

# ARPA-H: The Mission

Advanced Research Projects Agency for Health (ARPA-H)

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# Mission

**Accelerate better  
health outcomes  
for everyone.**

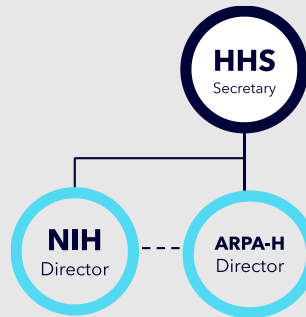


# ARPA-H Key Features and Authorities

ARPA-H has unique structures and legal authorities that allow it to **function like a business** – **quickly, nimbly, and decisively**.

- ARPA-H is a **funding agency**
- **Independent** component of HHS within NIH; not an Institute
- No internal research labs; **disease agnostic**
- Generally **fund outcome-based contracts**, not grants; accelerated award timelines
- Unique **FDA reimbursement authority**
- **Appropriations**, budget independent from NIH

FY 2022	FY 2023	FY 2024	FY 2025
\$1B	\$1.5B	\$1.5B	Request: \$1.5B



**Lean and nimble management structure** with autonomy in decision-making.  
ARPA-H Director **reports directly to HHS Secretary**



**Term limits** of 3-6 years bring urgency and idea flow.

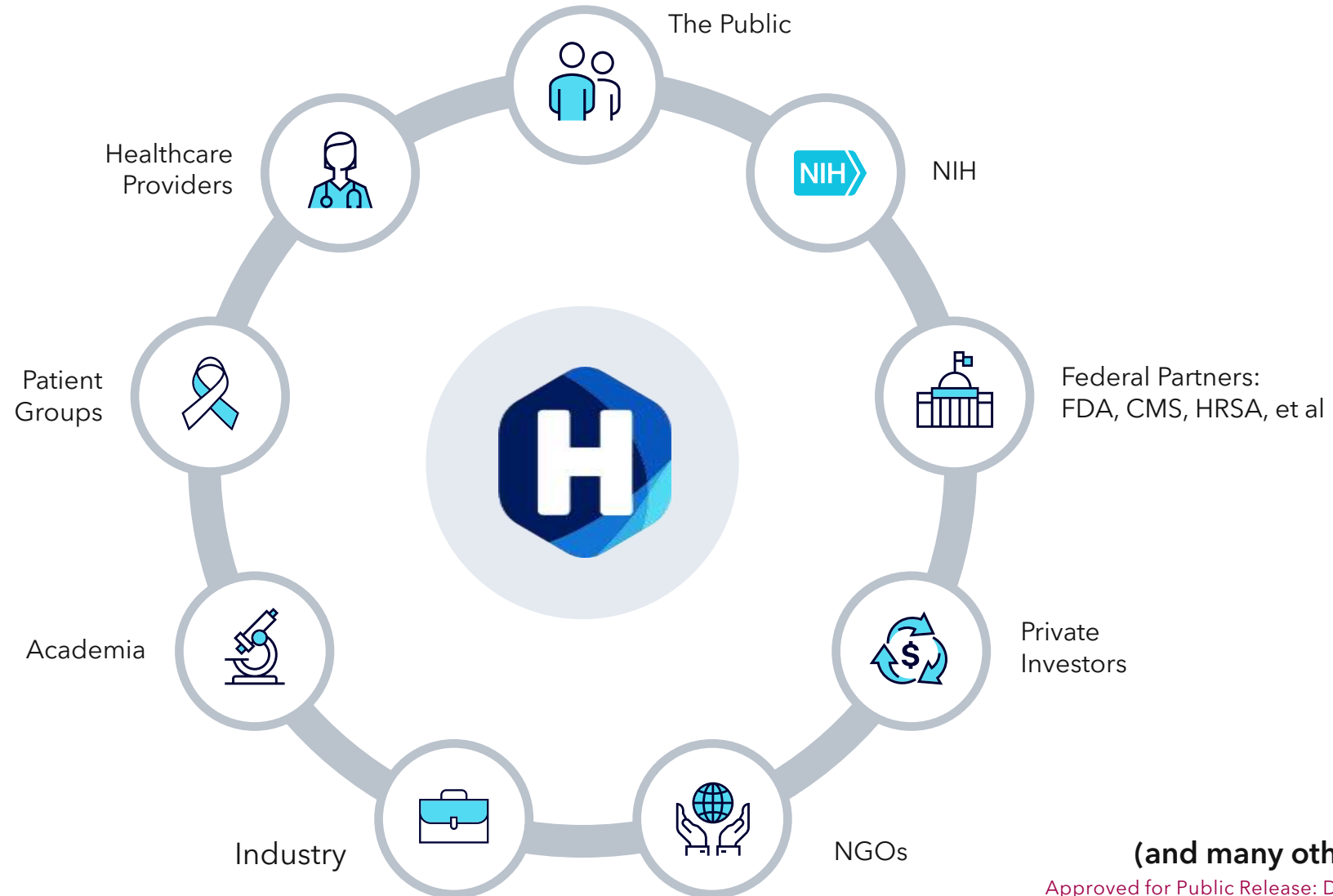
**Flexibility in hiring** allows ARPA-H to recruit at levels competitive with industry.



