Heartland Regional Genetic Network’s Annual Conference, April 25, 2024

Sue Kim, PhD, MPH
Principal Investigator
University of Southern California
Most diverse biomedical datasets of its kind

Inviting at least

1 Million people from across the United States

Data available from 413,450+ participants

75% identify with communities underrepresented in biomedical research

45% are from racial and ethnic minority groups

Data as of April 2023

Why All of Us? Why now?
1. Participation is open to all.
2. Participants reflect the rich diversity of the U.S.
3. Participants are partners.
4. Transparency earns trust.
5. Participants have access to their information.
6. Data are broadly available for research purposes.
7. Security and privacy are of highest importance.
8. The program will be a catalyst for positive change in research.
Engagement and Participation
Engagement & Participation

Enroll, Consent and Authorize EHR
- Recruiting 18+ years old initially; plan to include children later
- Online, interactive consent
- Includes authorization to share Electronic Health Record (EHR) data

Answering Surveys
- Six initial surveys: The Basics, Overall Health, Personal Habits, Health Care Access & Utilization, Family Medical History, Personal Health History
- Additional surveys will be released on an ongoing basis.

Physical Measurements*
- Blood pressure
- BMI
- Heart rate
- Height
- Hip circumference
- Waist circumference
- Weight

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
- Share data, such as cardio-respiratory fitness, through integrated apps (coming soon)
- More integrations under development

*Based on diverse sampling and capacity
Engagement & Participation

Recruitment:

- Direct Volunteers
- Healthcare Provider Organizations

For participants:

- $25 gift card at completion of the visit.
- Transportation gift card to help with travel costs to the enrollment site.
- Return of ancestry, traits and other genetic results
Return of DNA results

This information may include:

- Genetic ancestry and traits
- Whether there’s a greater risk of developing certain hereditary diseases or health conditions.
- How DNA may affect how your body processes medicine
Learn about the genes that the All of Us Research Program looks at to give you results about your risk for certain health conditions.

- Genetic variants, or differences in your DNA, can be hereditary.
- Some can affect your health.
- People who have certain genetic variants may have a higher risk of getting a disease than the average person.
- All of Us can provide you with a report about your hereditary disease risk.
# Hereditary Disease Risk

<table>
<thead>
<tr>
<th>Gene</th>
<th>Condition associated with this gene</th>
<th>What it is</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTA2</td>
<td>familial thoracic aortic aneurysm and aortic dissection</td>
<td>a blood vessel disorder</td>
</tr>
<tr>
<td>ACTC1</td>
<td>hypertrophic cardiomyopathy</td>
<td>a heart disorder</td>
</tr>
<tr>
<td>APC</td>
<td>familial adenomatous polyposis</td>
<td>some types of cancers</td>
</tr>
<tr>
<td>APOB</td>
<td>familial hypercholesterolemia</td>
<td>dangerously high cholesterol</td>
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<tr>
<td>ATP7B</td>
<td>Wilson disease</td>
<td>a disorder called Wilson disease</td>
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<td>BMPRIA</td>
<td>juvenile polyposis syndrome</td>
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</tr>
<tr>
<td>BRCA1</td>
<td>hereditary breast and ovarian cancer syndrome</td>
<td>some types of cancers</td>
</tr>
<tr>
<td>BRCA2</td>
<td>hereditary breast and ovarian cancer syndrome</td>
<td>some types of cancers</td>
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<tr>
<td>CACNA1S</td>
<td>malignant hyperthermia susceptibility</td>
<td>a disorder called malignant hyperthermia</td>
</tr>
<tr>
<td>COL3A1</td>
<td>vascular Ehlers-Danlos syndrome (EDS)</td>
<td>a disorder called Ehlers-Danlos syndrome (EDS)</td>
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<td>DSC2</td>
<td>arrhythmogenic cardiomyopathy</td>
<td>a heart disorder</td>
</tr>
<tr>
<td>DSG2</td>
<td>arrhythmogenic cardiomyopathy</td>
<td>a heart disorder</td>
</tr>
<tr>
<td>DSP</td>
<td>arrhythmogenic cardiomyopathy and dilated cardiomyopathy</td>
<td>a heart disorder</td>
</tr>
<tr>
<td>FBN1</td>
<td>Marfan syndrome</td>
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<td>GLA</td>
<td>Fabry disease</td>
<td>a disorder called Fabry disease</td>
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<tr>
<td>KCNH2</td>
<td>long QT syndrome</td>
<td>a heart disorder</td>
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<tr>
<td>KCNA1</td>
<td>long QT syndrome</td>
<td>a heart disorder</td>
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<tr>
<td>LDLR</td>
<td>familial hypercholesterolemia</td>
<td>dangerously high cholesterol</td>
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<tr>
<td>LMNA</td>
<td>dilated cardiomyopathy</td>
<td>a heart disorder</td>
</tr>
<tr>
<td>MEN1</td>
<td>multiple endocrine neoplasia type 1</td>
<td>a disorder called multiple endocrine neoplasia (MEN1)</td>
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<tr>
<td>MLH1</td>
<td>Lynch syndrome</td>
<td>some types of cancers</td>
</tr>
<tr>
<td>MSH2</td>
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<td>MSH6</td>
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<td>MUTYH</td>
<td>MUTYH-associated polyposis</td>
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<td>MYBPC3</td>
<td>hypertrophic cardiomyopathy</td>
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<td>MYPH1</td>
<td>familial thoracic aortic aneurysm and aortic dissection</td>
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<td>MYH7</td>
<td>dilated cardiomyopathy and hypertrophic cardiomyopathy</td>
<td>a heart disorder</td>
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</tbody>
</table>

