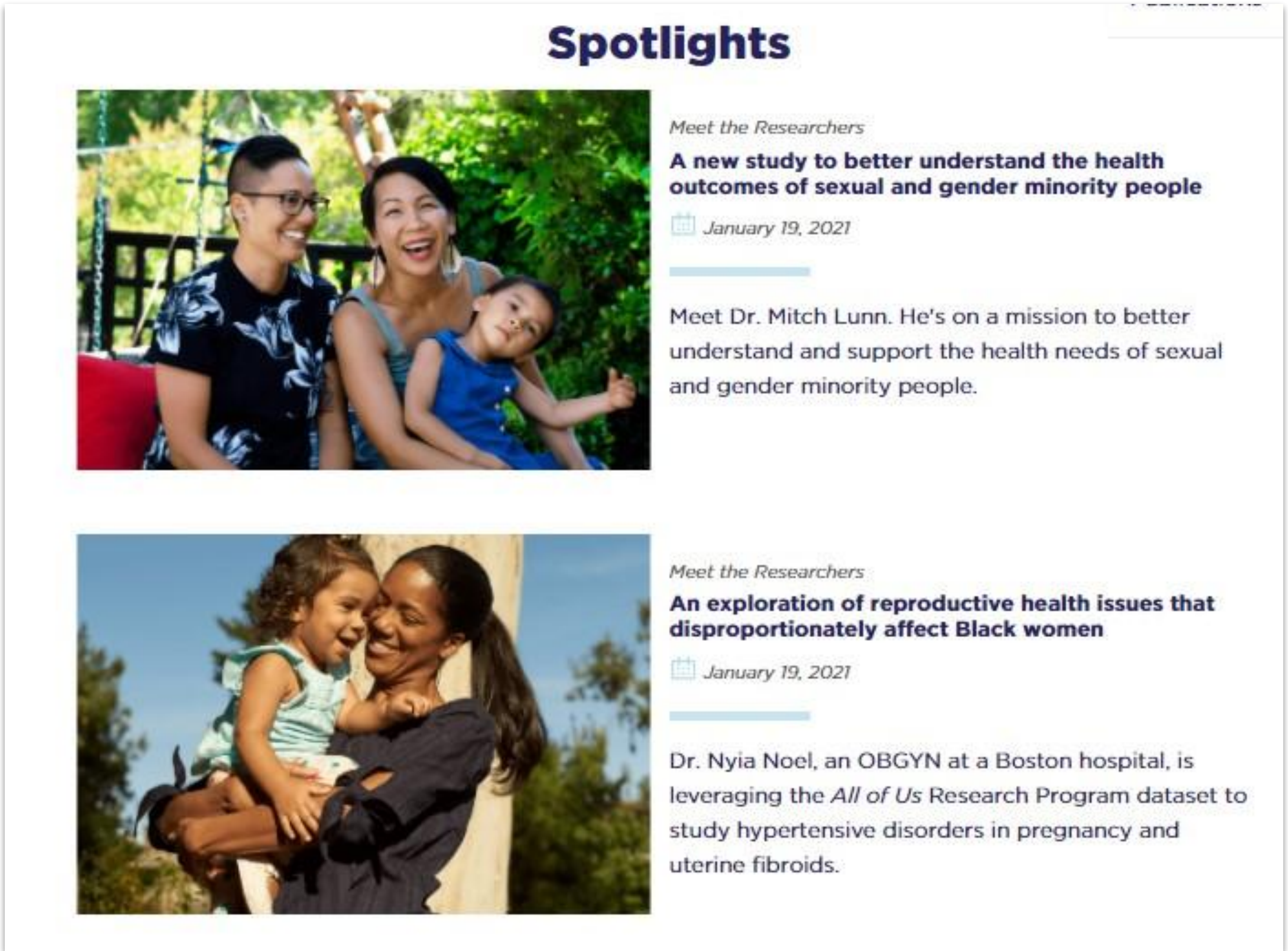
Thyroid nodule and cancer

Thyroid cancer is one of the fastest increasing cancer over the last 40 years. From 1974 to 2013 the incidence increased 3.6% per year. With increased use of radiology studies throughout all facets of medicine, the incidental identification of thyroid...

Determinants of neurovascular diseases

Neurovascular disease is responsible for a substantial proportion of the morbidity and mortality observed in the general population. Mounting evidence indicates that this impact disproportionately affects minority populations. This disproportionate effect is not only present in minorities defined by race/ethnicity,...





Spotlights

Meet the Researchers

A new study to better understand the health outcomes of sexual and gender minority people

January 19, 2021

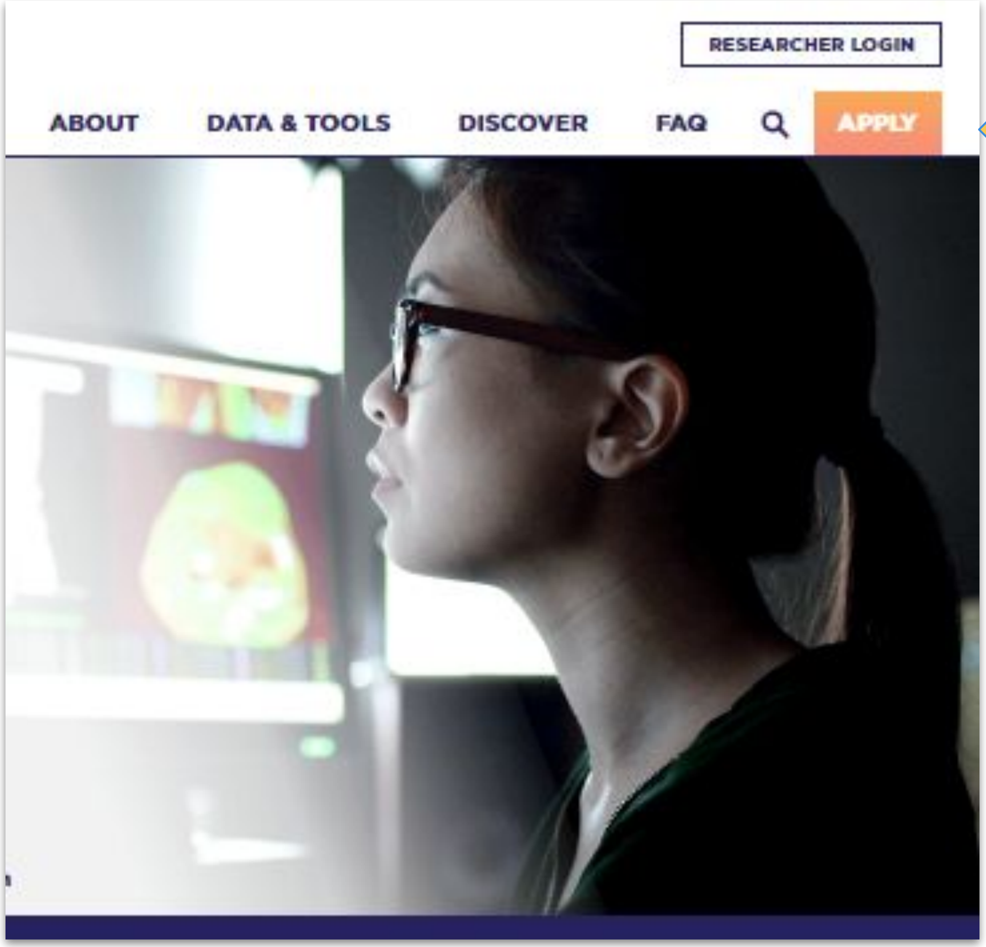
Meet Dr. Mitch Lunn. He's on a mission to better understand and support the health needs of sexual and gender minority people.