**Bottom-up decision-making.** PMs have autonomy to make decisions quickly.

**ARPA-H is a problems focused organization**

# ARPA-H Accelerates the Entire Health Ecosystem



# The Program and Program Manager Flywheel

The ARPA-H portfolio is:  
(1) a reflection of the PMs  
(2) dynamic, and  
(3) will – and should! – change frequently

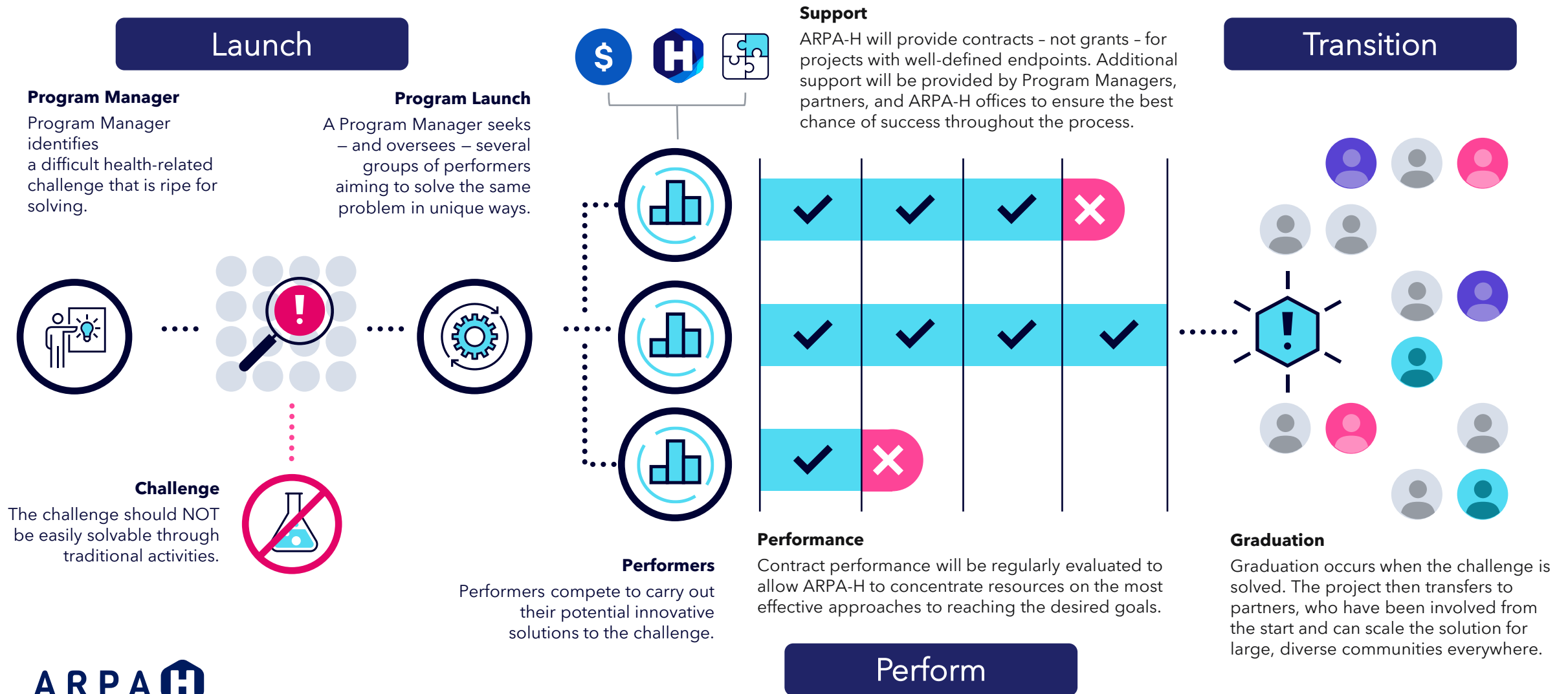


# ARPA-(H)eilmeier Questions

Towards a well-defined problem

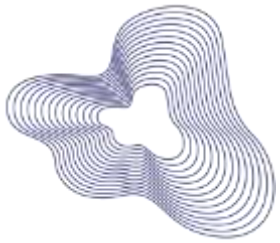
- 1 What are you trying to do? What health problem are you trying to solve?
- 2 How does this get done at present? Who does it? What are the limitations of present approaches?
- 3 What is new about our approach? Why do we think we can be successful at this time?
- 4 Who cares? If we succeed, what difference will it make? What Health Outcomes are we accelerating?
- 5 What are the risks? That may prevent you from reaching your objectives? Any risks the program itself may present?
- 6 How long will the program take?
- 7 How much will the program cost?
- 8 What are our mid-term and final exams to check for success?
- 9 To ensure equitable access for all people, how will cost, accessibility, and user experience be addressed?
- 10 How might this program be misperceived or misused (and how can we build trust and prevent that from happening)?