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<td>MYL2</td>
<td>hypertrophic cardiomyopathy</td>
<td>a heart disorder</td>
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<tr>
<td>MYL3</td>
<td>hypertrophic cardiomyopathy</td>
<td>a heart disorder</td>
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<td>NF2</td>
<td>neurofibromatosis type 2</td>
<td>a disorder called neurofibromatosis</td>
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<td>OTC</td>
<td>ornithine carbamoyltransferase (OTC)</td>
<td>a disorder called ornithine carbamoyltransferase (OTC) deficiency</td>
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<td>PCSK9</td>
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<td>dangerously high cholesterol</td>
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<td>PKP2</td>
<td>arrhythmogenic cardiomyopathy</td>
<td>a heart disorder</td>
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<td>PMS2</td>
<td>Lynch syndrome</td>
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<td>PRKAG2</td>
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<td>PTEN</td>
<td>PTEN hamartoma tumor syndrome</td>
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<td>RB1</td>
<td>retinoblastoma</td>
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<td>RET</td>
<td>multiple endocrine neoplasia type 2 (MEN2)</td>
<td>a disorder called multiple endocrine neoplasia (MEN2)</td>
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<td>malignant hyperthermia</td>
<td>a disorder called malignant hyperthermia</td>
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<td>catecholaminergic polymorphic ventricular tachycardia</td>
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<td>SCN5A</td>
<td>Brugada syndrome and long QT syndrome 3</td>
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<tr>
<td>SDHAF2</td>
<td>paragangliomas 2</td>
<td>some type of non-cancer growths</td>
</tr>
<tr>
<td>SDHB</td>
<td>paragangliomas 4</td>
<td>some type of non-cancer growths</td>
</tr>
<tr>
<td>SDHC</td>
<td>paragangliomas 3</td>
<td>some type of non-cancer growths</td>
</tr>
<tr>
<td>SDHD</td>
<td>paragangliomas 1</td>
<td>some type of non-cancer growths</td>
</tr>
<tr>
<td>SMAD3</td>
<td>Loeys-Dietz syndrome</td>
<td>a blood vessel disorder</td>
</tr>
</tbody>
</table>

