Director's Report

National Advisory Council
for Biomedical Imaging and Bioengineering

January 19, 2021

Bruce J. Tromberg, Ph.D.

Director

National Institute of Biomedical Imaging and Bioengineering

NIBIB Council Director's Report *01-19-2021*

Jill Heemskerk
Deputy Director

David George
Associate Director

Richard Leapman
Scientific Director

Kris Kandarpa
Strategic Initiatives

Jason Ford
Executive Officer

Pam Glikman

Alisha Hopkins

Julia Ringel

Asha Storm

Ahmad El Hendawy

NIBIB Council Director's Report *01-19-2021*

(continued)

Thank You!

Extramural Science Programs

Ahmad El-Hendawy
Scientific Program Analyst 2018-2021
Division of Interdisciplinary Training

Intramural Research Programs

Sumit Chaturvedi, Visiting Fellow (Dynamics of Macromolecular Assembly)
Yaya Cheng, Special Volunteer (Laboratory of Molecular Imaging and Nanomedicine (LOMIN))
Liangcan He, Special Volunteer (LOMIN)
Meijuan Jiang, Special Volunteer (LOMIN)
Joseph Lau, Post Doc Visiting Fellow (LOMIN)
Yuanyuan Ma, Special Volunteer (LOMIN)
Laura Reyes, Post Doc, (Quantitative Medical Imaging)
Anandakumar Shunmugavel, Post Doc (Quantitative Medical Imaging)
Guocan Yu, Visiting Fellow (LOMIN)

Office of Administrative Management

Mark Rotariu, *Senior Budget Analyst*
Chuck Benjamin, *Security SME IT*

Thank You!

Extramural Science Programs

Ahmad El-Hendawy
Scientific Program Analyst 2018-2021
Division of Interdisciplinary Training

Council Term ended May 2020
Stayed on thru Jan 2021

David Grainger PhD
University of Utah

New NIBIB Staff

Extramural Science Programs

Afrouz Anderson, Ph.D.
Program Director – Optical Imaging
DAST

Jennifer Jackson, Ph.D.
Health Science Policy Analyst
OPESP

Judy Wawira Gichoya, M.D., M.S.
Data Scholar
DS-I Africa

Grace Zhou
Fellow
DDST

Office of the Director

Krishna Juluru, M.D.
Presidential Innovation Fellow
OD

Rui Carlos Sa, Ph.D.
Data Scholar
MIDRC

Office of Administrative Management

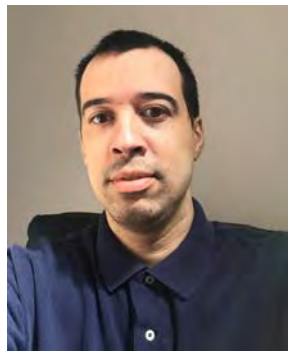
Kimberly Tam
Budget Analyst

Hank Durand
Grants Analyst

Munir Esmail
Program Manager

Eugene Hwang
Data Analyst

Office of Science Policy and Public Liaison



Che Figueroa-Rodriguez
Web Developer

Intramural Research Programs

Chineze Egwudo, Post Bac Fellow (Quantitative Medical Imaging)
Parinaz Fathi, Post Doc Fellow (Immuno-Engineering)
Maria Karkanitsa, Biologist Contractor (Immuno-Engineering)
Eric Krueger, Biologist Contractor (High-Resolution Optical Imaging)
Alexis Manning, Special Volunteer (Mechanobiology)
Tran Ngo, Post Bac Fellow (Immuno-Engineering)
Barbara Romero, Post Doc Fellow (Biophotonics)
Lixia Zhang, Biologist Contractor (Advanced Imaging and Microscopy)

Budget Update

FY21 Appropriations Summary

- NIH - $42,934,000,000 (increase of $1,250,000,000 above FY20 level, or 3% increase)
- NIBIB 410,728,000 ($7,090,000 above FY20 enacted level of $403,638,000, 1.8% increase)
- NIH Emergency appropriation (supplement #5): $1.25B
  -$100,000,000 for RADx
  -$1.15B for research & trials on COVID-19

Budget Update: COVID-19 Funding

Coronavirus Aid, Relief, and Economic Security (CARES) Act (PL 116-136)	$60,000,000
Care Enhancement Act (PL 116-139)	$500,000,000
NIH Office of Director RADx ATP	$230,000,000
Biomedical Advanced Research and Development Authority - IDDA (PSC-2020-132)	$307,603,000
Coronavirus Response and Relief Supplemental Appropriations Act	**$100,000,000**
TOTAL	$1,197,603,000

RADx Tech program now funded through FY 2021

NIBIB Base Budget FY20/21: 814,366,000
NIBIB Supplemental Budget FY20/21: 1,197,600

2-year doubling

Goal: *Establish RADx as core NIBIB program for FY22+*

Leadership Update

Francis Collins, M.D., Ph.D
Reappointed NIH Director

Science Appointments:
Eric Lander, PhD: OSTP Director and Presidential Science Advisor

Alondra Nelson, Ph.D.: OSTP Deputy Director for Science and Society

Frances H. Arnold, Ph.D., Co-Chair of the President's Council of Advisors on Science and Technology

Maria Zuber, Ph.D., Co-Chair of the President's Council of Advisors on Science and Technology

Funding Announcements & Opportunities

- NIH Katz Award
- NIH-NSF Smart and Connected Health
- HEAL Initiative
- NIH FIRST Award
- Music and Health
- Synthetic Biology
- DEBUT
- R21 Mechanism

New NIH Program: *Katz ESI R01*

- Investigator-initiated R01
- Early-Stage Investigators (ESI)
- No preliminary data allowed
- New research direction for PI
- Up to 5-years may be requested
- Two Katz FOAs:
  - PAR-21-038 (Clinical Trial Not Allowed)
  - PAR-21-039 (Basic Experimental Studies with Humans Required)
    - *NIBIB is not participating on PAR-21-039*

Stephen I Katz, M.D., Ph.D.
Director NIAMS 1995-2018

First due date January 26, 2021

NIH Katz Award Committee
Co-chair, David George, Ph.D.
Member, Randy King, Ph.D.

NSF-NIH Smart & Connected Health Program

- Successful NSF-NIH program since 2013; aligns with NIBIB programs/mission
- NOT-OD-21-011: Notice of NIH Participation in Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science
- Developing technologies to transform health and medicine ($300K/year, up to 4 years)
- The new program *"Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science",* was restructured to promote two goals of the NIH's Strategic Plan for Data Science with 23 ICOs' participation

Application due date February 16, 2021

Qi Duan, Ph.D.
Program Director

Information Infrastructure

Transformative Data Science

Novel Multimodal Sensor System Hardware

Effective Usability

Automating Health

Medical Image Interpretation

HEAL Initiative: *HEALthy Brain & Child Development*

Goal: *understand impact of fetal drug exposure, adversities on mental & behavioral health; inform intervention/prevention strategies.*

Longitudinal study: cognitive, psychosocial assessments + advanced imaging (MRI, EEG, NIRS etc.)

- 7,500 subjects to be scanned from birth to 10 years old.
- Portable imaging tech, e.g. EEG and fNIRS, for infants in motion, baby-caregiver interactions, etc.
- New imaging tech, e.g. novel fMRI and fetal ultrasound, in large-scale study.

Four FOAs:

- RFA-DA-21-020 - Unlinked Research Project Sites (U01)
- RFA-DA-21-021 - Linked Research Project Sites (U01)
- RFA-DA-21-022 - Consortium Administrative Core (U24)
- RFA-DA-21-023 - Data Coordinating Center (U24)

Letter of Intent: March 1st, 2021; Application: March 31st, 2021

Shumin Wang, Ph.D.
Program Director

Faculty Institutional Recruitment for Sustainable Transformation (FIRST)

Objective: *Create cultures of inclusive excellence*
Common Fund intends to commit **$241 million over nine years**

RFA-RM-20-022: FIRST Cohort (U54 Clinical Trial Optional)

FIRST Faculty Cohort awards:

- *Hire a diverse cohort:* early-stage research faculty w/multi-level mentoring, professional development.
- *Effect systemic and sustainable institutional culture change:* address bias, equity, mentoring, and work/life issues.

RFA-RM-20-023: FIRST Coordination & Evaluation Center (U24 Clinical Trial Not Allowed)

FIRST Coordination and Evaluation Center:

- *Coordinate and facilitate:* development of strategies with FIRST Cohort awardees
- *Conduct a comprehensive evaluation:* impact of FIRST program

Application Due Date: March 1, 2021

Webinar **January 25, 2021, 2 - 4 pm EST**.
https://nci.rev.vbrick.com/#/webcasts/nihfirst.

Hannah Valantine, MD.
Chief Officer for Scientific Workforce Diversity 2014-2019

Zeynep Erim, Ph.D.
Division Director

Music and Health FOA

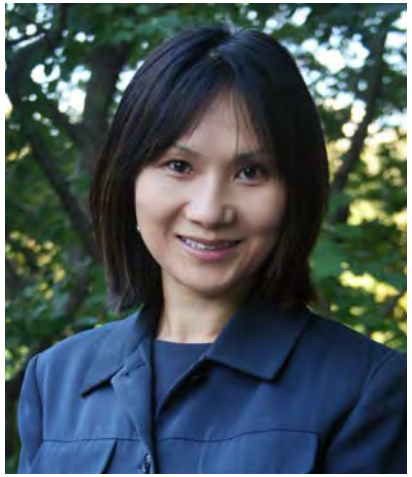
PAR-21-099: Music and Health: Understanding and Developing Music Medicine (R21 Clinical Trial Optional)

Goals:

- Increase understanding of how music affects the brain
- Develop evidence-based music interventions to enhance health or treat specific diseases and disorders.