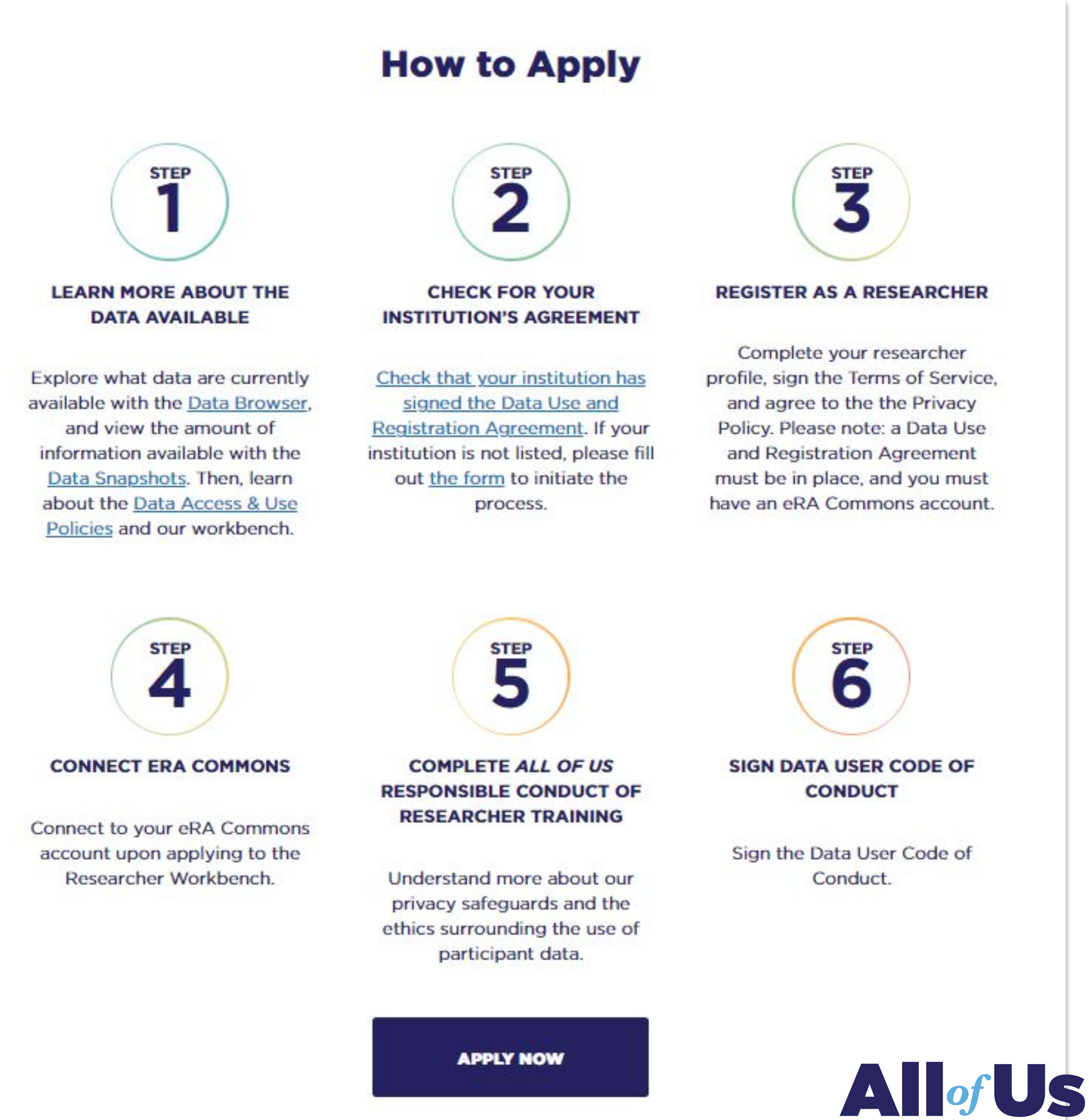
Meet the Researchers

An exploration of reproductive health issues that disproportionately affect Black women

January 19, 2021

Dr. Nyia Noel, an OBGYN at a Boston hospital, is leveraging the *All of Us* Research Program dataset to study hypertensive disorders in pregnancy and uterine fibroids.





How to Apply

STEP 1

LEARN MORE ABOUT THE DATA AVAILABLE

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STEP 5

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Understand more about our privacy safeguards and the ethics surrounding the use of participant data.