**SMAD4**: juvenile polyposis syndrome, some types of cancers

**STK11**: Peutz-Jeghers syndrome, some types of cancers

**TGFB1**: Loeys-Dietz syndrome, a blood vessel disorder

**TGFB2**: Loeys-Dietz syndrome, a blood vessel disorder

**TNEM43**: arrhythmogenic cardiomyopathy, a heart disorder

**TNN13**: hypertrophic cardiomyopathy, a heart disorder

**TNNT2**: dilated cardiomyopathy and hypertrophic cardiomyopathy, a heart disorder

**TPS3**: Li-Fraumeni syndrome, some types of cancers

**TPM1**: hypertrophic cardiomyopathy, a heart disorder

**TSC1**: tuberous sclerosis complex, a disorder called tuberous sclerosis complex

**TSC2**: tuberous sclerosis complex, a disorder called tuberous sclerosis complex

**VHL**: von Hippel-Lindau syndrome, some types of cancer

**WT1**: Wilms tumor, a type of cancer called Wilms tumor
Hereditary Disease Risk

Genomic Results Workflow

- Color Health: provides program’s nationwide genetic counseling resource.
- Color’s network of genetic counselors help participants understand what the genomic testing results mean for their health and their families.
- Color will deliver the results to participants in genetic counseling sessions, highlighting any important findings they may want to discuss with a health care provider.
Engagement: Underrepresented in Biomedical Research
Enabling research discoveries that drive more precise approaches to care

Engages people & communities who have been left out of medical research in the past

Combines biological factors and social determinants on a large, inclusive scale

Easily accessible to any researcher with a secure internet connection and data use agreement

Follows participants as they move, age, and grow
Why do we need minority population in clinical trials?

• Minorities have been historically under-represented in clinical trials.

• Need representation to study the effects of medical products/treatment in different populations.

• Minorities may respond differently to medical products (for example: heart failure medications, diabetes interventions, cancer treatments).

• To understand health disparities, such as diseases that occur more frequently or appear differently in diverse populations.
Building Trust: Community Partnerships

- Working with community partners to find innovative ways to engage their communities
  - ‘Lunch and learn’ with clinic staff
  - Participation in community or clinic-based programs and outreach efforts (wellness classes, patient newsletters, health fairs)

- Different models of engagement
  - Passive: flyers, posters, newsletters, mailings
  - Active: in person recruitment and enrollment in clinic spaces and/or community events
USC Recruitment and Engagement Efforts

• Clinical departments at Keck of USC (including Pasadena, Arcadia)
• Student Health Center at UPC
• The Wellness Center
• LA General Medical Center
• AltaMed Health
• Mobile pop-ups at Community events
Tribal Sovereignty and Research Participation

People who identify as American Indian and Alaska Native (AI/AN) include:

- Members of federally-recognized tribes
- Members of state-recognized tribes
- Members of a tribe not recognized by either federal or state governments
- Central and South American Indians
- First Nations peoples (Canada)
- People with AI/AN ancestry but no tribal affiliation

People may identify as AI/AN alone, or in combination with other races, too.

- Cultural sensitivity
- Respecting and supporting AI/AN urban communities
- Engaging and including AI/AN people and tribal leaders
- Data access, use, and protection:
  - Representation
  - Handling and disposal of samples
All of Us Data Snapshot

Diversity
Includes racial and ethnic minorities as well as sexual and gender minorities, people with low income or limited education, and other groups.

~45% Racial and Ethnic Minorities
80+% Underrepresented in Biomedical Research

790,000+ Participants
543,000+ Participants who have completed initial steps of the program

100+ Funded Partner Organizations
890+ 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.
Participant Diversity

California Precision Medicine Consortium: USC, UCI, UCSD, UCSF, UCD, Cedars-Sinai (77,000+ participants enrolled)

Race & Ethnicity

- White: 51.5%
- Black, African American, or African: 17.9%
- Hispanic, Latino, or Spanish: 16.0%
- Asian: 6.8%
- More than one race/ethnicity: 3.1%
- Other communities: 2.8%
- Prefer not to say: 0.6%

As of November 2023

Age at enrollment

- 18-29: 9.5%
- 30-39: 14.8%
- 40-49: 14.4%
- 50-59: 18.4%
- 60-69: 21.8%
- 70-79: 15.9%
- 80-89: 4.7%
- 89+: 0.6%
Research Using All of Us Data at USC
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
1. Determinants of unmet healthcare needs of cancer survivors: Analysis of the All of Us dataset

2. The association between discrimination and health-related quality of life (HRQoL) among a sample of cancer survivors: An All of Us cross-sectional study.

Angel Arizpe, Doctoral Candidate
Department of Population and Public Health Sciences
Keck School of Medicine
University of Southern California

Dr. Albert Farias, PhD, MPH
Department of Population and Public Health Sciences
Keck School of Medicine
University of Southern California
Research question:
Is there an association between health literacy and socioeconomic factors on Delays in Health Care among a sample of Cancer Survivors? Does this relationship differ by nativity?
Study 1-Methods

Sample: Cancer Survivors (N=10,021)

- Inclusion: Everyone who has or is undergoing treatment for cancer.
- Exclusion: Individuals diagnosed with skin cancer and missing values for the healthcare delay questions.
- All data assessed were collected via self-reported survey questionnaires.