# ARPA-H Model: Program Lifecycle



# Initial Mission Focus Areas

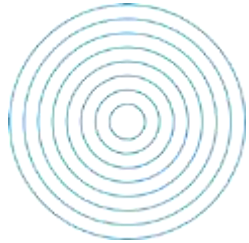
Further ARPA-H investment in these areas will generate **asymmetrical benefits** to the health ecosystem



## Health Science Futures

### Expanding what's technically possible

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



## Scalable Solutions

### Reaching everyone quickly

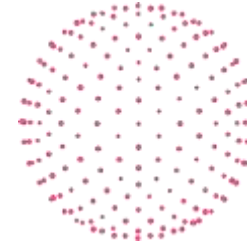
Address health challenges that include geography, distribution, manufacturing, data and information, and economies of scale to create programs that result in impactful, timely, and equitable solutions.



## Proactive Health

### Keeping people from being patients

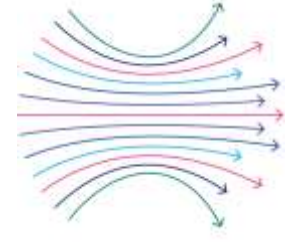
Preventative programs will create new capabilities to detect and characterize disease risk and promote treatments and behaviors to anticipate threats to Americans' health, whether those are viral, bacterial, chemical, physical, or psychological.



## Resilient Systems

### Building integrated healthcare systems

Develop capabilities, business models, and integrations to endure crises such as pandemics, social disruption, and economic instability. Resilient systems need to sustain themselves between crises - from the molecular to the societal - to better achieve outcomes that advance American health and wellbeing.