STEP 6

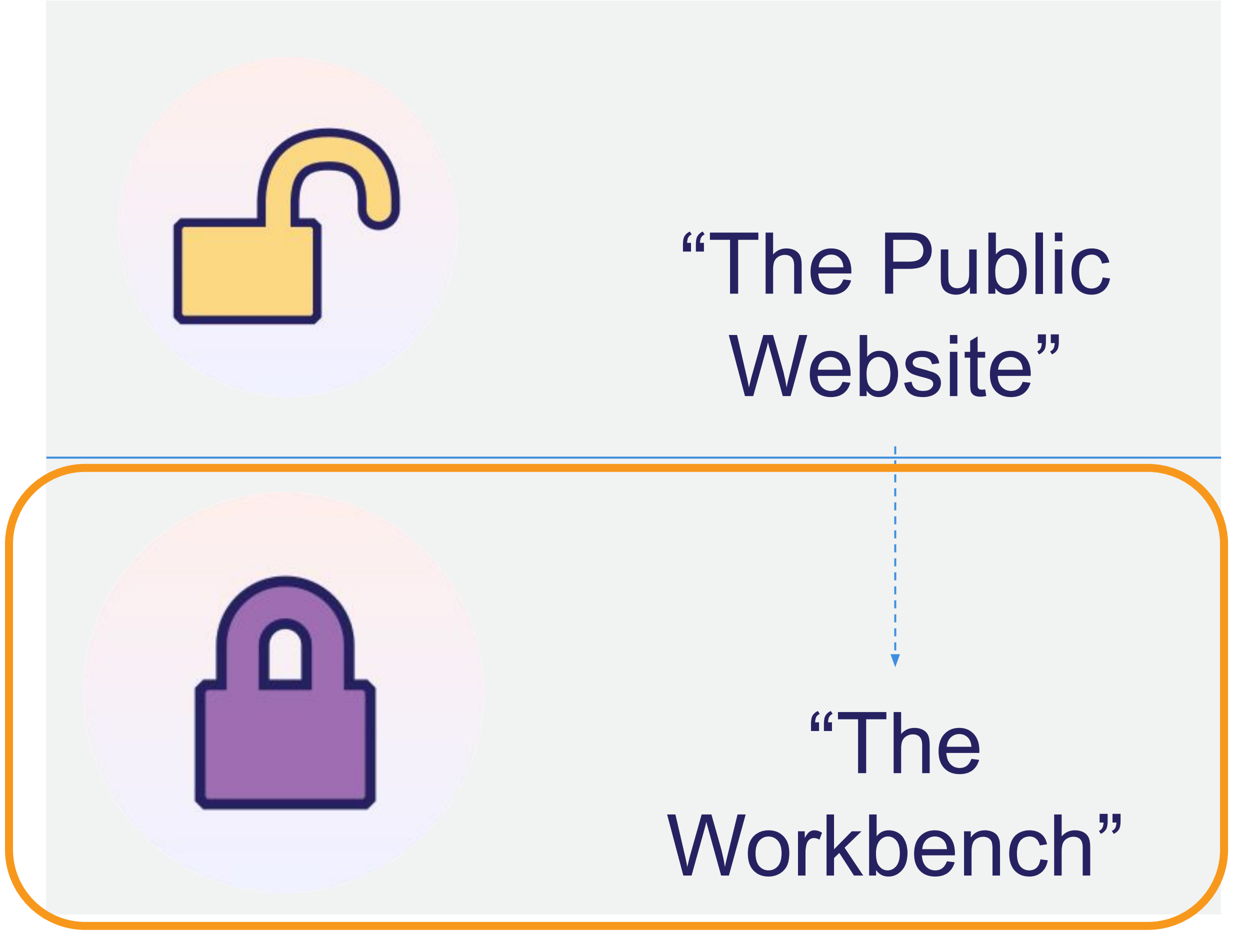
SIGN DATA USER CODE OF CONDUCT

Sign the Data User Code of Conduct.

All of Us
DATA & RESEARCH CENTER

The Researcher Workbench

A secure enclave where researchers access & analyze All of Us data.



“The Public Website”

“The Workbench”

The Workbench offers analysis tools & resources.

WORKSPACES

USES: Organizing research projects, collaboration, transparency

NOTEBOOKS

USES: Analysis, queries

DATASET BUILDER

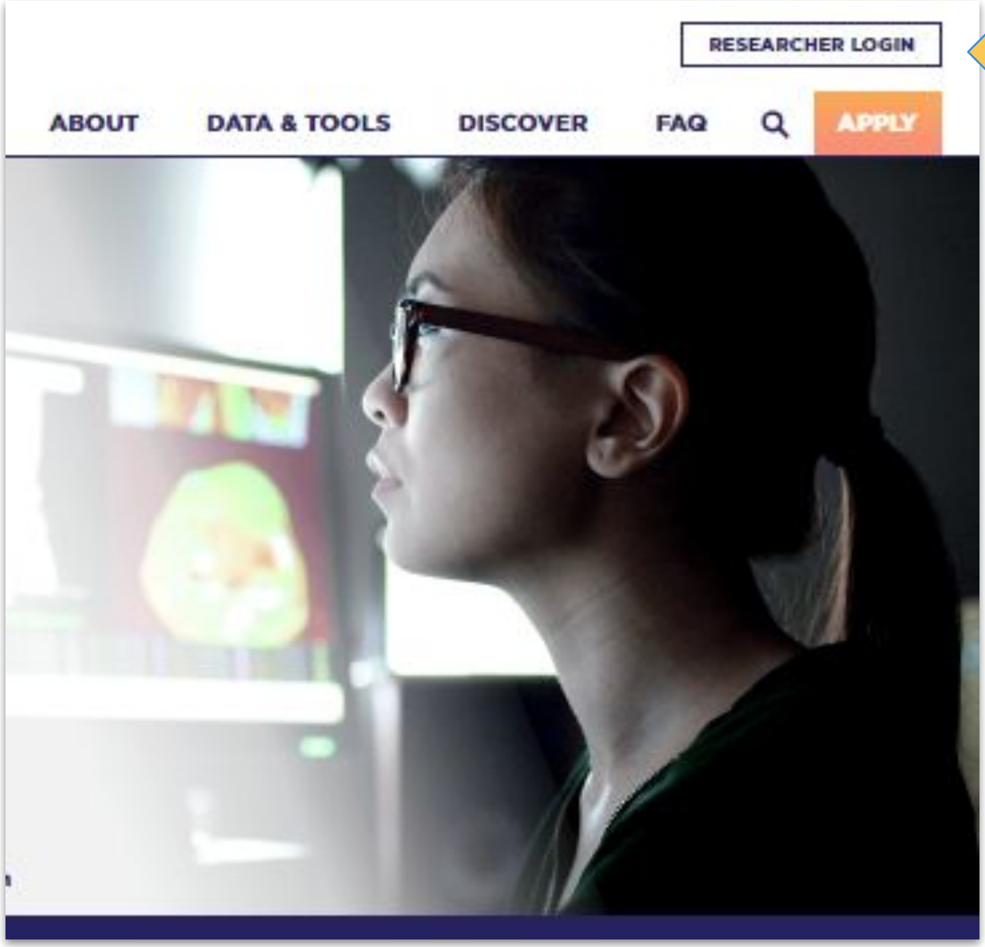
USES: Pre-populated analysis, dataset previews

COHORT BUILDER

USES: Cohort creation

WORKBENCH USER SUPPORT HUB

USES: Learning, support, guides



Already have a Researcher Workbench account?

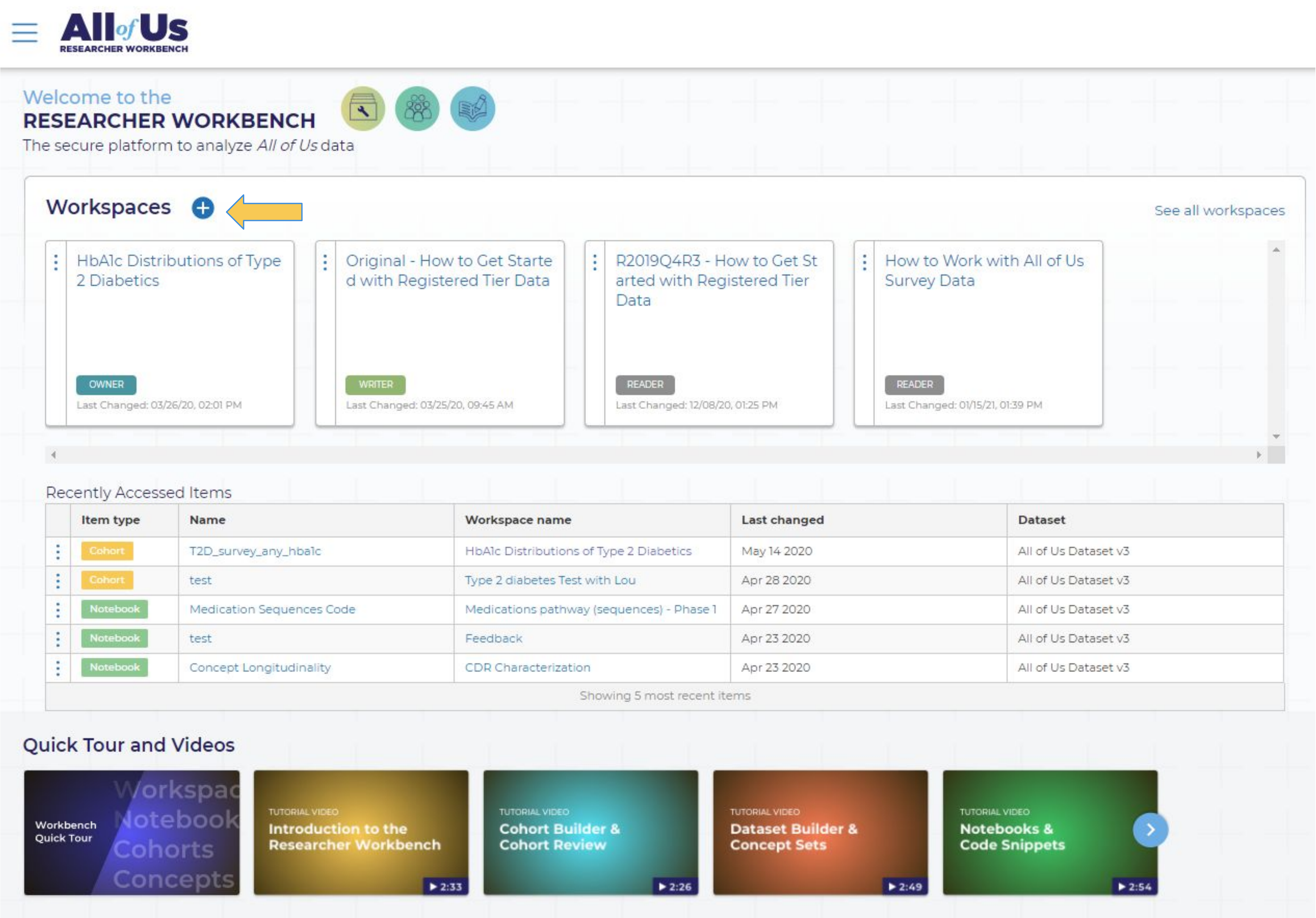
Don't have an account?