NIBIB Topics of interest (not limited to):

- Development of non-invasive human imaging tools and technologies to probe music's impact on the brain.
- Effects of music on the quantity of sedatives and/or analgesics as required during image-guided interventions and other minimally invasive procedures.



Guoying Liu, Ph.D.
Program Director

Synthetic Biology NOSIs

[NOT-EB-20-017: Notice of Special Interest (NOSI) Synthetic Biology for Biomedical Applications]

David Rampulla, Ph.D.
Division Director DDST
Program Director – Synthetic Biological Systems

Goals of this Notice are to:
1. develop tools and technologies to control and reprogram biological systems.
2. apply synthetic biology approaches for the development of biomedical technologies.
3. increase the fundamental understanding of synthetic biology concepts as they relate to human health.
4. gain fundamental biological knowledge through the application of synthetic biology approaches.

The NOSI will fund R01, R21, and R35 research projects.

The NOSI expands the trans-NIH Synthetic Biology partnership from 3 ICs to 8 ICs

NIH National Institute of Biomedical Imaging and Bioengineering

NIH National Center for Complementary and Integrative Health

NIH NATIONAL CANCER INSTITUTE

+

NIH National Institute of Allergy and Infectious Diseases

NIH National Institute on Aging

NIH National Institute of General Medical Sciences

NIH *Eunice Kennedy Shriver* National Institute of Child Health and Human Development

NIH National Human Genome Research Institute

[NOT-EB-20-022: Notice of Special Interest (NOSI) Administrative Supplement for Providing Travel Support for Awardees to Attend the Annual NIH Synthetic Biology Consortium Meeting (Admin Supp)]

DEBUT Design by Biomedical Undergraduate Teams Challenge

- Challenges **undergraduate teams** to design technology solutions for unmet health needs
- **Ideation** projects & projects with **Prototypes**
- Total of **$115,000** in Prizes!
- **Submission Deadline**: June 1, 2021
- **Winners Announced:** August 25, 2021
- **Award Ceremony**: October 2021, BMES meeting

https://www.nibib.nih.gov/research-programs/DEBUT-challenge

Zeynep Erim, Ph.D.
Division Director

Joan Greve, Ph.D.
Program Director

NIBIB Prizes

- The Steven H. Krosnick Prize: **$20,000**
- Second Prize: **$15,000**
- Third Prize: **$10,000**
- HIV/AIDS Prize: **$15,000**
- NIMHD Tech for Low-Resource Settings Prize: **$15,000**
- New! NCI Technologies for Cancer Prevention, Diagnosis and Treatment Prize: **$15,000**
- 5 Honorable Mentions: **$1,000** each

VentureWell Prizes:

- Venture Prize: **$15,000**
- Design Excellence Prize: **$5,000**

NIBIB Exploratory/Developmental R21 Update

PAR-18-433: NIBIB Exploratory/Developmental Research Grant Program (R21 Clinical Trial Optional)

Key Features:

- No preliminary data allowed
- Balancing considerable risk with potential high impact research
- Expires May 8, 2021 (per issuance of NOT-EB-20-013)

NIBIB will be discontinuing this Exploratory/Developmental R21 FOA. Alternatives include:

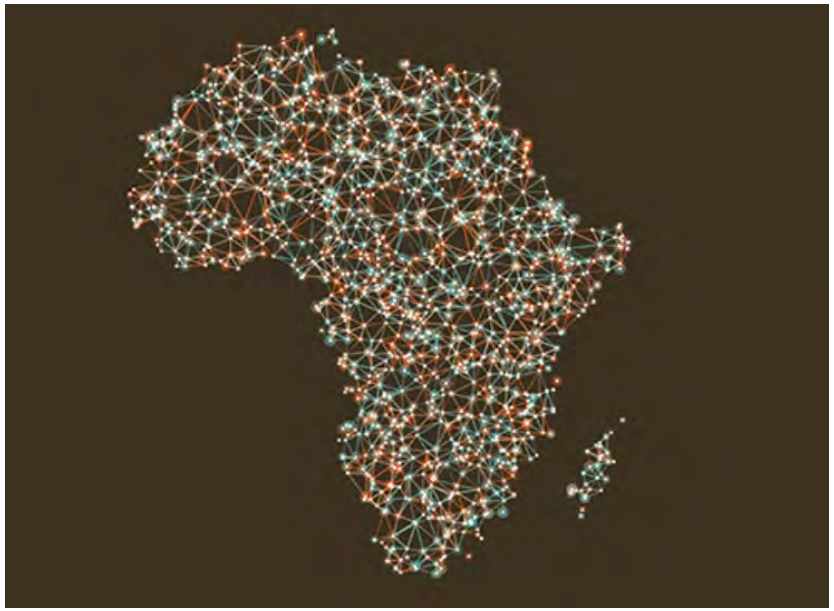
- R03
- Short-term R01
- Katz R01
- NIBIB Trailblazer R21

Randy King, Ph.D.
Program Director

Program Updates

- DS-I Africa
- BRAIN
- Diversity Working Group
- COVID-19

Harnessing Data Science for Health Discovery and Innovation in Africa (DS-I Africa)



Over 100 diverse group of applications received for the following FOA's:

- Open Data Science Platform and Coordinating Center (ODSP/CC)
- Ethical, Legal and Social Implications of DS-I Research
- DS-I Research Training Program
- Research Hubs

Tiffani Lash, PhD

Applications for ODSP/CC received from South Africa, Nigeria, Ghana, Uganda, Kenya, Sudan, Mali, Egypt, Tanzania, Mauritius and Rwanda

Timeline for FOA-RFA-RM-20-018

Judy Wawira, MD, MS

Applications Due *December 3, 2020* → Scientific Merit Review *April/May 2021* → Advisory Council Review *August 2021* → Earliest Start Date *September 1, 2021*

Shravani Bobde, MS

BRAIN Initiative Workshops

Dissemination of Non-Invasive Imaging Technologies

- February 18-19, 2021
- Purpose: to feature progress updates from BRAIN Initiative awardees and presentations from industry on potential pathways for follow-on dissemination.
- Agenda and Speaker Information

Shumin Wang, Ph.D.
Program Director
Co-chair

Transformative Non-Invasive Imaging Technologies

- March 9-11, 2021
- Purpose: to bring together neuroscientists, tool developers/engineers, and industry partners to identify new non-invasive functional imaging tools that could be realized in the next five to ten years.
- Agenda and Speaker Information

George Zubal, Ph.D.
Program Director

BRAIN Initiative Workshops

Dissemination of Non-Invasive Imaging Technologies

- February 18-19, 2021
- Purpose: to feature progress updates from BRAIN Initiative awardees and presentations from industry on potential pathways for follow-on dissemination.
- Agenda and Speaker Information

Shumin Wang, Ph.D.
Program Director
Co-chair

Transformative Non-Invasive Imaging Technologies

Diversity, Equity and Inclusion: *NIBIB Community*

Gilda Barabino, Ph.D.

Roderic Pettigrew, Ph.D., MD

September 2020

NIBIB Community:

- Intellectually Diverse and Embracing of New Ideas
- Problem Solvers: Blend Technology and Altruism
- Diversity Essential For Growth, Success

Co-Chairs of New Advisory Council Working Group

- Developing Diverse, Inclusive Workforce and Leadership
- Addressing Structural and Systemic Barriers, Bias
- Advancing Technology for Reducing Disparities, Improving Access

Diversity, Equity and Inclusion: *NIBIB Community*

Gilda Barabino, Ph.D.

Roderic Pettigrew, Ph.D., MD

NIBIB Community:

- Intellectually Diverse and Embracing of New Ideas
- Problem Solvers: Blend Technology and Altruism
- Diversity Essential For Growth, Success

Manu Platt, Ph.D. Associate Professor, BME, GaTech

Greg Washington, Ph.D. President, George Mason University

- Special Council Working Group, Advisory to Director
- 5 Additional external invitations in progress
- Council member participation encouraged
- Become recognized leadership voice for NIBIB community
- Coordinate with NIH-wide efforts on Diversity (UNITE)

Zeynep Erim, Ph.D.
Training Division Director

Diversity, Equity and Inclusion: *NIH-wide activity*

NIH-Wide Approach:

From December 11, 2020 Advisory Council to Director (ACD) Presentation

Create trans-NIH committees reporting to the NIH Steering Committee and reporting out to NIH Advisory Committee to the Director (ACD) to address 5 interrelated, but distinct, workstreams

- Understanding stakeholder experiences through listening and learning
- New research on health disparities/inequities
- Internal workforce
- Extramural research workforce
- Talking and communicating with our internal external stakeholders

