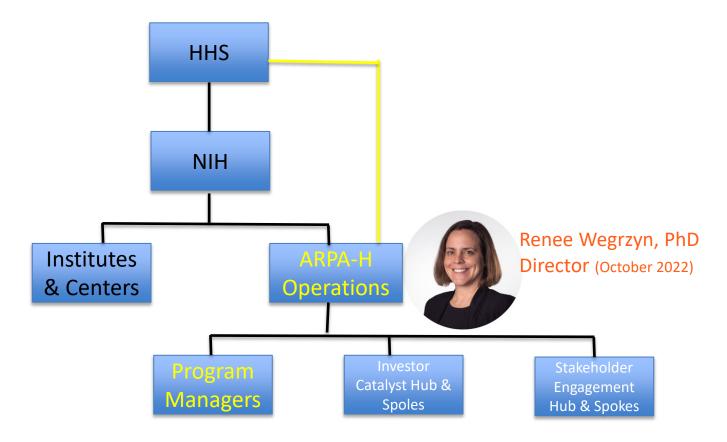
# **ARPA-H**

The Advanced Research Projects Agency for Health

High risk, high consequence approaches to improved health for everyone

> Keith Yamamoto yamamoto@ucsf.edu UCSF ARPA-H Workshop May 10, 2023

# ARPA-H organization and administration



- Independent component of NIH
- Operations in DC area, but not at NIH
- Separate budget and authorities
- Direct report to Secretary, HHS

# **ARPA-H Hubs and Spokes**

• Operations and Stakeholder Engagement

Spokes: federal agencies, regulatory and legislative partners and relevant businesses.

#### • Customer Experience

*Spokes:* community outreach to design products and services that people need and want to use; user testing, adoption, access, and trust of ARPA-H projects; enhance clinical trials, reach representative patient populations, capture outcomes data.

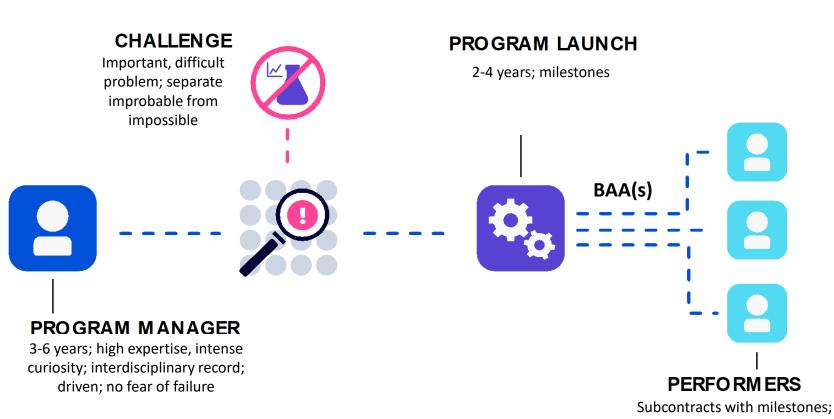
#### Investor Catalyst

Spokes: resources to help performers bring prototyped solutions to market.

# Health **BRIIDGE**

Bringing Research, Innovation and Investors to Drive Growth and Equity Proposal from CA Governor's Office and UCOP; >120 Spokes: 13 Regional Conveners, >350 urban and rural sites in 47 states; venture capital, investors, entrepreneurs, innovators, startups, research & healthcare institutions and companies; Data Commons to be built from UCHDW and UCSF Information Commons

# Program: Program Manager and Performers



different elements of solution OR different approaches to solution

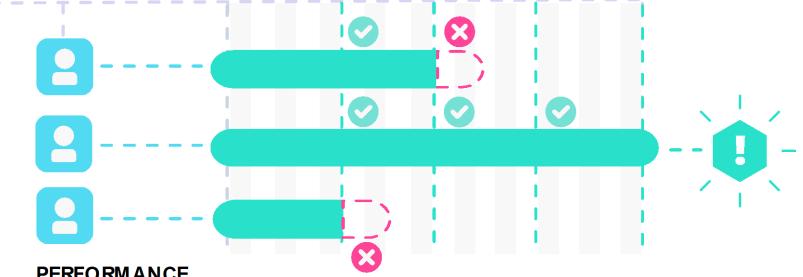
# Program Manager

- $\Box$  Timebound (3 6 years)
- Competitive salary
- PMs diverse in geography, demographics, experience, and topic
- Full business and technical team support for dayto-day program management, market assessments, transition, budget, human-centered design, etc.
- Resources and opportunity to change the future of health
- Responsibility to identify well-defined problems in health, and assemble teams from industry, academics, and government to solve.

# Ongoing support, ongoing evaluation

#### SUPPORT

Support for ARPA-H programs comes from funding, Program Managers, partners, and ARPA-H offices to ensure the best chance of success throughout the process.



#### PERFORMANCE

Performance is assessed regularly. If results fail to measure up, a performer's work may be stopped, while more successful performers continue. Valuable lessons are learned and shared from each project.



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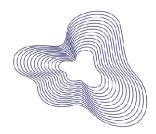
# Transition and "graduation"

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#### GRADUATION

When challenge is solved, the prototype solution transfers to partners who have been involved as performers, or into investor hub, for commercialization, scaling and distribution

# Mission Focus Areas



#### Health Science Futures

## Expanding what's technically possible

Accelerate advances across research areas and remove limitations that stymie progress towards solutions. These tools and platforms apply to a broad range of diseases.





#### Scalable Solutions

#### Reaching everyone quickly

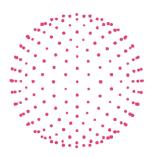
Address health challenges that include geography, distribution, manufacturing, data and information, and economies of scale to create programs that result in impactful, timely, and equitable solutions.



#### **Proactive Health**

# Keeping people from being patients

Preventative programs will create new capabilities to detect and characterize disease risk and promote treatments and behaviors to anticipate threats to Americans' health, whether those are viral, bacterial, chemical, physical, or psychological.



#### **Resilient Systems**

## Building integrated healthcare systems

Create capabilities, business models, and integrations to weather crises such as pandemics, social disruption, climate change, and economic instability. Systems are sustained between crises—from the molecular to the societal—to achieve better health outcomes.

# Vision: High risk, high consequence approaches to improved health for everyone

Imagine if...

- Cell therapies could be built and assembled on demand, readily re-programmed for each new disease target
- MRIs could be delivered in the comfort of your home
- A personalized cancer vaccine cost the same as a cup of coffee
- We could all realize a better health future.



# The ARPA-H "Heilmeier Catechism"

- 1. What are you trying to do? What health problem are you
  - trying to solve? Articulate your objectives using absolutely no jargon.
- 2. How is it done today? What are the limitations of present approaches?
- 3. What is new about your approach? Why do you think you can be successful at this time?
- 4. Who cares? If you succeed, what difference will it make?
- 5. What are the risks? Identify any risks that may prevent you from reaching your objectives, as well as any risks the program itself may present.
- 6. How long will it take?
- 7. How much will it cost?
- 8. What are your mid-term and final exams to check for success?
- 9. To ensure equitable access to all people, how will cost, accessibility, and user experience be addressed?
- 10. How might this program be mis-perceived or mis-used (and how can we prevent that from happening)?

# Pathways to ARPA-H support for your idea

- Propose a project as a PM
- Respond to PM's BAAs
- Propose an Open BAA project
- Propose development, scale up, production