WARNING NOTICE

You are accessing a web site created by the *All of Us* Research Program, funded by the National Institutes of Health.

Unauthorized attempts to upload information, change information, or use of this web site may result in disciplinary action, civil, and/or criminal penalties. Unauthorized users of this website should have no expectation of privacy regarding any communications or data processed by this website.

By continuing to log in, anyone accessing this website expressly consents to monitoring of their actions and all communications or data transiting or stored on related to this website and is advised that if such monitoring reveals possible evidence of criminal activity, NIH may provide that evidence to law enforcement officials.



All of Us
RESEARCHER WORKBENCH

Welcome to the
RESEARCHER WORKBENCH
The secure platform to analyze *All of Us* data

Workspaces

See all workspaces

HbA1c Distributions of Type 2 Diabetics
OWNER
Last Changed: 03/26/20, 02:01 PM

Original - How to Get Started with Registered Tier Data
WRITER
Last Changed: 03/25/20, 09:45 AM

R2019Q4R3 - How to Get Started with Registered Tier Data
READER
Last Changed: 12/08/20, 01:25 PM

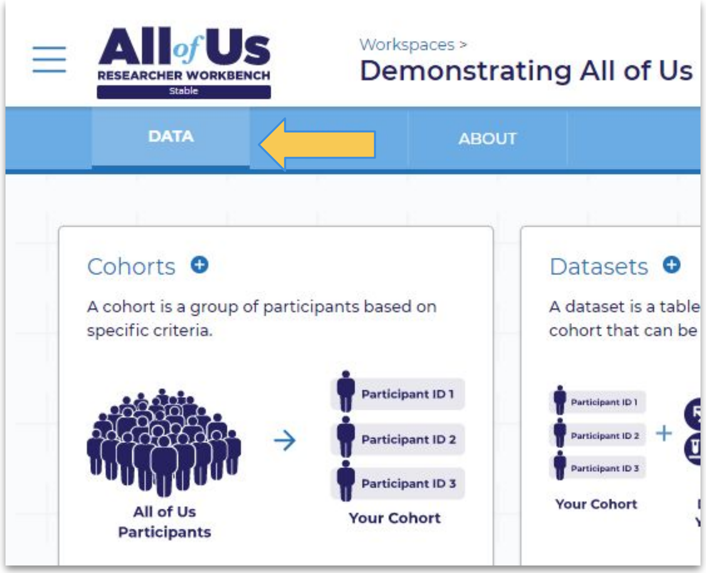
How to Work with All of Us Survey Data
READER
Last Changed: 01/15/21, 01:39 PM

Recently Accessed Items

	Item type	Name	Workspace name	Last changed	Dataset
⋮	Cohort	T2D_survey_any_hba1c	HbA1c Distributions of Type 2 Diabetics	May 14 2020	All of Us Dataset v3
⋮	Cohort	test	Type 2 diabetes Test with Lou	Apr 28 2020	All of Us Dataset v3
⋮	Notebook	Medication Sequences Code	Medications pathway (sequences) - Phase 1	Apr 27 2020	All of Us Dataset v3
⋮	Notebook	test	Feedback	Apr 23 2020	All of Us Dataset v3
⋮	Notebook	Concept Longitudinality	CDR Characterization	Apr 23 2020	All of Us Dataset v3

