

ARPA•H

**ARPA-H:**

**The Advanced Research Projects  
Agency for Health**

---

2022 Korean Bioeconomy Forum

August 29, 2022

# ARPA-H's Why, How, & What



Adam Russell, D.Phil.  
Acting Deputy Director, ARPA-H

**Empower. Accelerate. Demonstrate.**

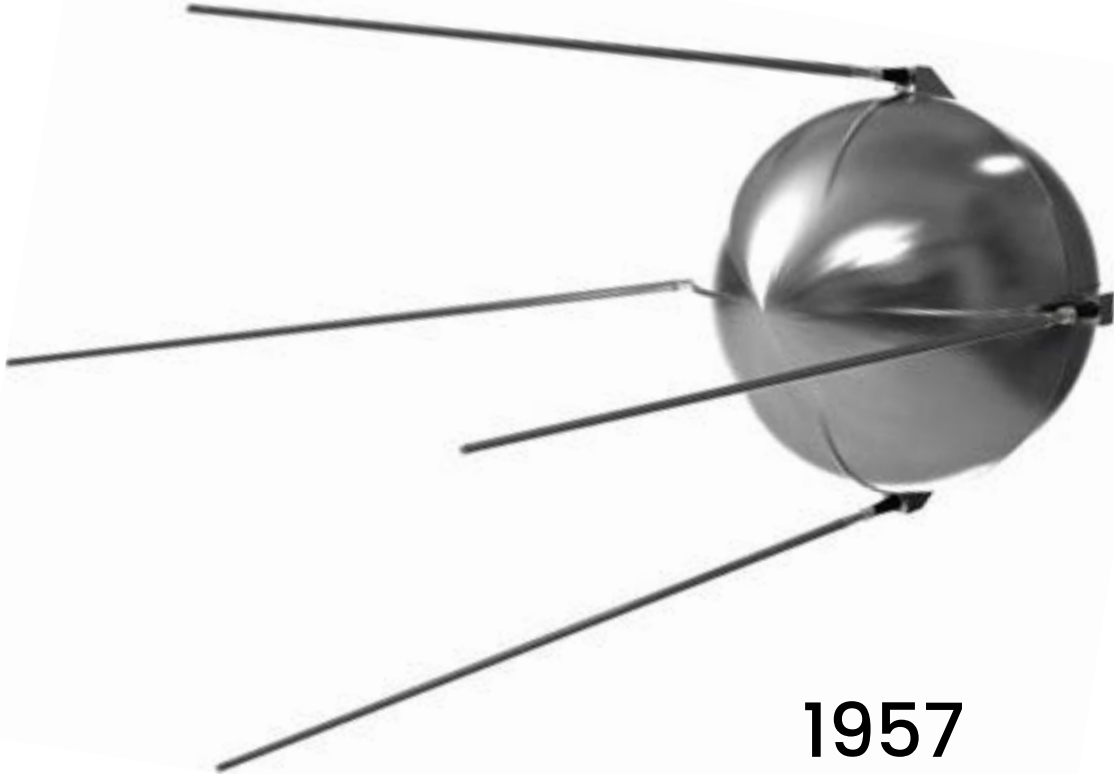
## ARPA-H's "Why"