## Project Accelerator Transition Innovation

### Ensuring programs survive in the wild

Translating scientific and technical breakthroughs into real world products and services, ensuring they result in better health outcomes for all Americans

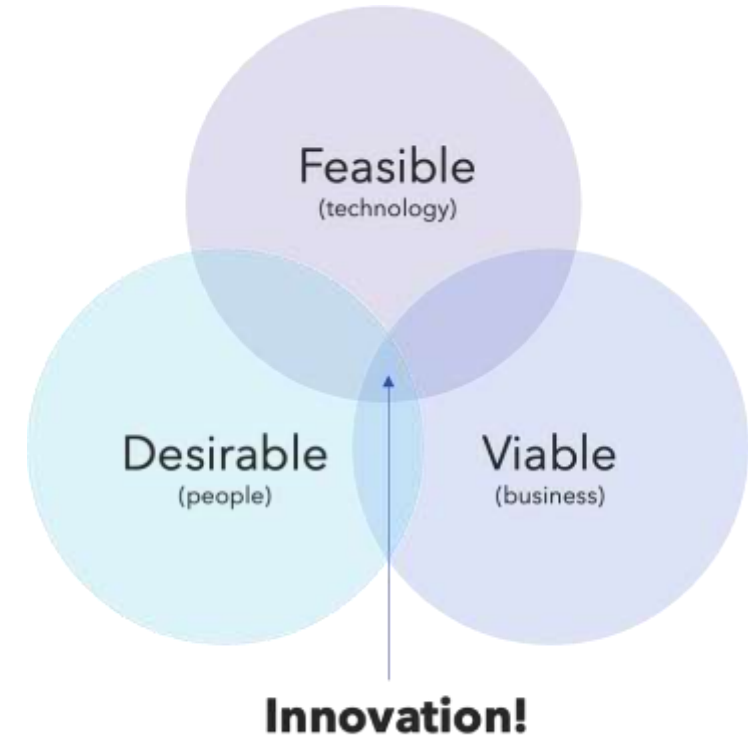
# ARPA-H Timeline

## Programs and Projects



# Project Accelerator Transition Innovation Office (PATIO)

**Our Mission:** PATIO increases the probability that ARPA-H funded health technologies **will reach those Americans** by identifying barriers and providing transition and commercialization services to program managers and performers.



Since ARPA-H will not fund performers in perpetuity, PATIO's services increase the odds that solutions attract private investment and customers—to translate the breakthroughs

# Technology, Transfer and Transition Services (T3X)



**Build transition-ready programs by de-risking solutions from program design through performance.**

## Capabilities

- **State of the Science, State of Industry** IP analyses, commercialization landscape to understand a particular technology, competitive landscape to understand key players in the arena, etc.
- **Transition Mentors** External, recognized transition/commercialization experts identify and solve for blind spots of ARPA-H PMs and programs.
- **Transition Consultants** External, recognized transition/commercialization experts (e.g. regulatory, reimbursement, IP).
- **Small Business Program** provides funding for small businesses that possess the expertise to use innovative approaches to enable revolutionary advances in science, technology, or systems leading to developments that contribute toward the agency's mission.

# Health Ecosystem Engagement Team (HEET)



**Create meaningful bi-directional communication between ARPA-H and America**

## Capabilities

- **Ecosystem Activities & Speaking Opportunities** Broad, in-person engagements where ARPA-H leaders explain the ARPA-H model and mission and build connections.
- **Network on Demand** A self-service platform for ARPA-H PMs and others to access key external stakeholders + ensure de-duplication of efforts.
- **Design Services and Patient Engagement** Capture the needs and perspectives of expected agency beneficiaries using design research tools and practices.
- **In-Person Discovery Trips** Targeted, deep dive trips with small groups of ARPA-H technical staff to deepen perspectives.

# ARPANET-H: Hub & Spoke Innovation Network



Connects a fragmented health ecosystem through projects, events, and collaboration opportunities

**ARPANET-H** is a nationwide health innovation network that connects people, innovators, and institutions.

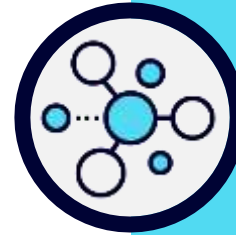
Two technical hubs\*, the **Customer Experience Hub** and the **Investor Catalyst Hub**, anchor the ARPANET-H consortium of **spokes** (network members) with physical presence across all 50 states.

Together, the hubs and spokes rapidly create and transition lifechanging health solutions to improve the lives of all Americans.