Demographic Variables

- Age
- Sex
- Ethnicity/Race
- Marital Status
- Income
- Education
- Employment
- Nativity
- Cancer Type
- Insurance Status
- Housing Status
Study 1-Methods

• Binary indicator - composed using nine questions. Options to respond were: Yes, No, Don’t Know.

• In the past 12 months, have you delayed getting care for any of the following reasons:
  1. Didn’t have transportation?
  2. You live in a rural area where distance to the health care provider is too far?
  3. You were nervous about seeing a healthcare provider?
  4. Couldn’t get time off work?
  5. Couldn’t get childcare?
  6. You provide care to an adult and could not leave him/her?
  7. Couldn’t afford the copay?
  8. Your deductible was too high/or could not afford the deductible?
  9. You had to pay out of pocket for some or all of the procedures?

• Assigned as likely to delay if they had one or more YES (=1) responses, and No delay if they had No to all of them (=0).
Study 1-Methods

Main Independent Variables

Nativity (Generational Status)
- US vs Other

Health Literacy
- Three items assessed health literacy, with values in each question ranging from 1 to 5. Composite score values range from 3-15. (*Brief Health Literacy Screen*)
  1. How confident are you filling out medical forms by yourself?
  2. How often do you have someone help you read health-related materials?
  3. How often do you have problems learning about your medical condition because of difficulty understanding written information?
- Dichotomized (≤9 = low health literacy, >9 = health literacy ok).
Main Independent Variables – cont.

Socioeconomic Factors Index

- Composed of five items: each item is weighted to 1. A summed score was calculated with values ranging from 0-3 or more.
- Variables in this index:
  - Income (lowest quintile =1, everything else =0)
  - Income range categories from <10k to 200+K
  - Employment (employed =0, unemployed =1)
  - Employed /self-employed / retired /unemployed
  - Insurance status (insured =0 , uninsured =1)
  - Education (>high school =0, ≤ high school =1)
    - > high school/ high school/some college/ college/advanced degree
  - Housing (Own =0, Rent/other =1)
    - Own / Rent/ Other arrangements

Statistical Methods

- Multivariable logistic regression
  - Adjusted for sex, race/ethnicity, age, marital status, active treatment, and cancer type.
  - P-values significance level (< 0.05)
  - R Jupyter Notebooks
  - OR and 95%CI reported.
Study 1 Results – Sample Characteristics

SES Barriers (3 or more)

- Age (58.9 y.o) Younger
- Female (11.7%)
- Black race/ethnicity
- (31.3%)
- Income < 10k - < 35K (53.9%)
- Marital Status (22.6% - Single)
- Employment status (18.1% - unemployed)
- Education (49.1% - ≤ high school or equivalent )
- Nativity (15.3% - Foreign-born)
- Housing status (38.3% - Rent/Other arrangements)
- Cancer type (25% - Cervical)
- Healthcare delays ( 18.1 % - experienced delays)
- Health literacy ( 44.9% - scores ≤9 ) Low literacy

Experienced any Healthcare Delay

- Age (57.7 y.o) Younger
- Female (36%)
- Hispanic race/ethnicity
- (43.9%)
- Income < 10k - < 35K (50%)
- Marital Status (39.2% - Single)
- Employment status (27.6% - unemployed)
- Education (40.7% - ≤ high school or equivalent )
- Nativity (35.2% - Foreign-born)
- Housing status (47.7% - Rent/Other arrangements)
- Cancer type (54.1% - Cervical)
- SES barriers ( 52.4 % - 3 or more barriers)
- Health literacy ( 44.9% - scores ≤9 ) Low literacy
Study 1 Impact

• Negative impact of socioeconomic barriers on healthcare delays among both US- and Foreign-born cancer survivors.
  • **Nativity differences** - a greater effect of SES barriers among foreign-born individuals.