---

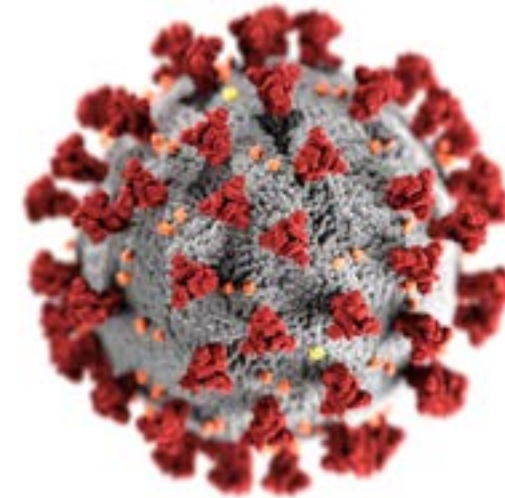
ARPA·H



# Strategic Surprise?



1957

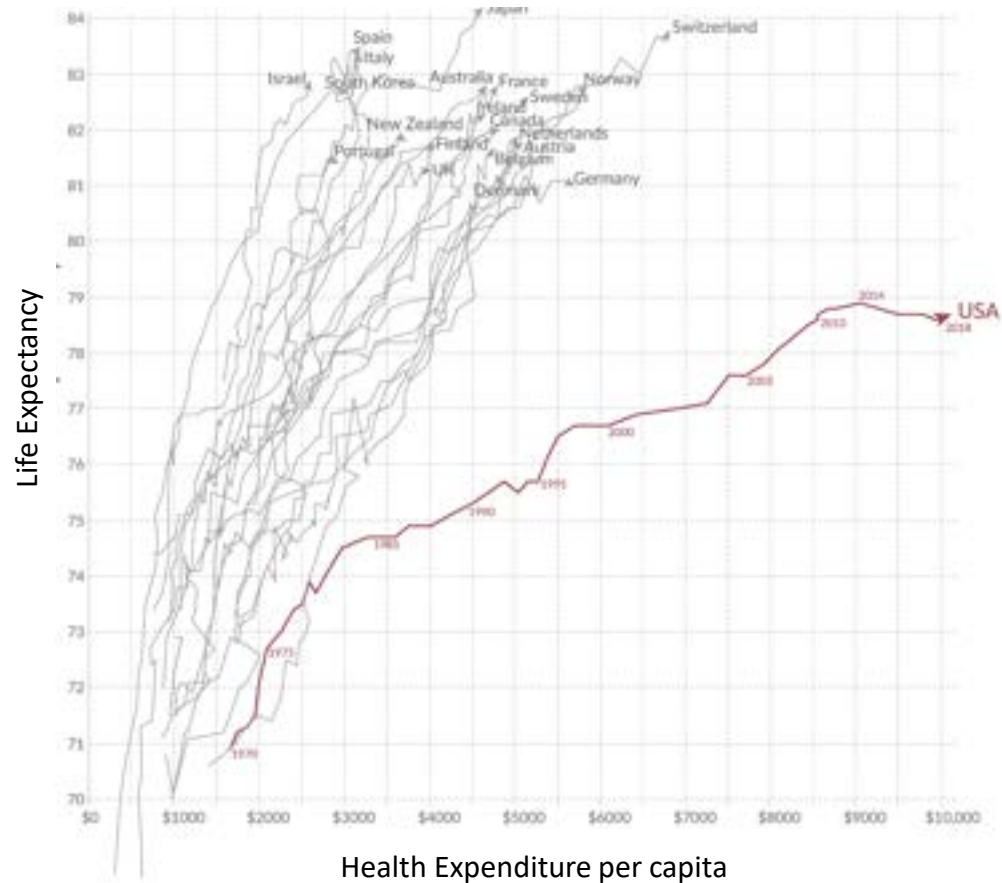


2019

# Why now?

- COVID
- Neurodegenerative diseases
- Addiction
- Obesity
- Depression and suicide
- Infant mortality
- AD, cancer, diabetes