NIBIB Representation

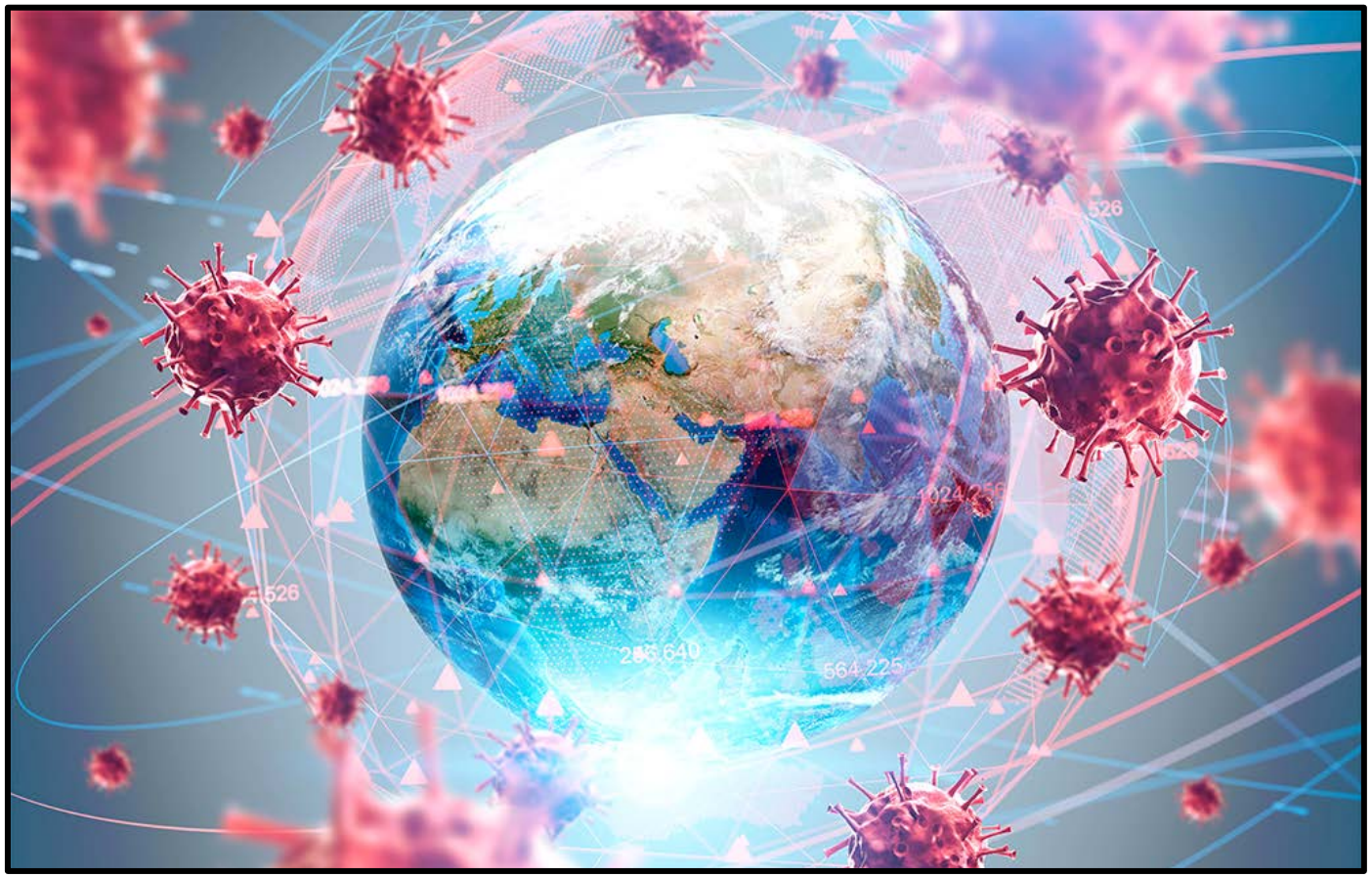

Zeynep Erim


Shaun Sims


Tiffany Calvert


Asha Storm

COVID-19 Pandemic

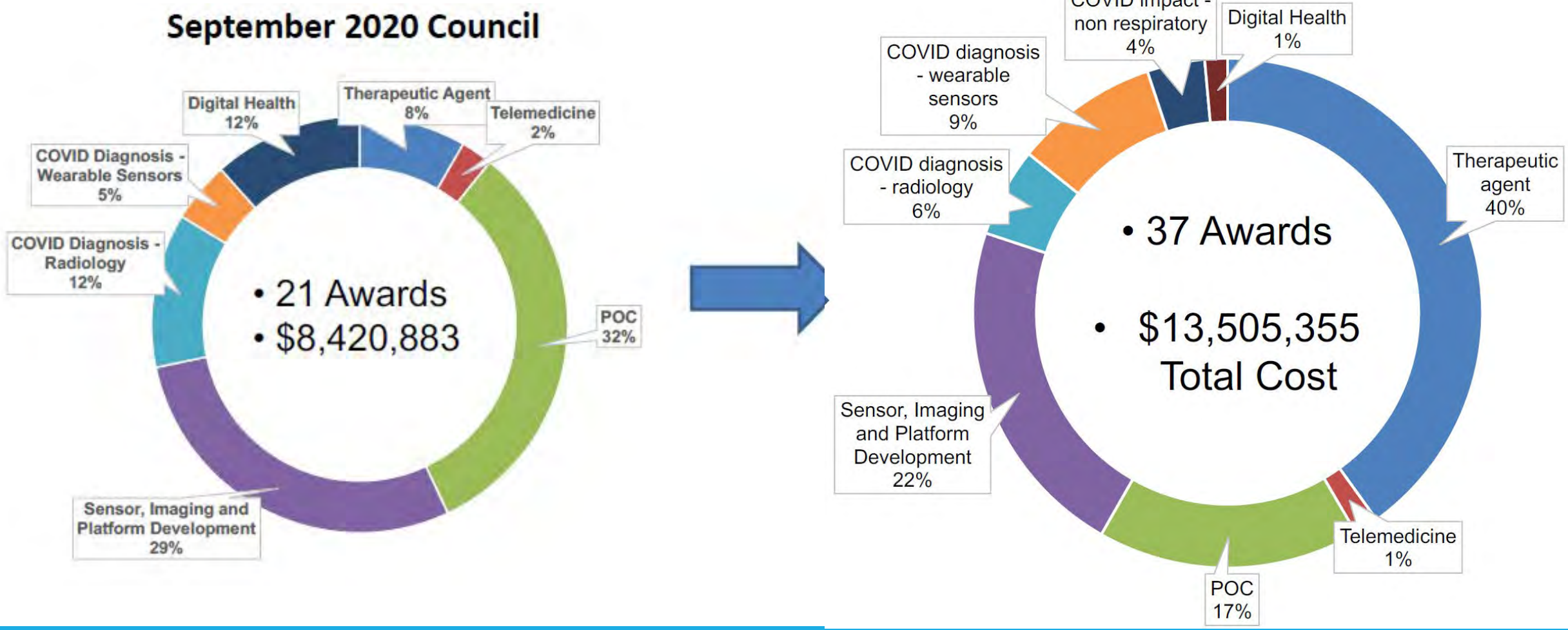


Bioengineering

1) Imaging and AI
2) Digital Health Platforms
3) **Diagnostic Test Technologies**

COVID-19 Supplements: *NIBIB Program*

Strong response to 3 NOSIs issued 4/10 (~5 mos, now expired)



MIDRC

MEDICAL IMAGING AND DATA RESOURCE CENTER.

Aug 2020: *2-year $20M National Network*

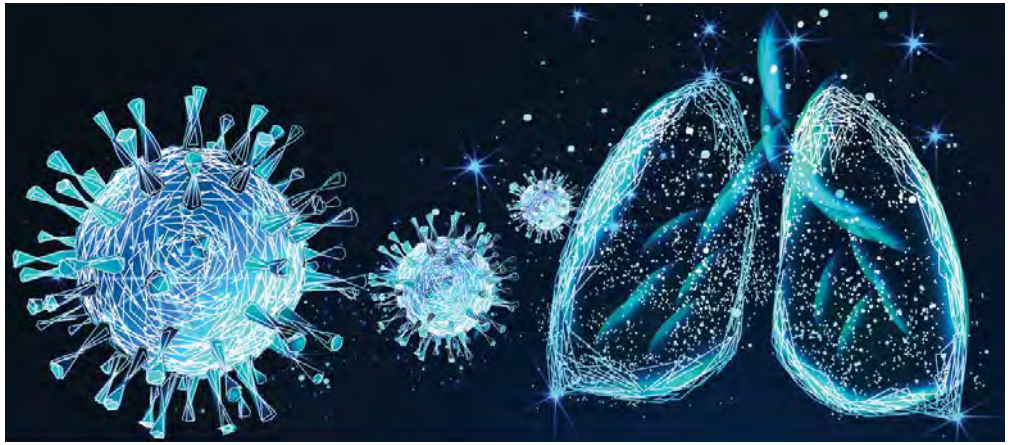
Accomplishments (~5 months)

- MIDRC management/advisory structure (23 institutions)
- Data infrastructure, harmonization, evaluation, security and privacy requirements and processes
- Data model & data elements to enable use in AI development
- Contractual agreements with institutions interested in contributing data
- First MIDRC investigators meeting held in December 2020
- Actively link with NCATS N3C (National COVID Cohort Collaboration) for accessing COVID clinical data
- Recent RSNA publication re COVID chest images released to the public (S. Simpson et al. Radiology: Cardiothoracic Imaging 2021, 2(2))

In Progress

- 11 institutions to donate data through RSNA (RICORD) and ACR (CIRR)
- 15,000+ cases being processed for MIDRC ingestion
- 10,000+ more cases being processed for donation
- First users/data contributors meeting being planned for March 2021

1,240 COVID imaging studies available for users.