Showing 5 most recent items

Quick Tour and Videos

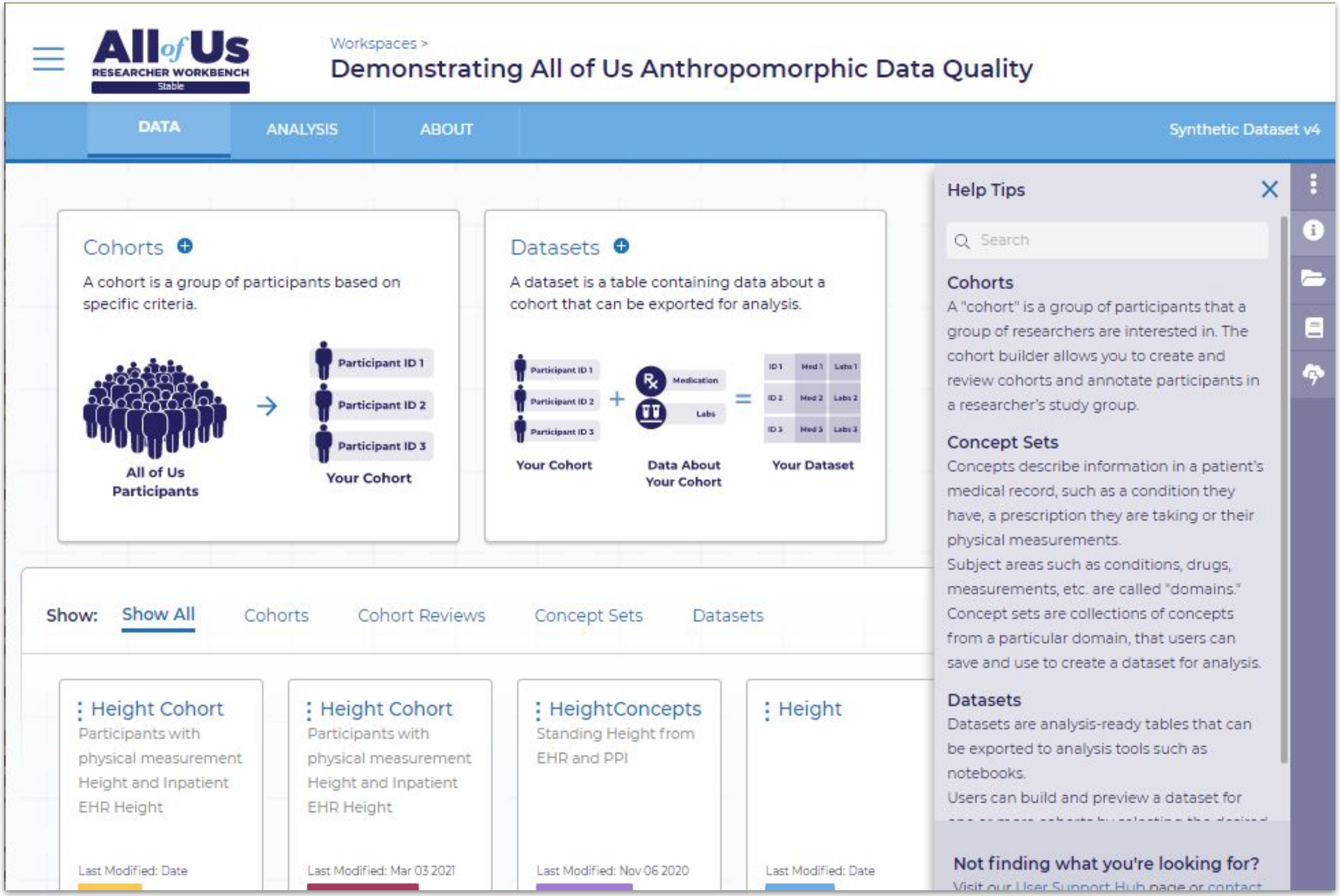


Cohorts

A cohort is a group of participants based on specific criteria.

Datasets

A dataset is a table cohort that can be



Cohorts

A cohort is a group of participants based on specific criteria.

Datasets

A dataset is a table containing data about a cohort that can be exported for analysis.

Height Cohort

Participants with physical measurement Height and Inpatient EHR Height

Last Modified: Date

Height Cohort

Participants with physical measurement Height and Inpatient EHR Height

Last Modified: Mar 03 2021

HeightConcepts

Standing Height from EHR and PPI

Last Modified: Nov 06 2020

Height

Last Modified: Date

Help Tips

Cohorts

A "cohort" is a group of participants that a group of researchers are interested in. The cohort builder allows you to create and review cohorts and annotate participants in a researcher's study group.

Concept Sets

Concepts describe information in a patient's medical record, such as a condition they have, a prescription they are taking or their physical measurements.

Subject areas such as conditions, drugs, measurements, etc. are called "domains."

Concept sets are collections of concepts from a particular domain, that users can save and use to create a dataset for analysis.

Datasets

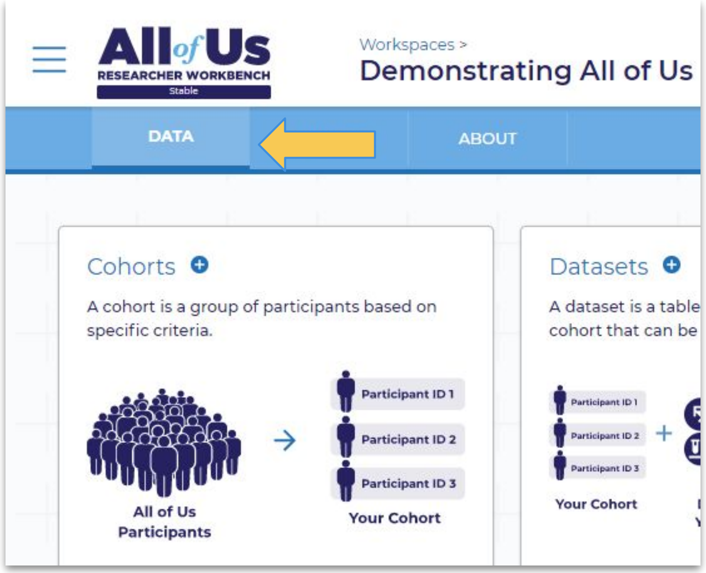
Datasets are analysis-ready tables that can be exported to analysis tools such as notebooks.

Users can build and preview a dataset for

Not finding what you're looking for?

Visit our User Support Hub page or contact

Cohort + Dataset Builders



Workspaces >
Demonstrating All of Us

Cohorts

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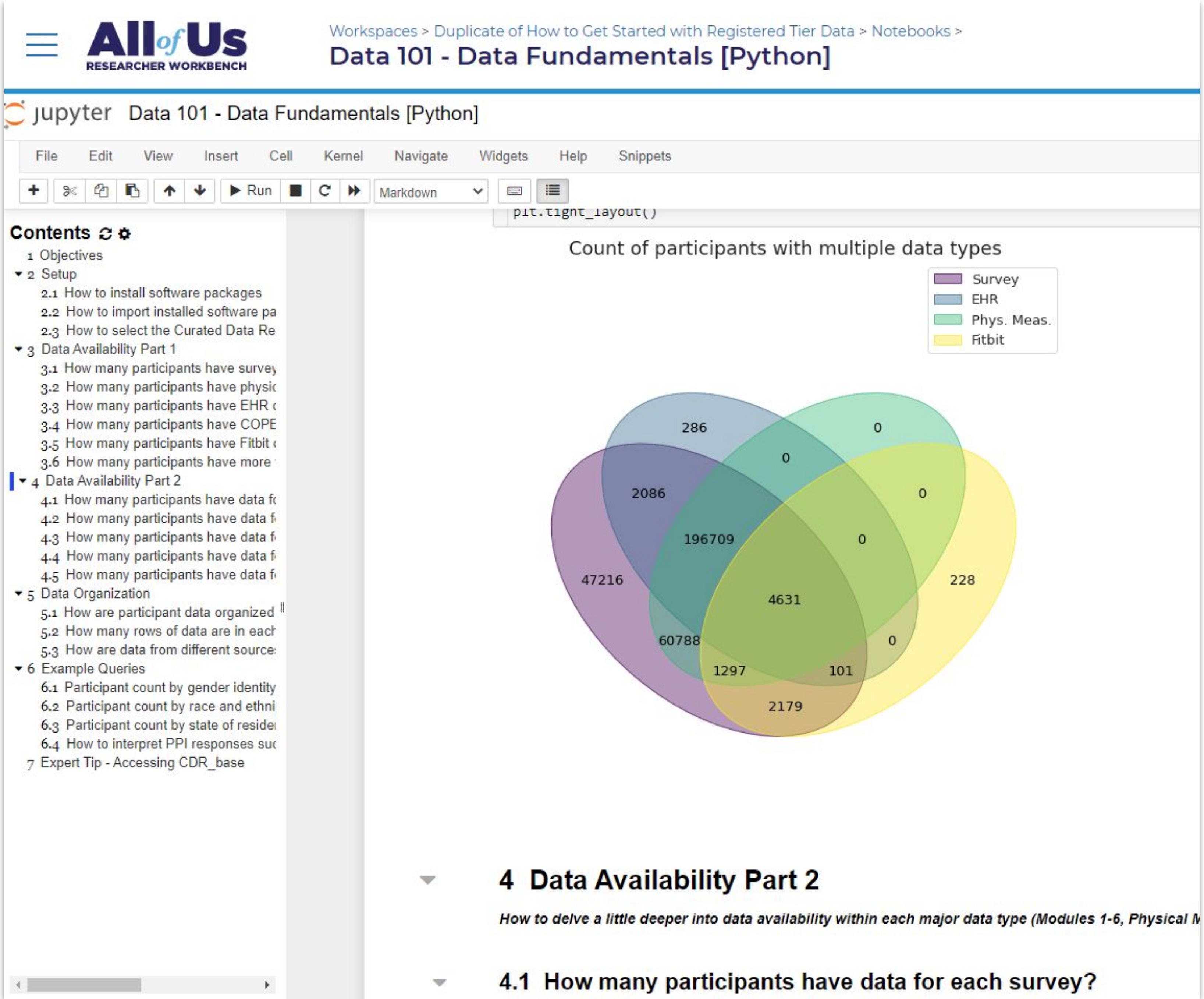