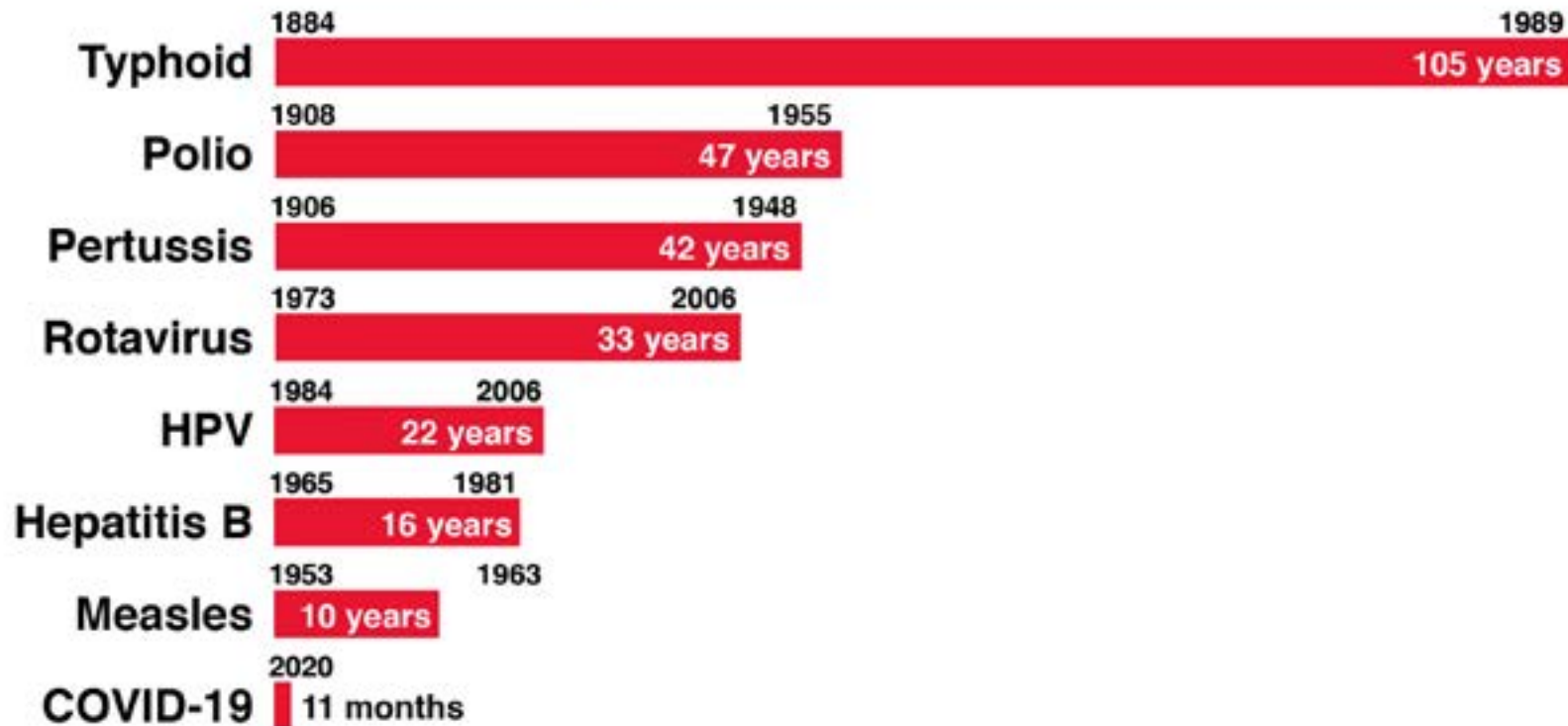
## Life expectancy vs. Health Expenditure From 1970-2018



Health Expenditure per capita  
Adjusted for inflation and price difference between countries (PPP)  
Source: ourworldindata.org

# We've seen what urgency and technology can do for infectious disease...

## Time to Develop a Vaccine



Duration between discovery of microbiologic cause of selected infectious diseases and development of a vaccine.