Digital Health Solutions for COVID-19

- **SAFER-COVID** became NIH's official return-to-work app
- More than **150K people** have used the tool to date (NIH and non-NIH)
- Activity risk calculator was **featured on CNN** (https://safercovid.org/myrisk)
- Tool is being configured to assist with **at-home** COVID-19 testing

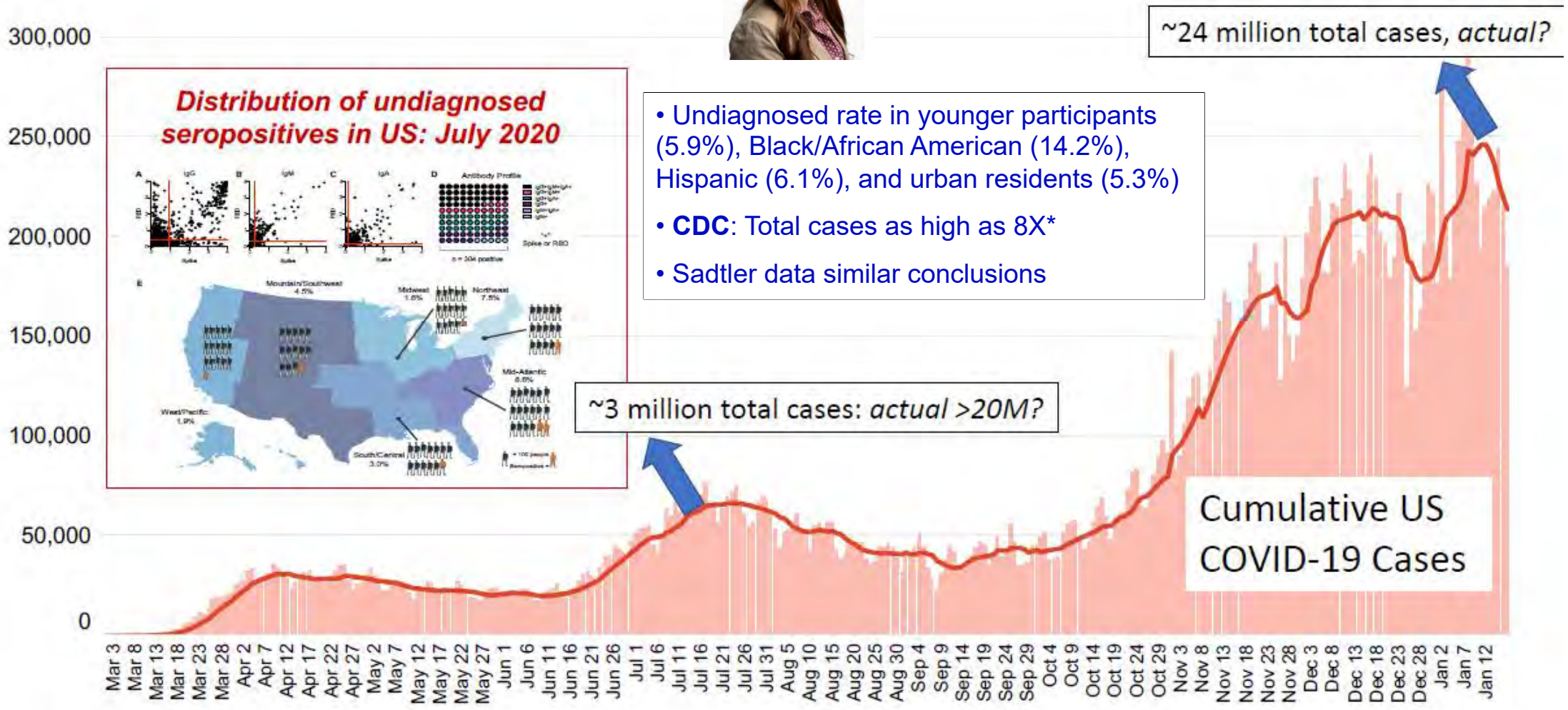
careevolution
HEALTHCARE TECHNOLOGY

Andrew Weitz, Ph.D.

Mapping a Pandemic: *SARS-CoV-2 Seropositivity in the United States*

Kaitlyn Sadtler, PhD, Head,
Immuno-Engineering, NIBIB

- Undiagnosed rate in younger participants (5.9%), Black/African American (14.2%), Hispanic (6.1%), and urban residents (5.3%)
- **CDC**: Total cases as high as 8X*
- Sadtler data similar conclusions



The COVID Tracking Project

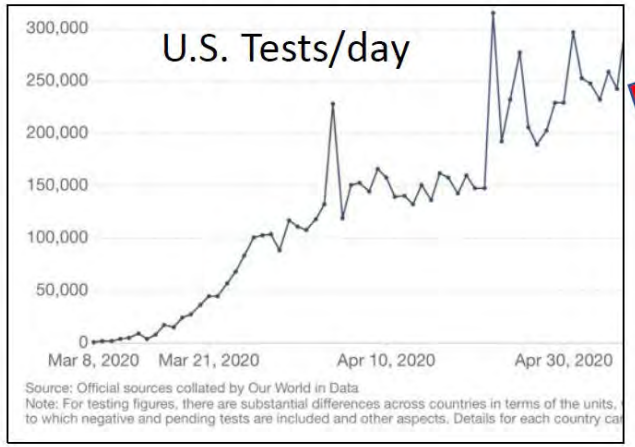
*Heather Reese, et al., Clinical Infectious Diseases, ciaa1780, https://doi.org/10.1093/cid/ciaa1780

RADx Tech & ATP Goals

1) Expand COVID-19 Testing Technologies: *Number, Type and Access*
2) Optimize Performance: *Technologic and Operational; Match Community Needs*

Test Settings

- Home-based
- Point of Care (POC)
- Laboratory (CLIA, research)



RADx Launch: *~250k/day*

Lab > POC

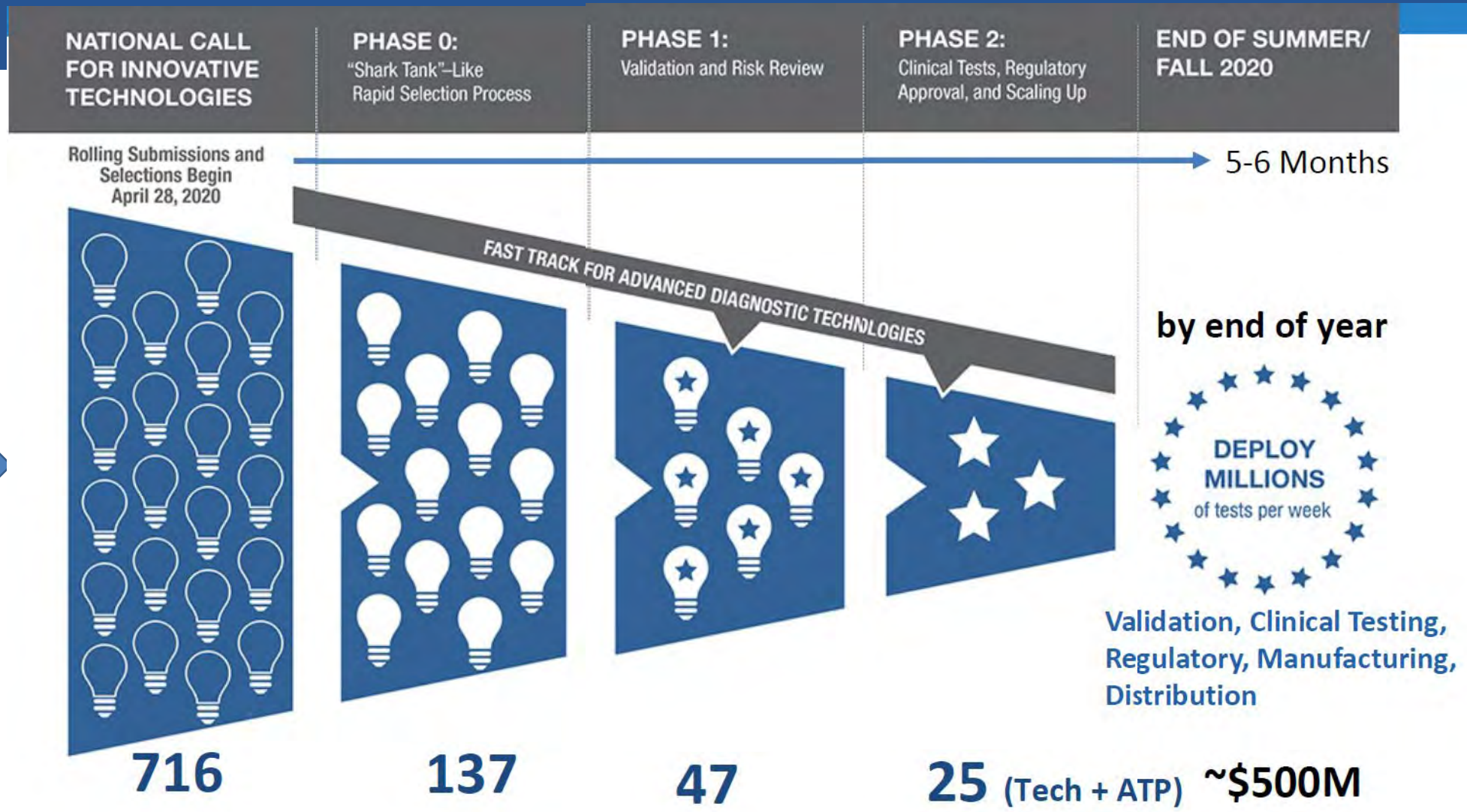
Covid Tracking Project

POC > Lab

+ >2 million/day LFA antigen tests unreported

https://www.theatlantic.com/health/archive/2021/01/rapid-antigen-covid19-tests-unreported/617668/