Workspaces > Duplicate of How to Get Started with Registered Tier Data > Notebooks >
Data 101 - Data Fundamentals [Python]

Data 101 - Data Fundamentals [Python]

```
plt.tight_layout()
```

Contents

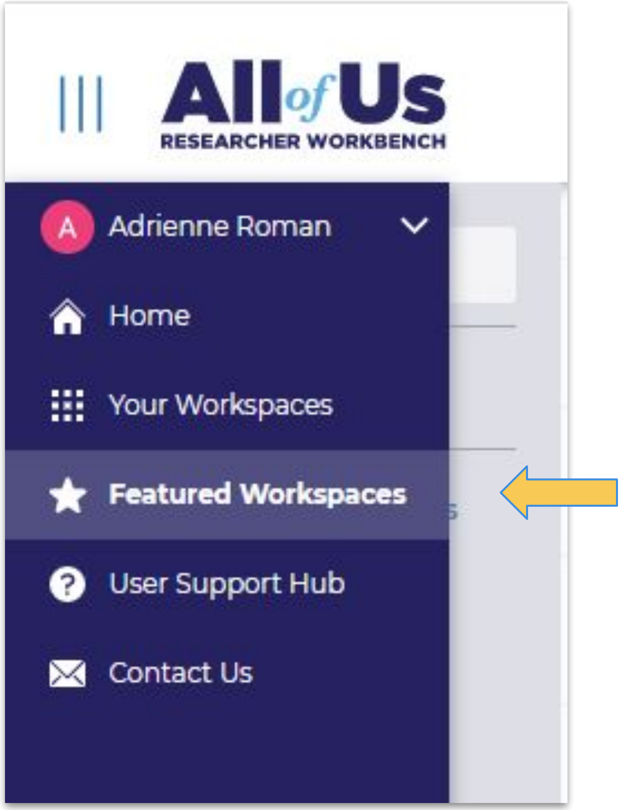
1 Objectives
2 Setup
  2.1 How to install software packages
  2.2 How to import installed software pa
  2.3 How to select the Curated Data Re
3 Data Availability Part 1
  3.1 How many participants have survey
  3.2 How many participants have physic
  3.3 How many participants have EHR
  3.4 How many participants have COPE
  3.5 How many participants have Fitbit
  3.6 How many participants have more
4 Data Availability Part 2
  4.1 How many participants have data fc
  4.2 How many participants have data f
  4.3 How many participants have data f
  4.4 How many participants have data f
  4.5 How many participants have data f
5 Data Organization
  5.1 How are participant data organized
  5.2 How many rows of data are in each
  5.3 How are data from different source
6 Example Queries
  6.1 Participant count by gender identity
  6.2 Participant count by race and ethni
  6.3 Participant count by state of reside
  6.4 How to interpret PPI responses suc
7 Expert Tip - Accessing CDR_base

4 Data Availability Part 2

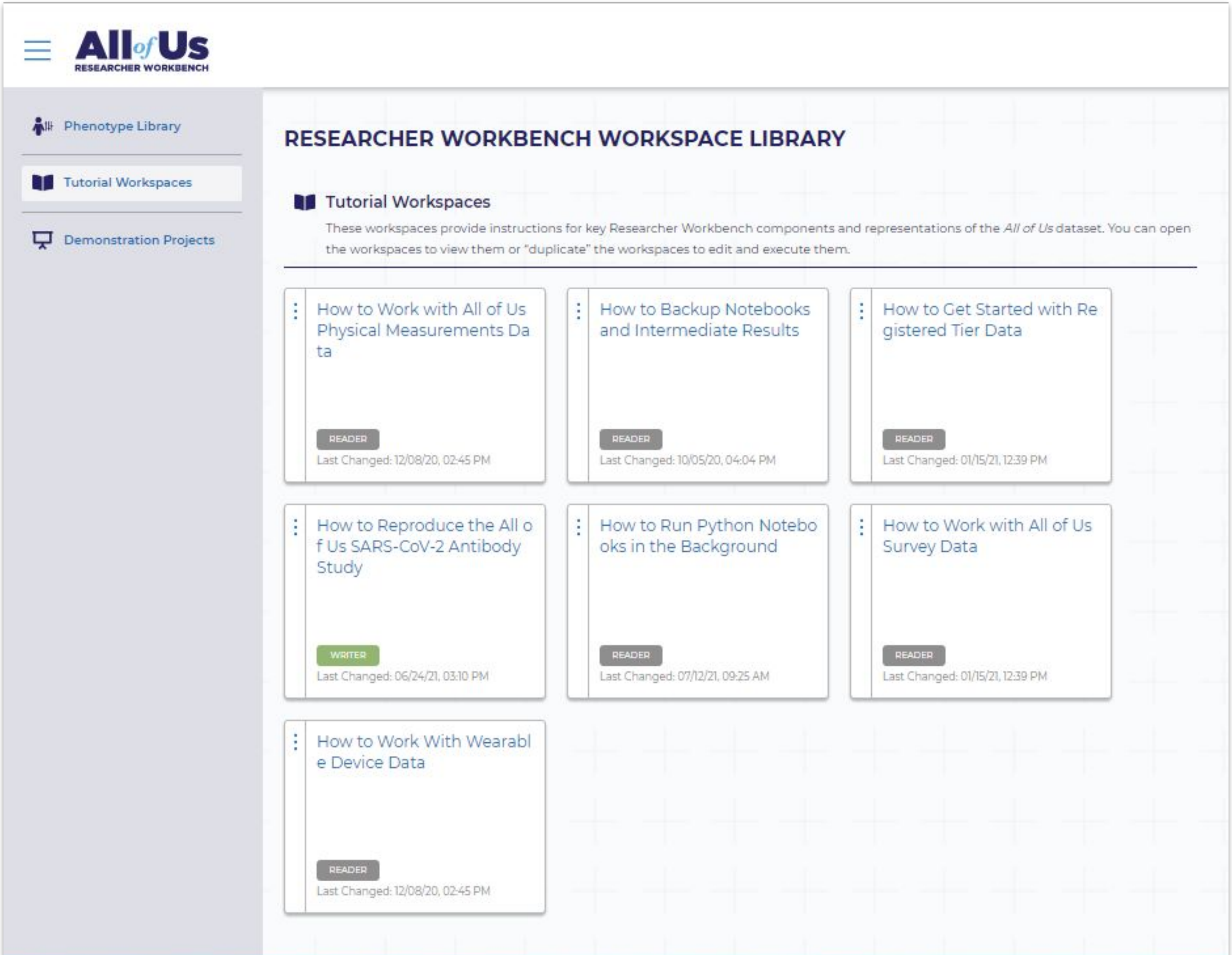
How to delve a little deeper into data availability within each major data type (Modules 1-6, Physical M

4.1 How many participants have data for each survey?

NOTEBOOKS



NOTEBOOKS



RESEARCHER WORKBENCH WORKSPACE LIBRARY

Tutorial Workspaces

These workspaces provide instructions for key Researcher Workbench components and representations of the *All of Us* dataset. You can open the workspaces to view them or "duplicate" the workspaces to edit and execute them.