• Health literacy could act as a protective factor to minimize healthcare delays

• **Implementation**
  • Improvements in accessing healthcare by minimizing SES barriers and promoting health literacy among these populations can ameliorate the impact of healthcare delays.
The impact of experiencing perceived and medical discrimination on health-related quality of life among cancer survivors: Insights from the All of Us Research Program

Figure 1: Decision tree outlining the inclusion and exclusion criteria.

- 23,939 cancer survivors who met the inclusion criteria
- 4,192 excluded due to multiple cancer sites
- 3,083 excluded due missingness in both exposure measures (DMS & PD)
- 16,664 Final sample cancer survivors used for analysis
Study 2 Methods

Sample: Cancer Survivors (N=16,664)

- Inclusion: Everyone who has or is undergoing treatment for cancer.
- Exclusion: Individuals who selected multiple cancer sites, missingness in both exposure measures.
- All data assessed were collected via self-reported survey questionnaires (SDoH and Overall health).

Demographic Variables

- Age
- Sex
- Ethnicity/Race
- Marital Status
- Nativity

- SES barriers
  - Income
  - Education
  - Employment
  - Insurance Status
  - Housing Status
• The Patient-reported Outcomes Measurement Information System (PROMIS-10) Global Health survey was used to create the Global Physical (GPH [4 items]) and Mental Health (GMH [4 items]) scores using their respective T-scores.

• Dichotomized indicators were created, where values <42 in the GPH and <40 in GMH were described as having low (fair-to-poor) health status.

Dependent Variable (Health-Related Quality of Life)

Statistical Methods

• Unadjusted and multivariable logistic regression models
• Percent changes were calculated.
• R Jupyter Notebooks with a significance level at alpha >0.05.
• Odds ratios with 95% confidence intervals and percent changes are presented.
Main Independent Variables

Everyday Perceived Discrimination

- Perceived discrimination (PD) – assessed using the Everyday Discrimination Scale (EDS)
- 9-items (range never=0 to Almost everyday=5)

Discrimination in the medical setting (DMS)

- Discrimination in the medical setting (DMS)
  - Examples include, “You are treated with less respect than other people,” “You feel like a doctor or nurse is not listening to what you were saying,” and “A doctor or nurse acts as if he or she thinks you are not smart.” Responses were assessed with a 5-point Likert scale (0-never, 1-rarely, 2-sometimes, 3-most of the time, 4-always).

- Higher scores represented higher discriminatory experiences.
Study 2 Results

- The impact of discrimination on the HRQoL of racially and ethnically diverse survivors was detected.
  - Disparities in reporting low physical and mental health were greater for Black, Hispanic, and Other race/ethnicity cancer survivors compared to White.
- These effects were more noticeable for Black cancer survivors.
- Our study highlights that addressing discrimination can potentially improve the HRQoL of cancer survivors with a greater effect on Black cancer survivors.
Limitation of Data

• While *All of Us* reflects the broad diversity of the United States, it is not nationally representative
  • Findings can help with the development of interventions and programs to underrepresented populations in biomedical research.

• Data is not comprehensive; will continue to expand in depth and breadth as the program grows
  • Added SDoH, Wearable, and Genetic data

• Not all participants will have all data types available
Data Access and Analytical Tools
Data Snapshots

Data Snapshots showcase the breadth and depth of the All of Us Research Program dataset. The snapshots provide participant demographics, geographic distribution, and more. We update the snapshots daily.

757,000+
Participants

419,000+
Electronic Health Records

538,000+
Biosamples Received
Including one of the largest sets of WGS widely available for research

Genomics

Only available via the Controlled Tier

- **312,900+** Genotyping Arrays
- **245,350+** Whole Genome Sequences
- **1,000+** Long-Read Sequences
- **1,000+** Genomics Analysis Tools

Genomics Analysis Tools include Hail and PLINK in addition to R, Python, and Jupyter Notebooks.

The whole genome sequence dataset includes variation at more than **1 billion** locations, which is nearly **one-third** of the entire human genome.

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**Genomic Data Is Paired With Rich Phenotypic Data**

- **206,100+** Have Whole Genome Sequences + Electronic Health Records + Physical Measurements + Survey Responses
- **245,100+** Have Whole Genome Sequences + Physical Measurements + Survey Responses
- **206,150+** Have Whole Genome Sequences + Electronic Health Records
- **8,800+** Have Whole Genome Sequences + Fitbit Records

Fitbit data may include physical activity, step counts, heart rate, and sleep data.