RADx Tech/ATP Innovation Funnel



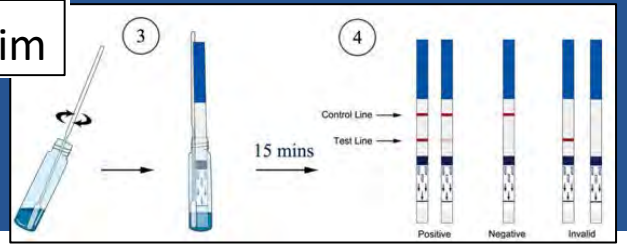
Applications Started

~3000

Projects in each Phase

Mesa BioTech

Maxim



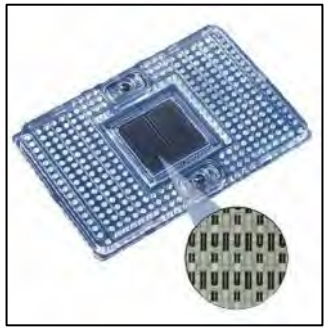
14 EUAs issued

Visby Medical

Ubiquitome

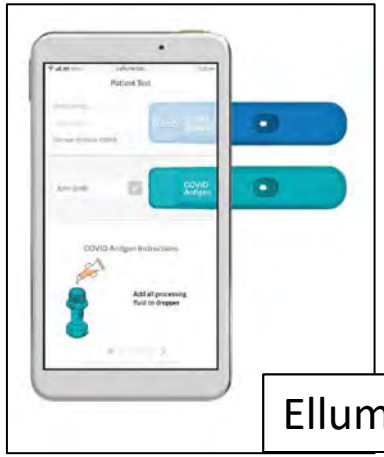
Quidel Sophia

Yukon Swabs



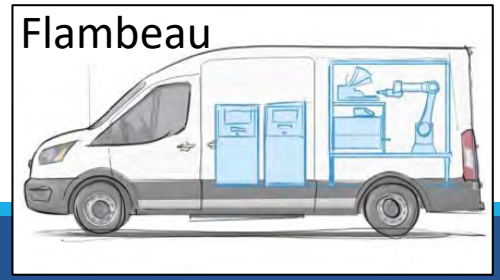
Fluidigm

Luminostics



Ellume

Flambeau

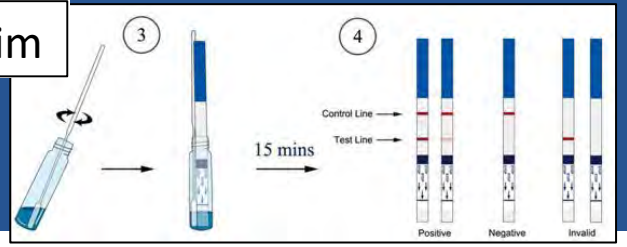


ANP

Point of Care & Home	
Visby	RTPCR
Mesa	RTPCR
Microgem	RTPCR
Talis	ISO-PCR
MatMaCorp	RTPCR
Ubiquitome	RTPCR
Quidel Sophia	An-LFA
Quidel QuickView	An-LFA
Luminostics	An-LFA
ANP	An-LFA
Ellume	An-LFA
Laboratory	
Flambeau	PCR-mobile
Fluidigm	RTPCR
Broad Inst	RTPCR
Illumina	NGS
Helix	NGS/RTPCR
Gingko	NGS/RTPCR
Sonic Healthcare	RTPCR
PathGroup	RTPCR
Aegis	RTPCR
Quanterix	SIMOA (An)
Lab Products	
Mammoth Biosci	CRISPR
Ceres Nanosciences	Beads/Conc
Yukon	Swabs

Mesa BioTech

Maxim



14 EUAs issued

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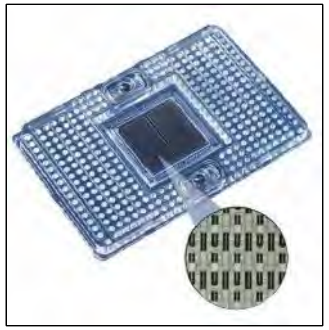
Yukon Swabs

Visby Medical

Ubiquitome

Dec 15
OTC EUA

Ellume



Fluidigm

Luminostics

Flambeau

ANP

Point of Care & Home	
Visby	RTPCR
Mesa	RTPCR
Microgem	RTPCR
Talis	ISO-PCR
MatMaCorp	RTPCR
Ubiquitome	RTPCR
Quidel Sophia	An-LFA
Quidel QuickView	An-LFA
Luminostics	An-LFA
ANP	An-LFA
Ellume	An-LFA
Laboratory	
Flambeau	PCR-mobile
Fluidigm	RTPCR
Broad Inst	RTPCR
Illumina	NGS
Helix	NGS/RTPCR
Gingko	NGS/RTPCR
Sonic Healthcare	RTPCR
PathGroup	RTPCR
Aegis	RTPCR
Quanterix	SIMOA (An)
Lab Products	
Mammoth Biosci	CRISPR
Ceres Nanosciences	Beads/Conc
Yukon	Swabs

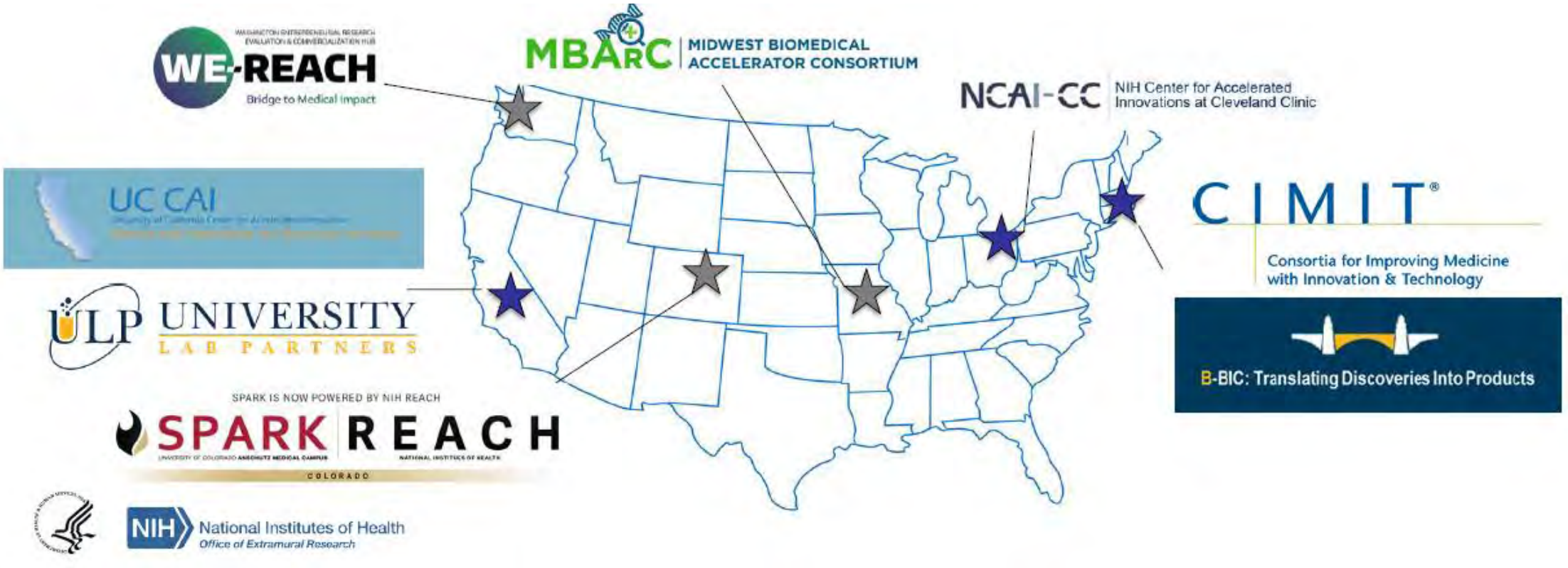
RADx Leveraging NIH Proof of Concept (PoC) Network