How to Work with All of Us Physical Measurements Data
READER
Last Changed: 12/08/20, 02:45 PM

How to Backup Notebooks and Intermediate Results
READER
Last Changed: 10/05/20, 04:04 PM

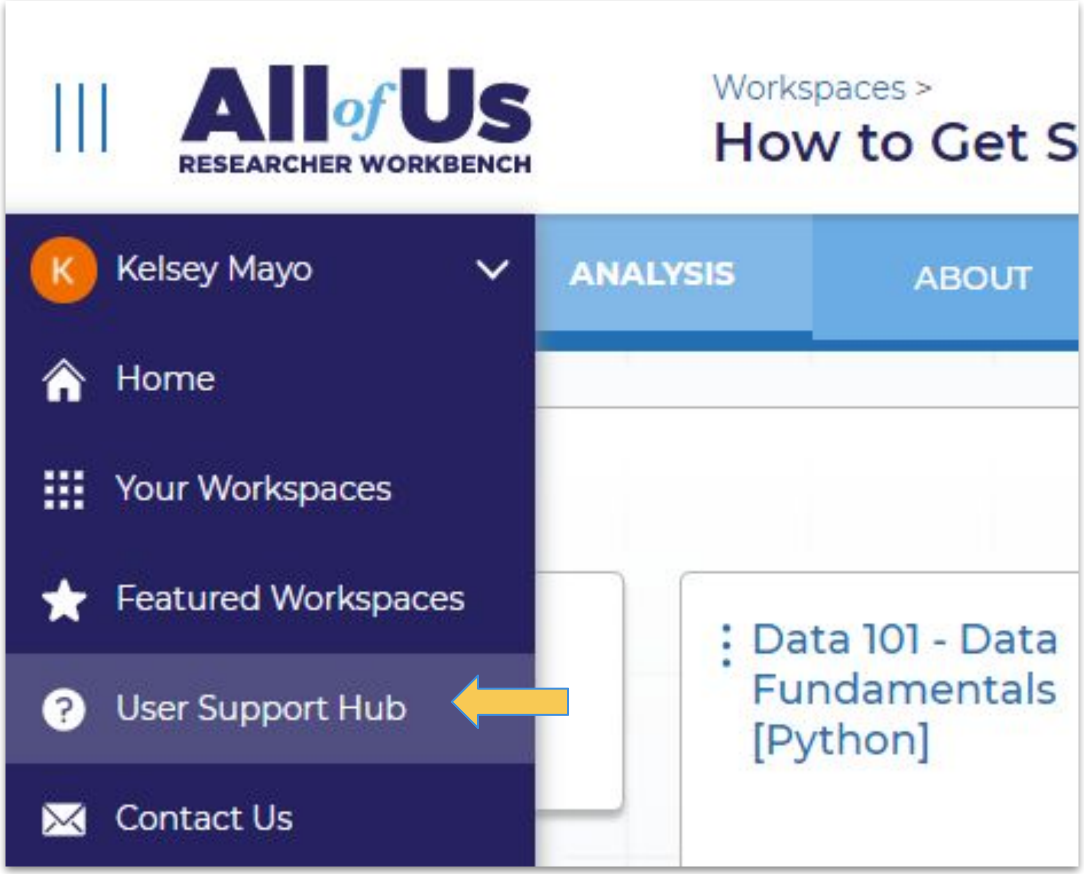
How to Get Started with Registered Tier Data
READER
Last Changed: 01/15/21, 12:39 PM

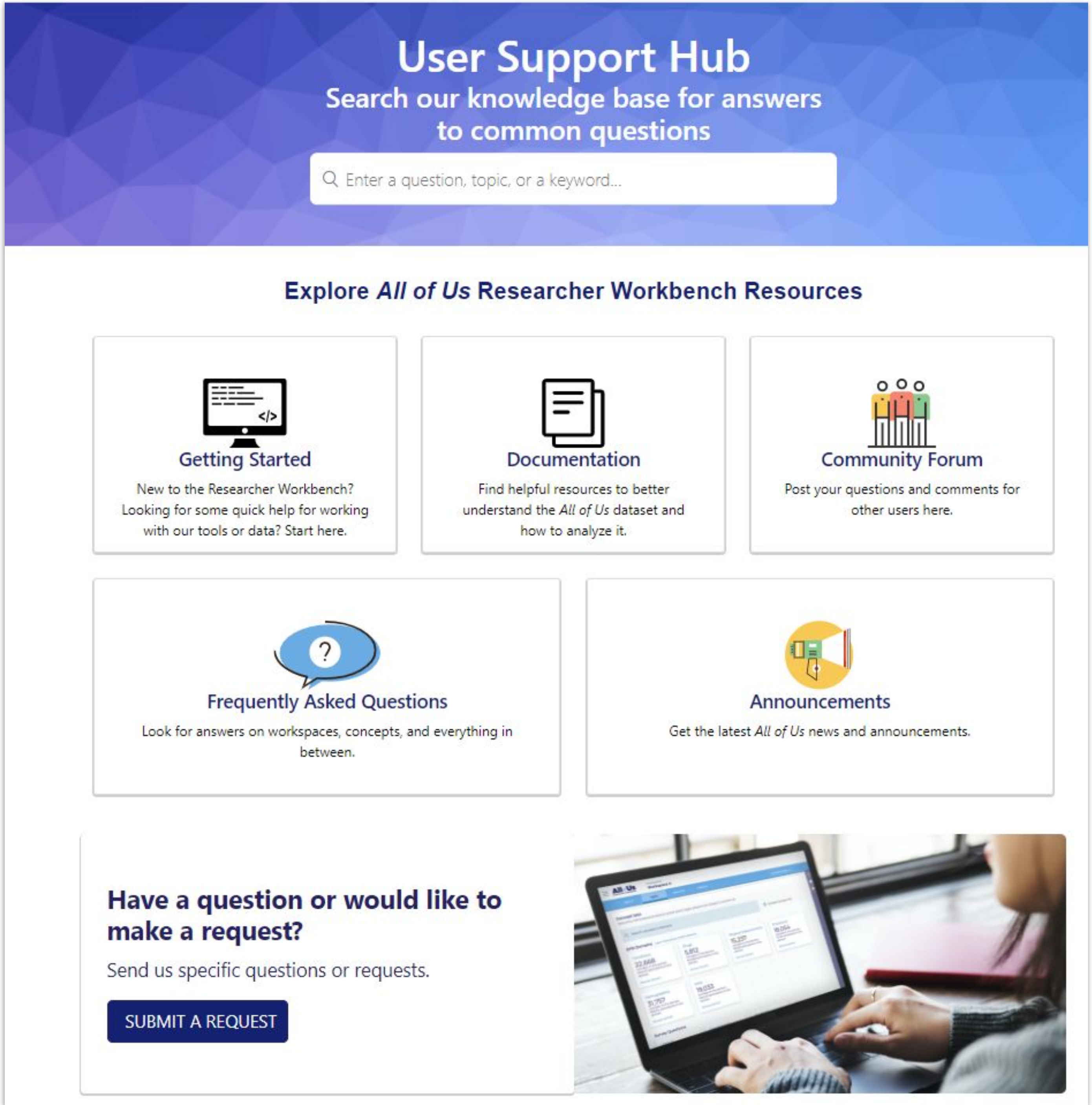
How to Reproduce the All of Us SARS-CoV-2 Antibody Study
WRITER
Last Changed: 06/24/21, 03:10 PM

How to Run Python Notebooks in the Background
READER
Last Changed: 07/12/21, 09:25 AM

How to Work with All of Us Survey Data
READER
Last Changed: 01/15/21, 12:39 PM

How to Work With Wearable Device Data
READER
Last Changed: 12/08/20, 02:45 PM





User Support Hub

Search our knowledge base for answers to common questions

Explore *All of Us* Researcher Workbench Resources

Getting Started

New to the Researcher Workbench? Looking for some quick help for working with our tools or data? Start here.