Data as of April 2023
While making the data accessible to researchers across stages and settings

Our Researchers

8,450+ Registered Researchers
420+ Academic Institutions
120+ Not-for-Profit Organizations
80+ Health Care Institutions

Historically Black Colleges and Universities and Hispanic-Serving Institutions

Top conditions being studied in the Researcher Workbench include:
- Cancer
- Cardiovascular disease
- Diabetes
- Mental health
- COVID-19

Research Currently Underway

8,450+ Active projects
220+ Publications in peer-reviewed journals

Figures accurate as of January 2024
By connecting biological and social determinants of health data on a large, inclusive scale and following participants as they move, age, and grow, the All of Us dataset is driving new insights into health and disease.

Social Determinants of Health (SDOH) Survey data

from 117,750+ responses
And building a diverse researcher cohort

- **Encouraging students and early-stage investigators** to bring fresh, creative perspectives & innovative research outcomes.
- **Ensuring access for researchers from various institutions/organizations** to establish a truly equitable resource for all.
- **Supporting a researcher cohort** that promotes responsible and ethical use of data, returns value to participant communities, and accelerates research impact.
Making aggregated overviews and interactive previews available to everyone

Welcome to the All of Us Research Hub

The National Institutes of Health's All of Us Research Program is building one of the largest biomedical data resources in the world. The All of Us Research Hub stores health data from a diverse group of participants from across the United States.

Register for the Researcher Workbench to access data and tools to conduct health research and improve understanding of health and disease.

Search Across Data Types

Keyword Search

Data includes 408,826 participants as of 2/12/2023.

EHR Domains

- Conditions:
  - 25,638 medical concepts
  - 254,700 participants

- Drug Exposures:
  - 29,865 medical concepts
  - 235,743 participants

- Labs & Measurements:
  - 16,618 medical concepts
  - 258,640 participants

- Procedures:
  - 30,328 medical concepts
  - 242,569 participants

Data Snapshots

Data Snapshots showcase the breadth and depth of the All of Us Research Program dataset. The snapshots provide participant demographics, geographic distribution, and more. We update the snapshots daily.

- 750,000+ Participants
- 412,000+ Electronic Health Records
- 533,000+ Biosamples Received

Genomics

- 245,400 Participants in the HapMap System
  - 1,074,881,214 SNP/Indel Variants

- Genomic data only in Researcher Workbench
  - 1,040 participants in the Longitudinal WGS dataset
  - 11,400 participants in the SNP/Indel dataset
  - 10,400 participants in the Genome-wide Variants dataset

- Register for access

Measurements and Wearables

- 8 Physical Measurements
  - 337,640 participants

- 6 Fitness Measurements
  - 18,620 participants

- Fitness data includes heart rate and activity summaries.
Registered researchers can access in-depth data and a variety of research tools to conduct a wide range of studies.

Data have been processed to protect participant privacy

Anyone can visit ResearchAllofUs.org (the All of Us Research Hub) to learn more about the data available for research and explore aggregated participant data and summary statistics, with participant identifiers removed. Public resources include:

- **Data Snapshots**: Aggregated, public-facing overviews of participant characteristics and data types
- **Data Browser**: Interactive preview into the All of Us dataset through public-facing aggregate data
  - Currently includes participant-provided survey responses, physical measurements, data from EHRs and wearables, and genomic data
- **Survey Explorer**: Details the questions included in each of the surveys
- **Research Projects Directory**: Descriptions of each research project within the Researcher Workbench

Available to anyone

Tiered access levels enable discovery

RESEARCHER WORKBENCH

**Public Tier**

**Registered Tier**

Registered researchers can access in-depth data and a variety of research tools to conduct a wide range of studies.

- Surveys
- Electronic Health Records
- Physical Measurements
- Wearables

**Controlled Tier**

Registered researchers with amended institutional agreements can access all of the data in the Registered Tier plus additional and expanded data types, including genomic data, real dates of health events, ICD codes, granular demographic data, and more.

- Genomics
- Health and Lifestyle surveys
The *All of Us* Program wouldn't be possible without the generosity of our participants and the dedication of our researchers to enable health discoveries.

Thank you!
If you have any questions or interested in participating, please contact:

JoinAllofUs.org
allofus.nih.gov

(844) 842-2855