\*A third Stakeholders & Operations Hub is based in Washington, DC and coordinates with federal partners and manages ARPA-H's operations.



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## Network Surveys

Visibility into ARPA-H research priorities and program needs facilitates opportunities for spokes to **provide expert feedback** that can generate insights, address constraints, and identify new opportunities.



## R&D Opportunities

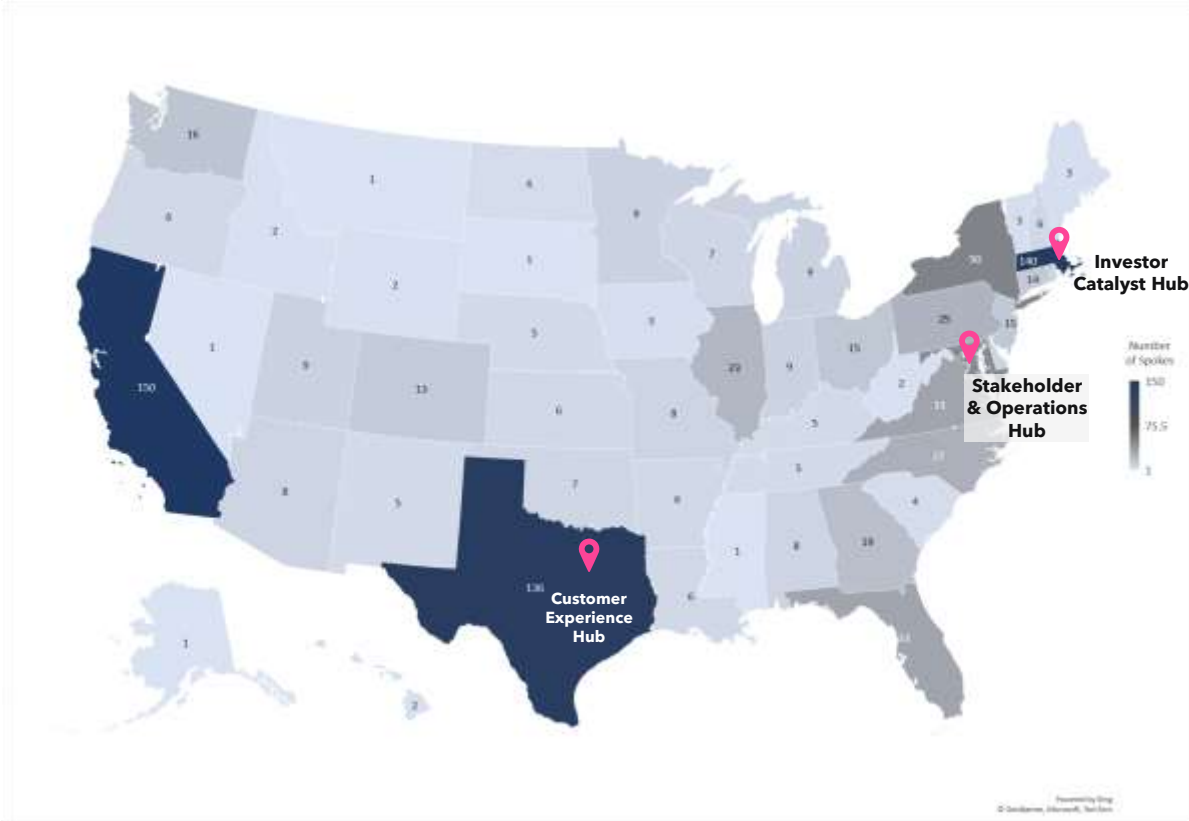
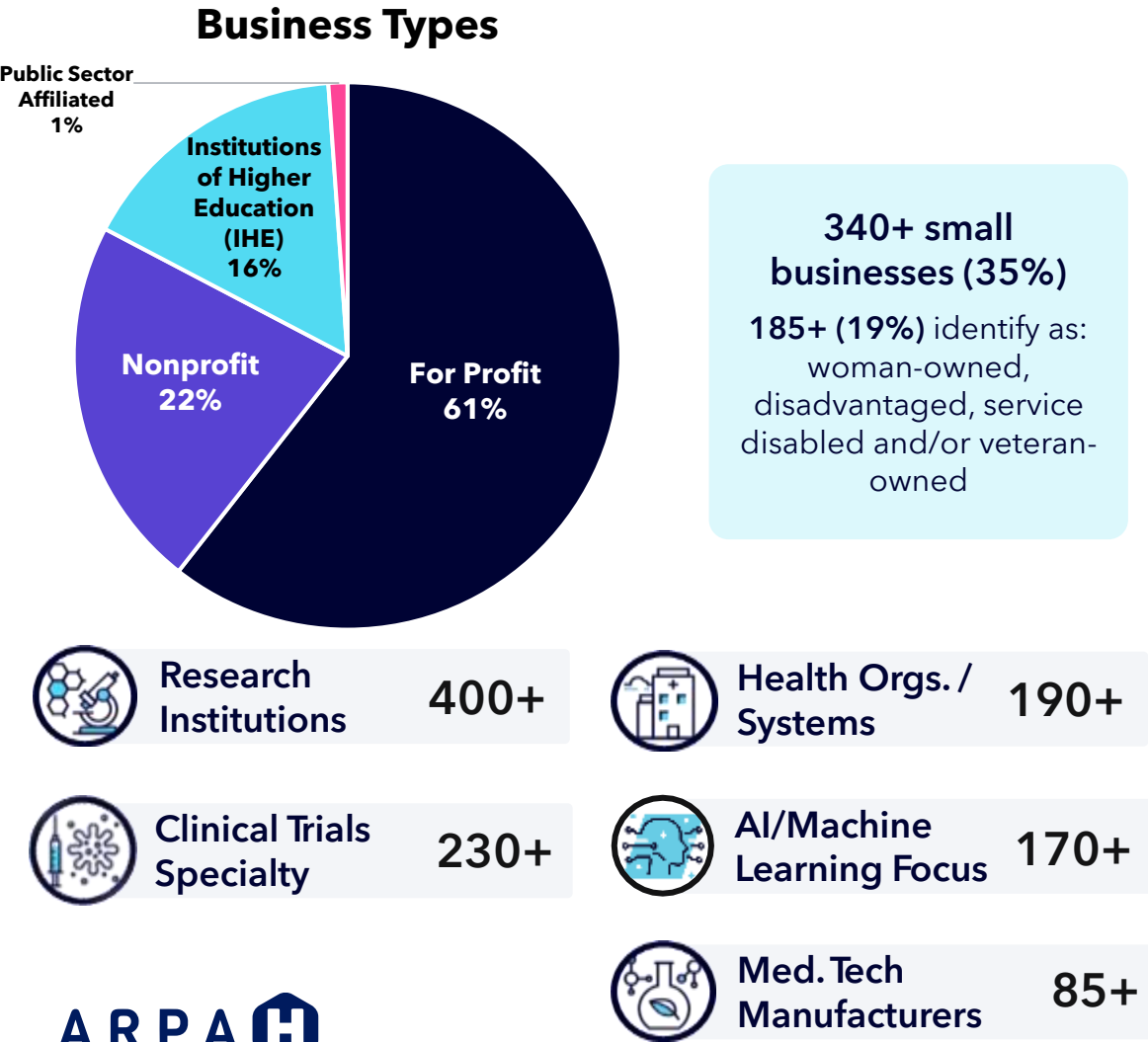
Access to **nimble funding opportunities** through easy, flexible, and efficient contracts that enable all spokes to work with the government and help new solutions get to market and ultimately the end-user.