Documentation

Find helpful resources to better understand the *All of Us* dataset and how to analyze it.

Community Forum

Post your questions and comments for other users here.

Frequently Asked Questions

Look for answers on workspaces, concepts, and everything in between.

Announcements

Get the latest *All of Us* news and announcements.

Have a question or would like to make a request?

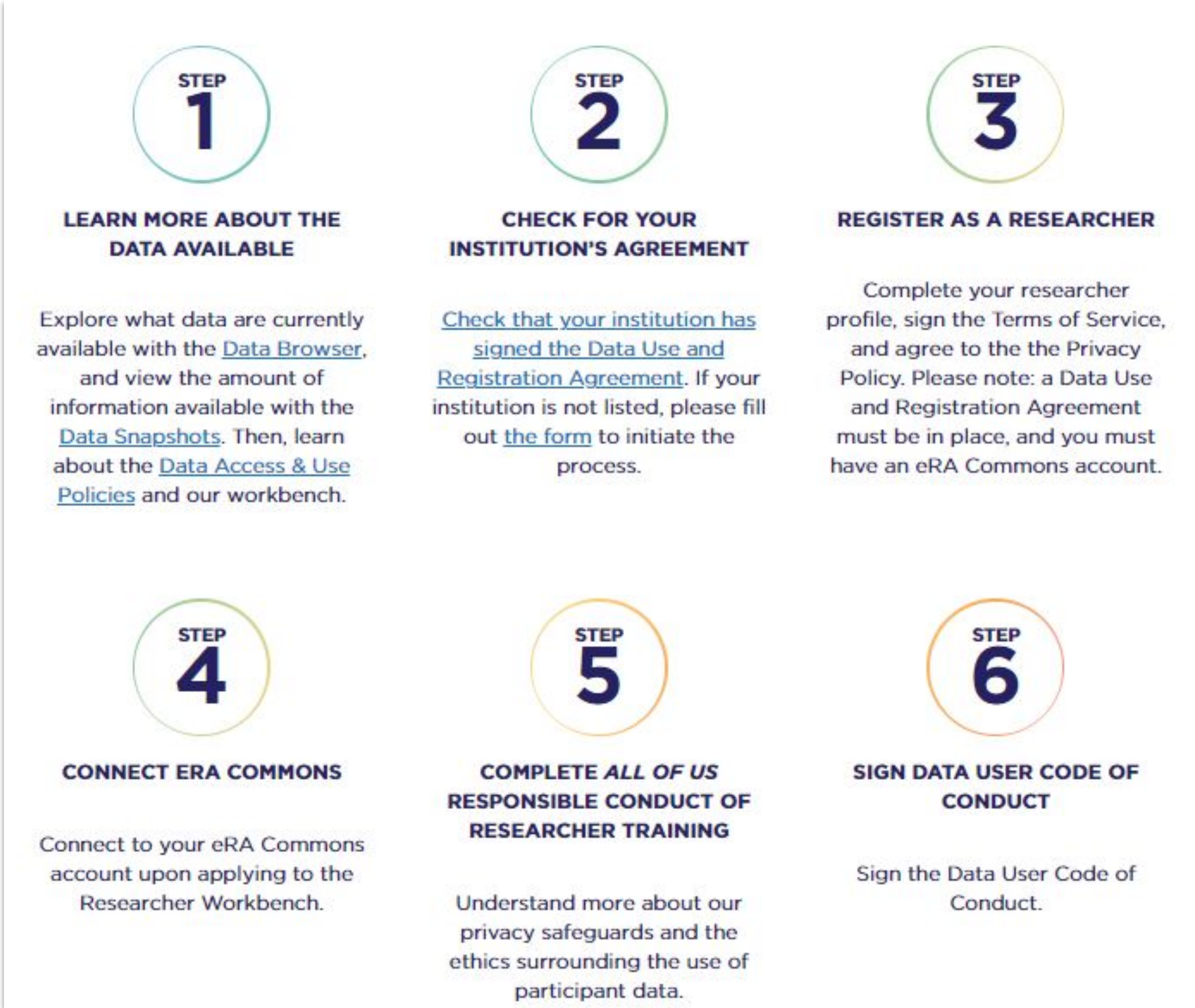
Send us specific questions or requests.

What’s Next?

What to Expect in Researcher Workbench Beta Phase

- **Data:** The cohort is actively growing, and so are the data.
- **Analytical Tools:** R & Python programming; continuing to evolve.
- **Access:** Data passport model
  - At this time, an institutional agreement & eRA Commons account is required.
- **Credits:** $300 in compute credits upon registration.

We welcome input from researchers during the beta testing phase to help make the Workbench more robust over time.



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Overview of Contracting Timeline (for the Registered Tier)

Researcher submits Institutional Agreement Request

- The researcher does this by completing the Step 2 request survey available on the Research Hub

1-2 days following request

Internal processing

- DRC team pulls down requests daily and logs via internal process

1-2 days following processing

Contracting Contact outreach

- DRC contracting official reaches out to the contracting contact listed on the requester's form to provide background information, agreement template, and next steps.

Timeline determined by institution

Communication with Contracting Contact

- Until the DRC contracting official receives the partially executed contract, the contracting official follows up with each researcher provided contact every 2 weeks.

1-2 days following receiving partially executed DURA

Execution of agreement and completion of domains form

- The contracting contact sends the partially executed contract and email domains form to the DRC contracting official who will fully execute the contract.

1-2 days following executed DURA

Institutional Access Granted!

- Upon executing the contract, the DRC team configures access to the user institution and alerts the initial requestor to the access granted

Tips and Tricks in the Contracting Process

- A contracting contact is anyone who can get the *All of Us* Contracting team to the institutional signing authority for the respective institution or organization
- Go to your direct supervisor to confirm who your contracting contact is at your institution if you are unsure
- Contact your contracting contact ahead of time and brief them on the All of Us Research program before completing the access request form.
- Follow up periodically with your contracting contact to receive updates in the contracting process

Learn More and Help Us Spread the Word!

- Visit ResearchAllofUs.org and JoinAllofUs.org
- Subscribe to Research Hub Newsletter to receive updates
- Enroll in the Workbench: ResearchAllofUs.org/apply/

@AllofUsResearch
#JoinAllofUs

Q&A, Discussion