NIH SEED

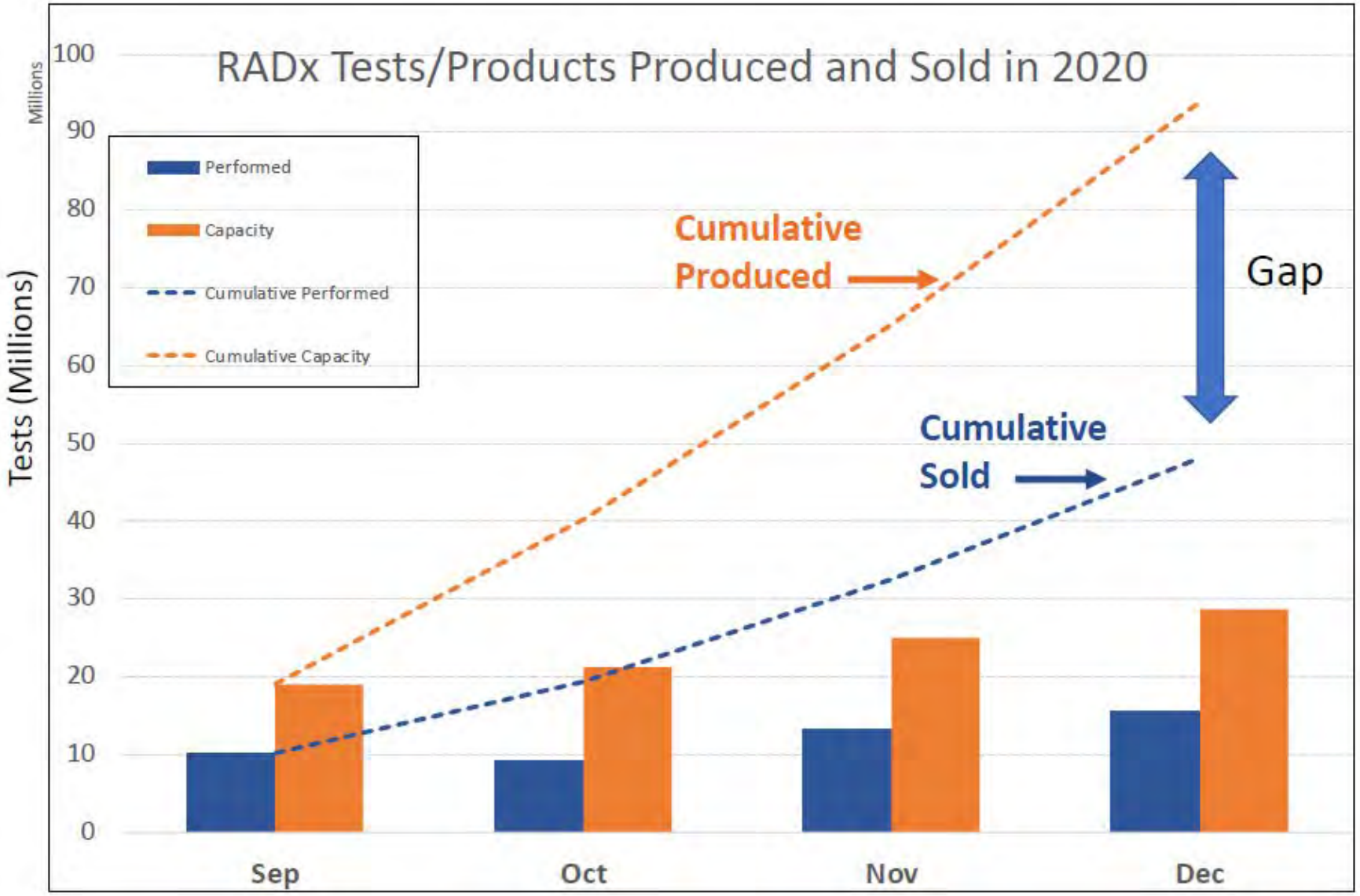
Matt McMahon, PhD

~50 early-stage RADx-tech projects

- **Project Funding**
- **Industry Coaching and Mentoring**
- **Training and Resources**

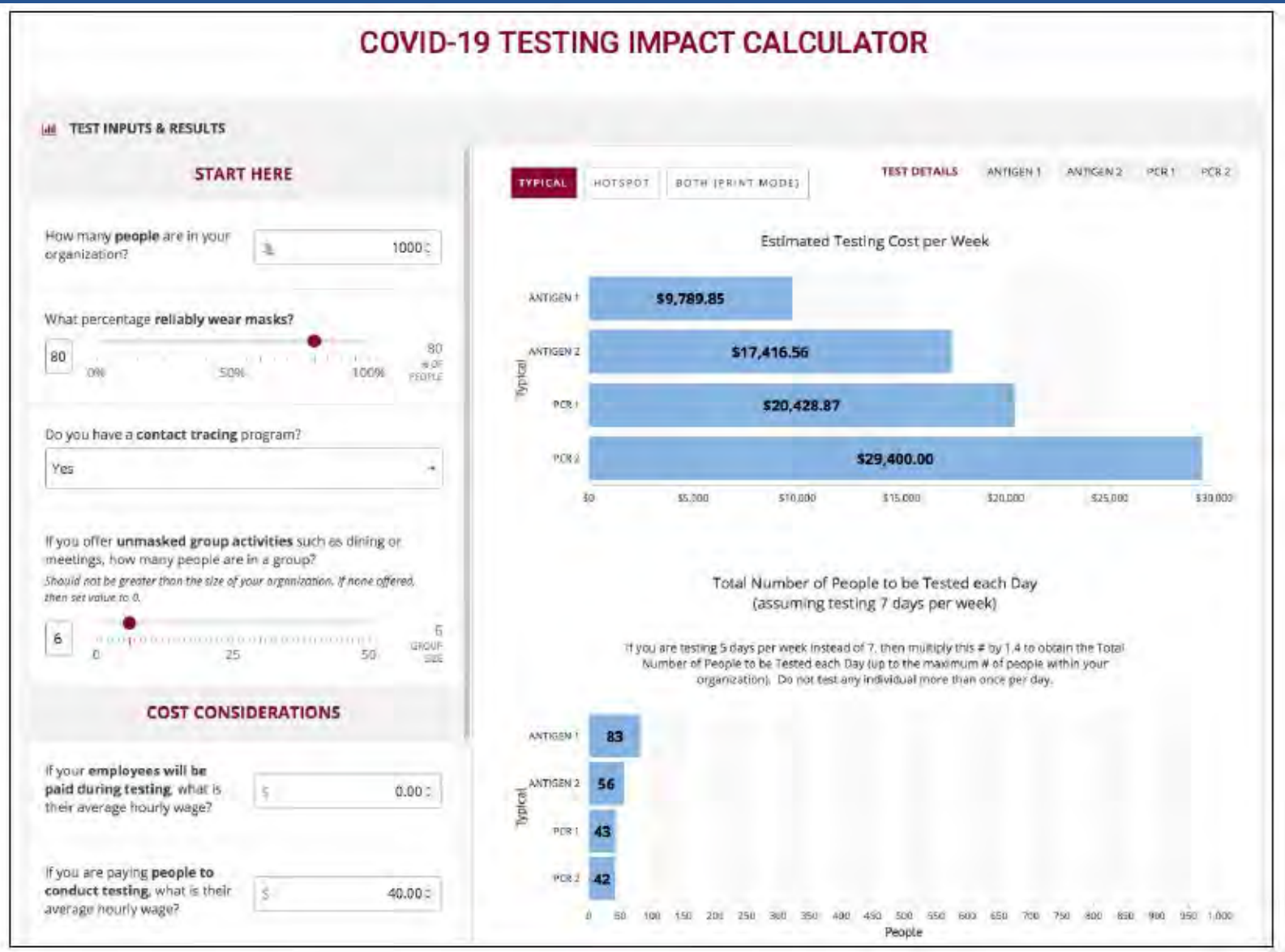


RADx Impact in 2020



- **~94 million capacity in 2020**
- **~48 million sold in 2020**
- ~950k tests/day produced Dec 2020; ~550k/day sold
- ~14 EUAs and 1st OTC EUA
- ~190 Companies supported
- **Feb 2021**: Project millions OTC LFA tests/day
- **March 2021:** Project >2.5M tests/day

Deployment Core: CIMIT/MGH *(close gap)*



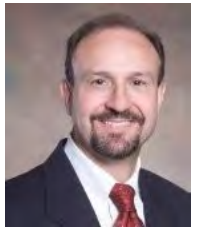
Bridging NIH/USG, non-profit Foundations, Academia, and Industry

Nancy Gagliano, MD
CIMIT/MGH

"When-to-Test" modeling tool: Match tests w/needs; evaluate impact of risk reducing activities.