## Network Events

The network serves as a **health ecosystem convener** that pulls together entities that may not typically work together to foster new collaborations and build a vibrant, interconnected community.

# ARPANET-H Network: Bridging disparate pieces of the health ecosystem & powering communities via ARPA-H



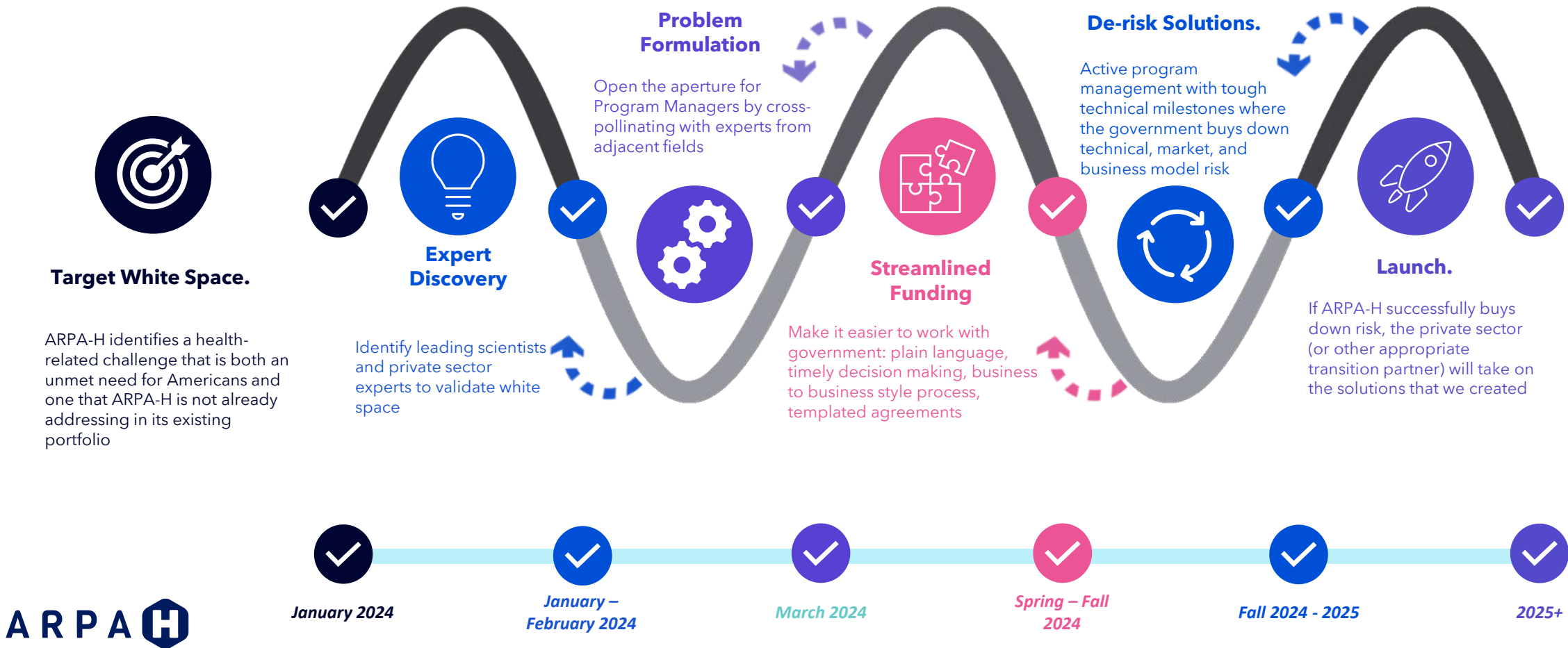
962 partners (spokes) and counting...



\*Statistics based on self-reported data; all data points as of 8/28/2024

# ARPA-H Sprint for Women's Health

Rapidly Identify & Solve High-Value Challenges



# Engage with ARPA-H



## Submit your Project Idea

Calling for proposals to outline breakthrough research and technological advancements to improve health outcomes across patient populations, communities, diseases, and health conditions



## Become a Program Manager

ARPA-H is seeking to hire Program Managers that will bring well-defined problems to ARPA-H and build the teams to solve them.



