<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00 a.m. – 11:30 a.m.</td>
<td>Program Update <em>(Open session)</em></td>
<td><em>Josh Denny</em></td>
</tr>
<tr>
<td>11:30 a.m. – 11:35 a.m.</td>
<td><em>Closed Session Starts</em></td>
<td></td>
</tr>
</tbody>
</table>

Open session will be recorded.
2021 Updates
All of Us Senior Leadership Additions

Karriem Watson, DHSc
Chief Engagement Officer

Holly Garriock, PhD
Chief Cohort Development Officer

Geoffrey Ginsburg, MD, PhD
Chief Medical and Scientific Officer Designee

Martin Mendoza, PhD
Director of Health Equity

Andrea Ramirez, MD, MS
Senior Advisor to CEO
**All of Us Objectives for 2021 (Established Late 2020)**

By the end of 2021, we will:

1) **Restart enrollment following COVID-19**
   We will reestablish a national infrastructure enrolling 3k core participants per week.

2) **Enable Participant Enrollment for Anyone, Anywhere**
   We will be comfortable with a national ad campaign that will result in enrollment, biospecimen donation, and data collection from anyone, anywhere.*

3) **Enhance Participant Value**
   Participants will perceive *All of Us* as a product that provides them value.

4) **Establish a Diversity of Researchers and Research**
   We will have grown to an initial “critical mass” of diverse researchers and research that will return value to researchers and participants.

*not children, incarcerated, on tribal lands, or decisionally impaired

When there are resource conflicts, we will use this priority order to resolve them.
Program Enrollment During COVID-19 Pandemic (As of December 7, 2021)

- **439,000+** Participants
- **263,000+** Electronic Health Records
- **311,000+** Participants who have completed initial steps of the program
- **330,000+** Biosamples

241 clinic sites in 20 states are activated

[https://www.researchallofus.org/](https://www.researchallofus.org/)
Status of the Program

Over 80% of *All of Us* participants are underrepresented in biomedical research

https://www.researchallofus.org/data-tools/data-snapshots
Focused on Increased Participant Engagement

- Increased outreach and capabilities to facilitate participant continued engagement
- Increased % of participants with EHRs from 55% to 79%

![Graph showing participants completing new activities within last 18 months]

- May 2020: 26%
- Now: 50%
Completed Tribal Consultation; Focus on Next Steps

Tribal Consultation Final Report Published March 2021

- **Forming Tribal Partnerships**
  - Forming collaborative agreements with Tribal Nations to respect tribal sovereignty and research regulations

- **Providing Guidance and Resources**
  - Added information about consultation for participants in Portal
  - Clarifying engagement with urban-based AI/AN individuals

- **Developing Training and Resources for Researchers**
  - Promoting cultural sensitivity and emphasizing avoidance of stigmatizing research

- **Integrating AI/AN Data in the Research Hub**
  - Data from AI/AN individuals will be included in 2022
  - Tribal affiliation will not be displayed without an agreement with the Tribe
Returning Genomic Results to Participants and More to Come

Array data generated

Whole Genome Sequences generated

Non-Health Genetic Traits

- Traits
- Genetic Ancestry

Currently returning to participants

>64,000 participants have viewed traits or ancestry

Health-Related Genetic Traits

- Hereditary Disease Risk
- PGx
- Medicine and Your Health

Launching in mid-2022
Launched a Focused Social Determinants of Health Survey

- Launched on 11/04/2021
- Ties in with our work with UNITE
- >59,000 (15.6%) participants have completed, with more engagement efforts planned
- 81 questions including branching logic in one question
- Collaborated with experts from NIMHD, NHLBI, NIDDK, NICHD, OBSSR, ORWH, UCSF, Harvard and UC Berkeley
Deliver an End-to-End Genetics Experience for Health-Related Genomics

Results Expected mid-2022

Medicine and your DNA

Our genes affect how we respond to medicine.

Genes affect how we respond to medicine in many different ways.

What is this kind of information used for?

IMPORTANT!

Share this report with your doctor.

IMPORTANT!

Share this report with your doctor.

All Hereditary Disease Risk results will be returned through a genetic counselor, and we will offer confirmatory clinical genetic testing.
Antibodies to Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) in *All of Us* Research Program Participants, 2 January to 18 March 2020

• Blood specimens collected between January 2 and March 18, 2020
• 9 cases in 5 states (IL, MA, WI, PA, MS) in 24,079 tested samples
  ○ 7 cases earlier than previously known in those states
  ○ Earliest case was January 7, 2020
• Results were returned to participants
Launch of the Researcher Workbench: Registered Tier

Researcher Workbench
Launched on May 27, 2020

- Approved researchers have “passport access” to Workbench data – No individual project or IRB approval needed
- New researchers can start doing research in as little as 2 hours after application

ResearchAllofUs.org
Since the Launch of Researcher Workbench we have Expanded the Data

- 329,000+ Participants
- 267,600+ Physical Measurements
- 214,200+ EHRs
- 329,000+ Surveys (100,000 COPE Surveys)
- 11,600+ Fitbit Records

Plus: ~90k whole genomes + ~165K arrays coming spring 2022
Research on the Researcher Workbench

- **1300+** Registered Researchers
- **900+** Active Projects
- **45+** Publications using All of Us

More than 280 registered institutions

23% are Historically Black Colleges and Universities, Hispanic Serving Institutions, or Non-Profits
March 2021, Dr. Patrick Wu Defends His PhD Dissertation: Repurposing drugs using gene expression signatures and EHR data

gene expression data identifies drugs that might lower cholesterol
found 69 candidate drugs
study those drugs in the Electronic Health Record data at Vanderbilt

This took ~3 years.

A question from the audience: “You did this at Vanderbilt. What about replication?”
One Week Later: He emails me this figure from *All of Us*...
More granular data
- Expanded sociodemographic data
- Dates of services
- Expanded COVID-19 diagnoses and vaccination information and more COPE survey data

New data types
- Derived social determinants of health
  - Socioeconomic statistics (SES) factors derived from census clusters and American Community Survey (ACS)
- Genomics: Expected ~90,000 WGS + ~165,000 arrays
All of Us Data Roadmap

May 2018
Enrollment launched

May 2019
Public Tier Data: Data Browser Launch

May 2020
Launch of Researcher Workbench: Public Beta Launch

December 2020
Updated data releases

Q2 2021
COVID-19 Serology return of results

Spring 2022
Controlled Tier data with initial genomics release and expanded COVID-19 data

September 2021
Registered Tier data refresh (More participants, COPE surveys, Fitbit data)

Future:
Ancillary studies, More Data & Data Linkages, Participant Recontact, & Results Return

Expected 2022
Health Related Genetic Results (ACMG59)

December 2020
Return of Genetic Results
Ancestry and Traits Results

We Are Here

Researcher Workbench Data
Return of Results to Participants
Future Data and Results