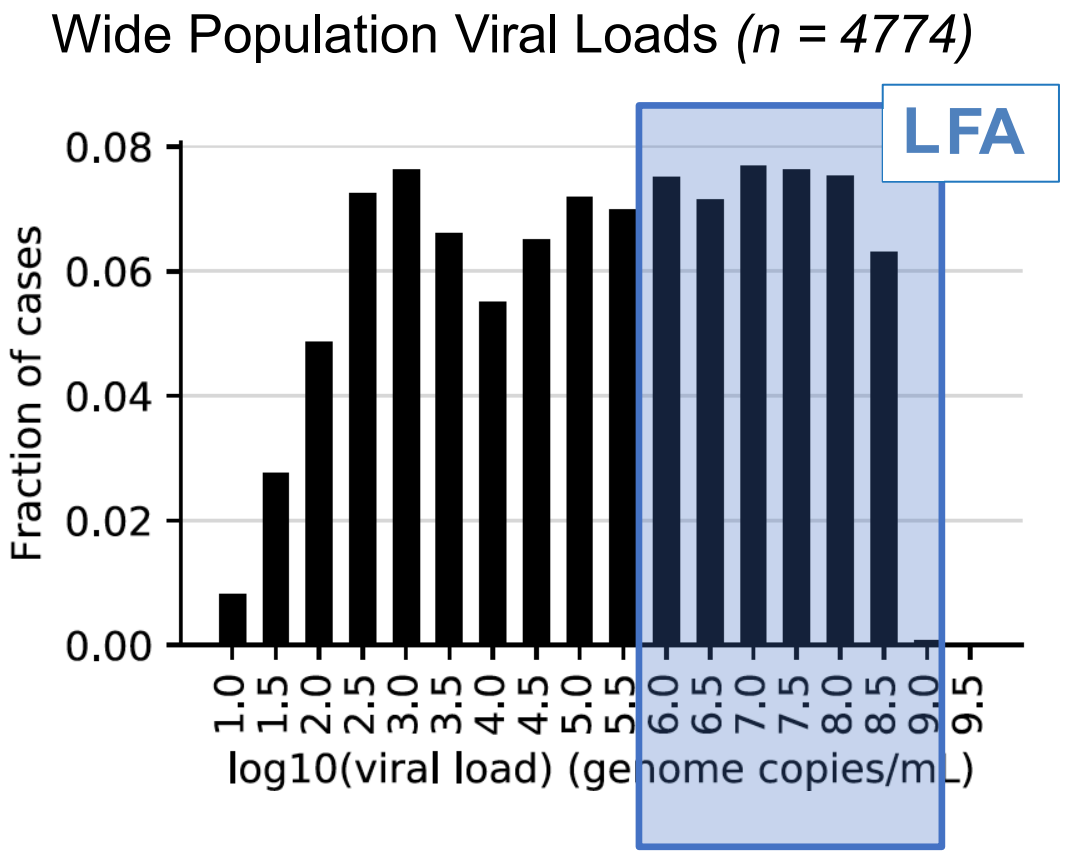
https://whentotest.org/

Anette Hosoi
MIT



Paul Tessier,
CIMIT/MGH

Challenges: *Screening/Surveillance LFA Performance*



Typical LOD ~10^6 Copies/mL
Sensitivity ~40% vs. RTPCR for all (symptomatic + asymptomatic)*

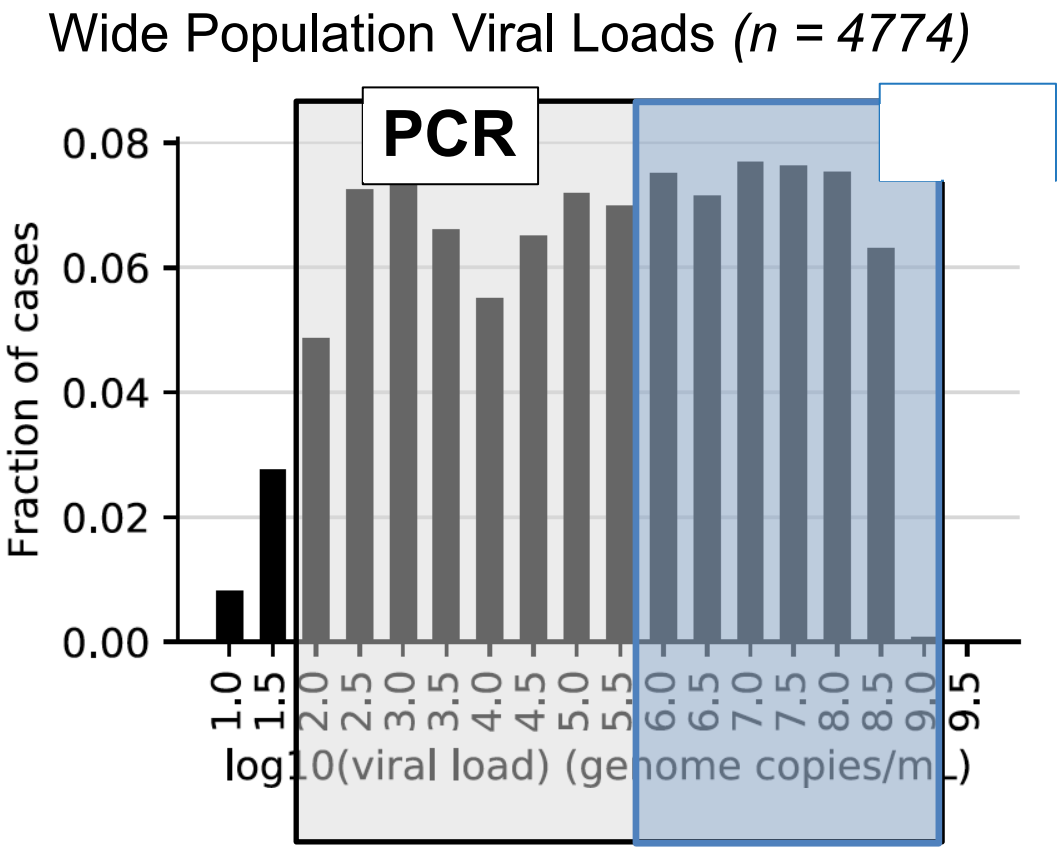
Vs.

Sens/Spec ~90/95% for symptomatic population (EUA: ~5 days post-onset)

Ramy Arnaout, James E. Kirby, et al., **SARS-CoV2 Testing:The Limit of Detection Matters**
bioRxiv 2020.06.02.131144; doi: https://doi.org/10.1101/2020.06.02.131144

*Pray IW, et al. Morb Mortal Wkly Rep 2021;69:1642–1647.
DOI: http://dx.doi.org/10.15585/mmwr.mm695152a3

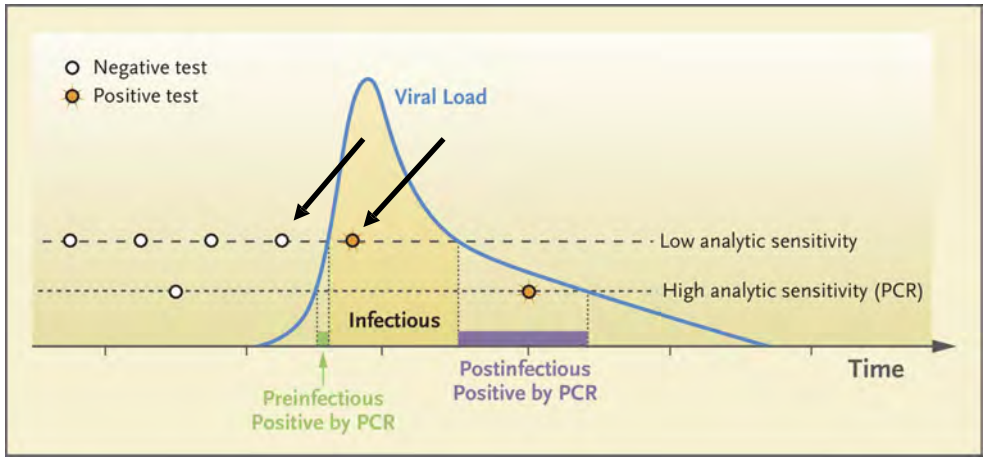
Challenges: *Screening/Surveillance LFA Performance*



1) Use LFA within ~5-7 days of symptoms
   - Elevated viral load (>90% sens, spec)

2) "Off Label" LFA in Asymptomatics:
   - Backup PCR w/positive in low prevalence
   - Backup PCR w/negative recently exposed

3) Sequential LFA tests



Ramy Arnaout, James E. Kirby, et al., **SARS-CoV2 Testing: The Limit of Detection Matters**
bioRxiv 2020.06.02.131144; doi: https://doi.org/10.1101/2020.06.02.131144

M. Mina et al, NEJM, DOI: 10.1056/NEJMp2025631

RADx Clinical Studies Core (UMass)

Mission: Evaluate RADx platforms that advance to Phase 2 in rigorous clinical studies w/ diverse populations and settings.

Laura Gibson, MD David McManus, MD

- **Quidel Multisite study:** ***UMass, UIUC, JHU in progress (n=200)***
  - Longitudinal sequential Lateral Flow Assay (LFA) assessment (2 weeks)
  - RTPCR, saliva, + viral infectiousness assay
- **LFA home testing study:** ***UMass and Northwestern, Jan 25 (n=100)***
  - At home, Self sampling, Digital health platforms
- **LFA large population study, planning w/public health (n>200,000)**
  - Regular frequent tests break chain of transmission?

COVID-19 Test US

Clinical Study Partners

UMassMemorial Health Care

UCSF Health

Northwestern Medicine

Eureka

JOHNS HOPKINS MEDICINE

EMORY HEALTHCARE

+

The CTSA Trial Innovation Network

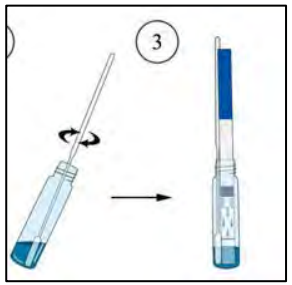
Connecting: NIH Institutes, Industry, Researchers, and Participants

Investigators at CTSA Hubs across the U.S.