Keep up to date with the ARPA-H  
Vitals Biweekly Newsletter



## Collaborate with Us

We want to partner with State and Federal governments, community health centers, patients, caregivers, patient advocate groups to ensure we are delivering on our mission

# Where might the solution go after ARPA-H?

Work backwards: design with the end in mind

Large  
Established  
Company

Emerging  
Company with  
VC Backing

De Novo  
Startup

Health Care  
System

Other Gov  
Agency

Scaled NGO  
or Non-Profit

Startup NGO  
or Non-Profit

Fast Fail &  
Early  
Offramps

# ARPA-H's Project Portfolio Snapshot: What if...?



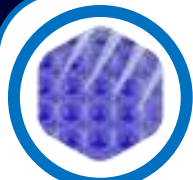
## CUREIT

What if incurable, debilitating diseases could be easily treated through mRNA-encoded therapies that tune your immune system?



## THOR

What if we could boost therapy response rates to peritoneal or solid tumor malignancies from 10% to 50%?



## SPIKEs

What if programmable bacteria could be directed to kill cancer inside the body?



## CODA

What if a single system could detect a broad range of cancers at the earliest stages of formation?



## DARTS

What if we could identify antibiotic-resistant bacteria in minutes?



## CDTR

What if thymus function and immunity could be restored by a simple injection?



## HEART

What if we could 3D print a human heart in an hour?



## REO

What if a pill sized device could be swallowed to deliver treatment for diabetes and obesity without the need for surgery?



## PIC-OCT

What if eye disease could be easily diagnosed at low cost with a device not much larger than a cell phone?



## MATRIX


What if we could immediately determine if previously FDA-approved drugs would be useful for treating rare and/or untreatable diseases?



## CT-NEURO

What if brain-sensing therapeutic cells were able to detect and treat a broad range of neurological diseases?


# ARPA-H's Program Portfolio Snapshot: What if...?



**PRINT**

What if we could bioprint any organ on demand?


PM:  
Launch Date:



**EMBODY**

What if your own immune system could manufacture cures for devastating diseases?


PM:  
Launch Date:



**BREATHE**

What if buildings actively protected the people inside from respiratory disease?

PM:  
Launch Date:



**LIGHT**

What if we could render the once invisible lymphatic system visible?

PM:  
Launch Date:

# ARPA-H's Program Portfolio Snapshot: What if...?



## NITRO

What if we could make our joints heal themselves?

**PM:** Ross Uhrich, DMD, MBA  
**Launch Date:** May 18, 2023



## PSI

What if surgeries fixed problems flawlessly, the first time?

**PM:** Ileana Hancu, Ph.D.  
**Launch Date:** July 27, 2023



## DIGIHEALS

What if we could strengthen the nation's digital health infrastructure to protect against cyberattacks?

**PM:** Andrew Carney  
**Launch Date:** August 17, 2023



## BDF

What if next generation tools can synthesize and speed the use of health research data?

**PM:** Andrea Bild, Ph.D.  
**Launch Date:** Sept 13, 2023



## REACT

What if your body could make its own medicine?

**PM:** Paul E. Sheehan, Ph.D.  
**Launch Date:** Sept 29, 2023



## APECX

What if we could eliminate viruses as current and future health burdens?

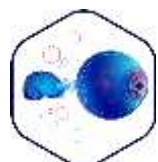
**PM:**  
**Launch Date:**



## HEROES

What if we could create a sustainable national healthcare market that rewards prevention?

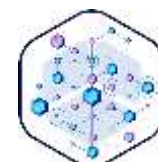
**PM:**  
**Launch Date:**



## THEA

What if we could restore vision to those who are blind?

**PM:**  
**Launch Date:**



## PARADIGM

What if we could deliver advanced hospital-level care to every rural county in America?

**PM:**  
**Launch Date:**



## ADAPT

What if we could adapt cancer treatments as tumors mutate and change?

**PM:**  
**Launch Date:**

# ARPA-H's Portfolio Snapshot

## ARPA-H Sprint for Women's Health



ARPA-H is committing \$100 million to galvanize the innovator, investor, researcher, and patient advocate communities to spur innovation in women's health.

## Artificial Intelligence Cyber Challenge (AIxCC)



Joining with DARPA, ARPA-H is committing \$20M to AIxCC. AIxCC is a two-year competition that asks competitors to design novel AI tools and capabilities to find and fix vulnerabilities in software used in critical infrastructure.