POC/Home Challenges: *Digital Health*

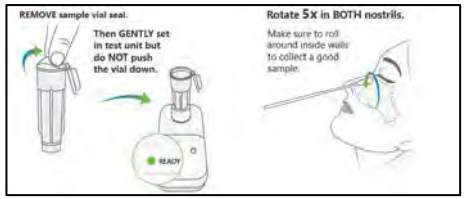
RADx POC Test

PCR



LFA

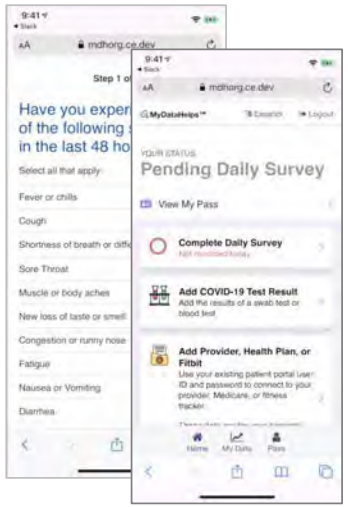
How to Use



Wearables

Digital Contact Tracing

Symptom Surveys



Cell Phone Reader

e.g. OpenRDT (Audere)

EHR & Claims

SYNC FOR SCIENCE

HL7 FHIR

Blue Button Download My Data

Proof of Health Status

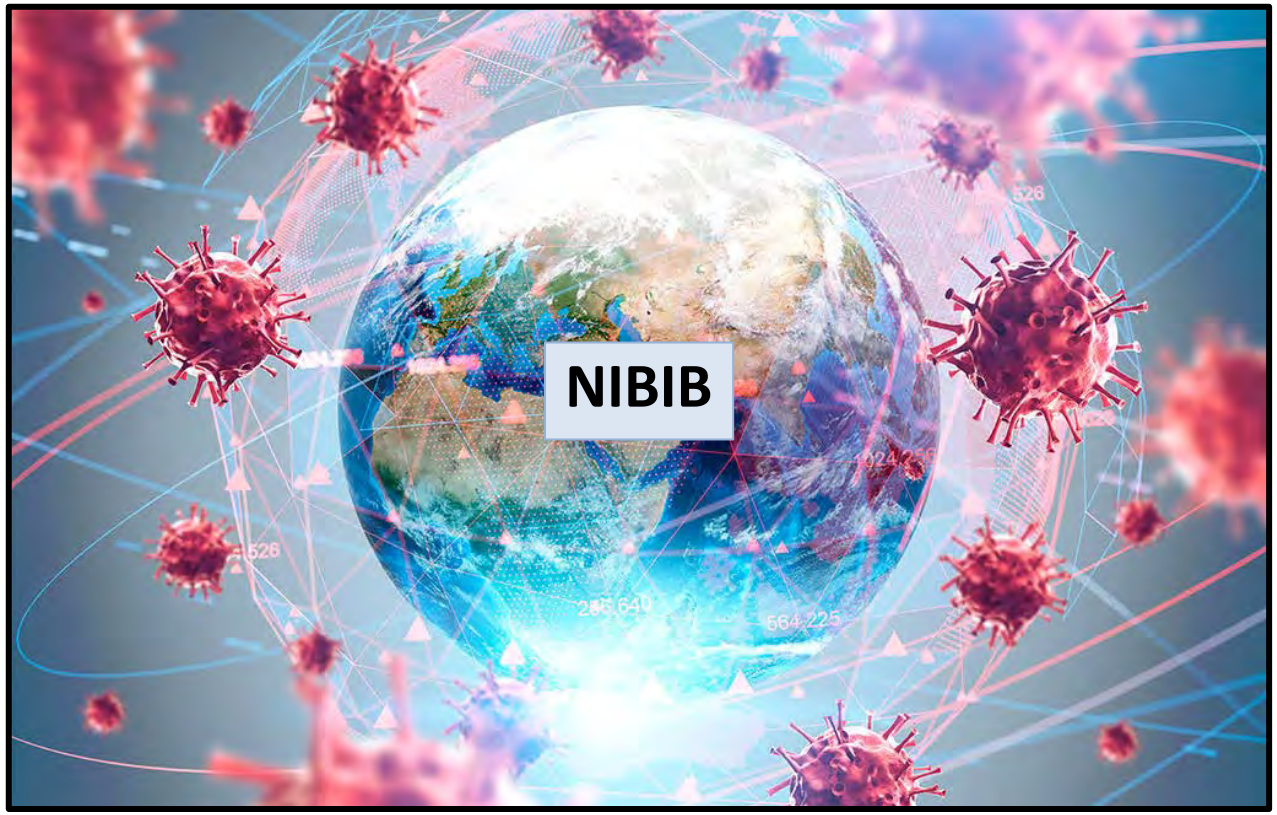
GATES foundation

National Institute of Biomedical Imaging and Bioengineering

NIH NATIONAL CANCER INSTITUTE

https://www.nibib.nih.gov/news-events/newsroom/nih-awards-contracts-develop-innovative-digital-health-technologies-covid-19

COVID-19 Pandemic



Summary & Future

Pandemic demands can't be addressed by "off the shelf" solutions: *Be ready with new, purpose-driven tech.*

Bioengineers are multi-lingual integrators: *Urgent need to work closely with Public Health*

Leveraging existing networks by expanding is key for speed, impact: *Build in efficiencies to counter the natural growth of bureaucracy.*

Technology development relatively easy: *Adoption, guidance, modifying human behavior for surveillance & screening are hard.* **Partnerships, stakeholders!**

RADx general platform for acceleration, impact: *embedding in NIBIB structure, disseminating to NIH & beyond*

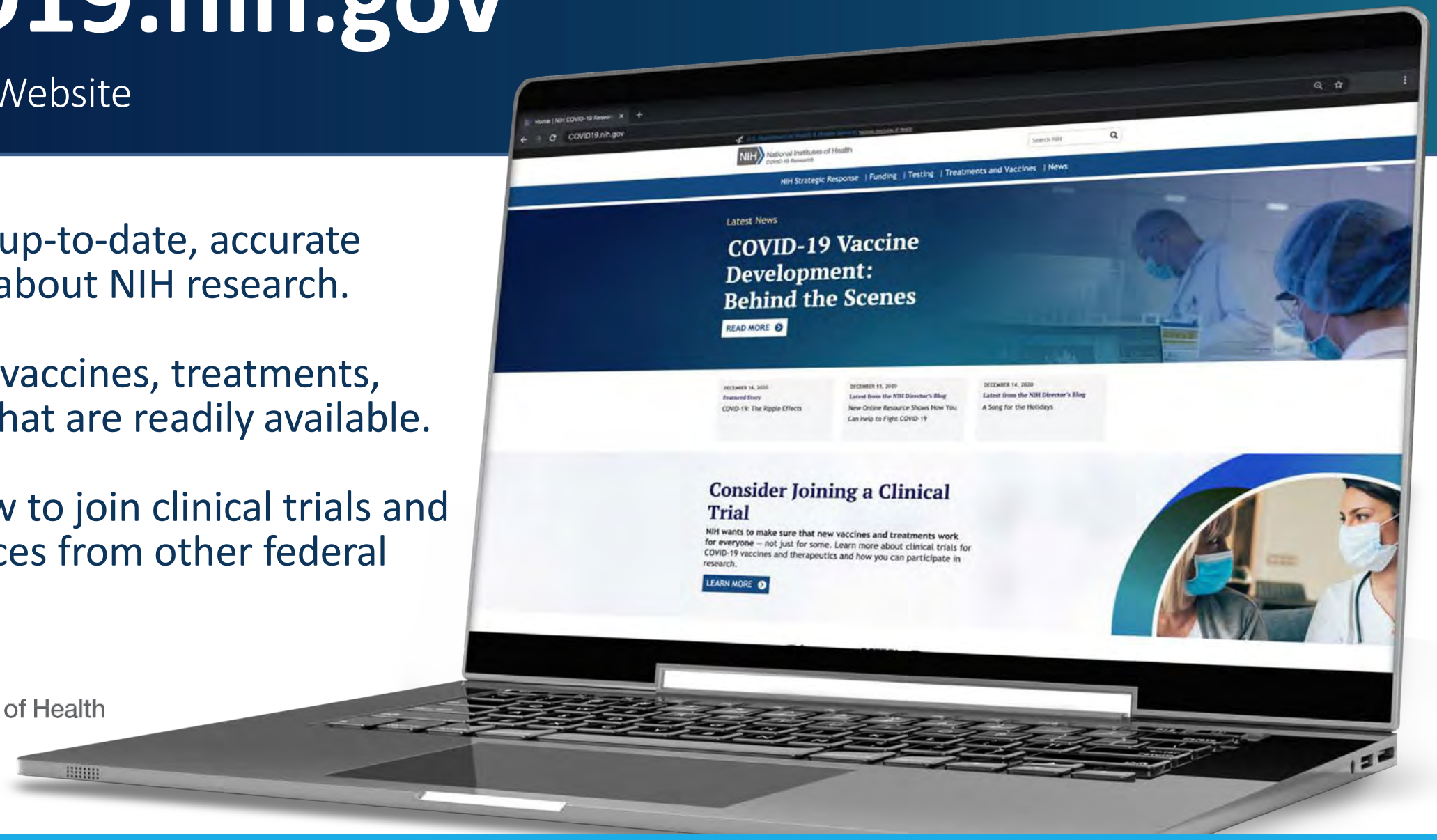
Thank You!


NIH
National Institute of
Biomedical Imaging
and Bioengineering
Manu O. Platt, Ph.D.
Seventh Annual Lopez Lecture ✦ January 19, 2021
In Memory of NIBIB Program Director Hector Lopez, Ph.D. (1947-2014)

COVID19.nih.gov

NIH COVID-19 Website

- ✓ Get trusted, up-to-date, accurate information about NIH research.
- ✓ Learn about vaccines, treatments, and testing that are readily available.
- ✓ Find out how to join clinical trials and view resources from other federal agencies.



National Institutes of Health
COVID-19 Research

National Institute of Biomedical Imaging and Bioengineering