Adapted from AVAC

# What if we could do this across all of health?



- Develop mRNA vaccines to prevent most cancers



- Make sleep easier, more energizing and healing



- Create accessible, on-demand health data to manage chronic disease



- Help people find accurate, relevant health information that they can trust

# Our Vision

**Empower** all of us to realize our health potential.



# ARPA-H's "How"

---

ARPA·H

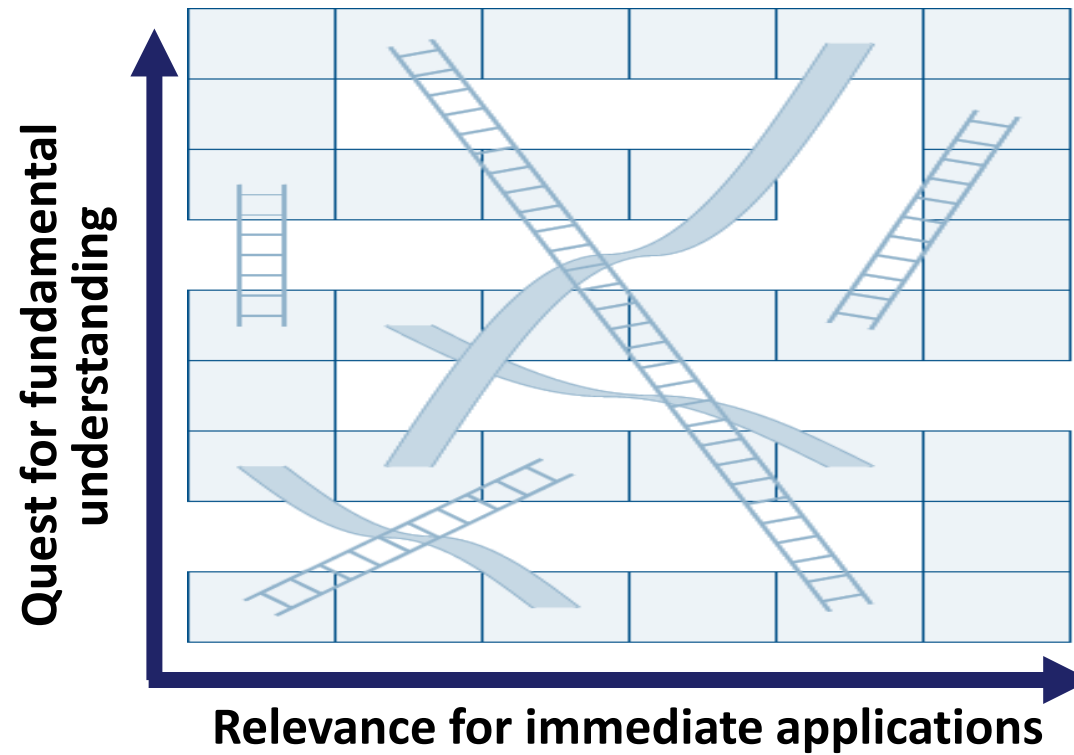
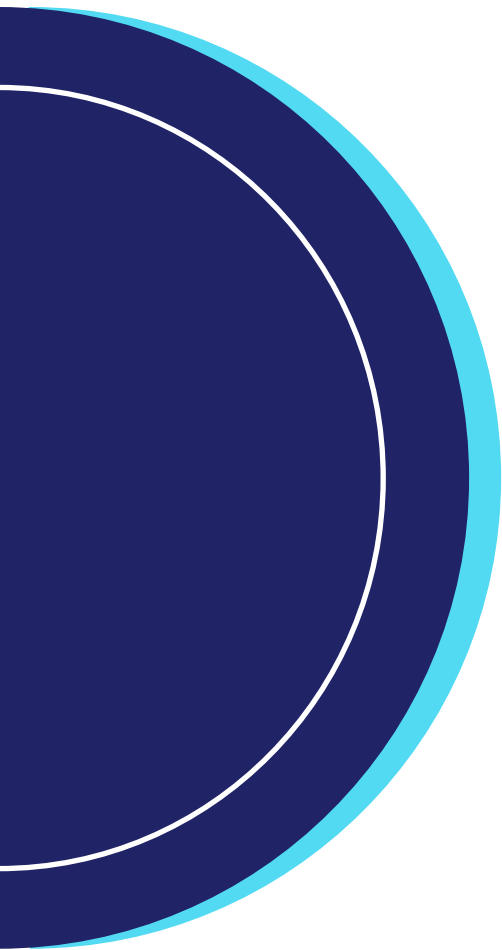


# Our Mission

Create and **accelerate** high-impact health solutions for well defined problems.

**Demonstrate** what health futures are possible for all.

# Pasteur's Quadrant



<https://tex.stackexchange.com/questions/85411/chutes-and-ladders>



# ARPA-H's "How"

What makes ARPA-H tick

1

## Program Manager Centric

Responsible for programs from proposal to transition

## Mission-Driven

Not requirement- or task-driven

2

## Lean, Nimble Organization

Relatively small-sized; limited hierarchy

## Independent and Autonomous

Top-level support and cover

3

## High Uncertainty-High Return

"ARPA hard"; demonstrates possibility; failure is accepted

## Active Program Management

Quantitative metrics

4

## Time-Bound and Urgent

Programs *and* PMs have start and end dates

## Accountability

Technical gates; stage-gating

# ARPA-H/Qs: The Heilmeier Questions

- 1 What problem are we 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? *How can we help ensure outcomes are equitable?\**
- 5 What are the risks?
- 6 How long will it take?
- 7 How much will it cost?
- 8 What are our mid-term and final exams to check for success?

*\*Newly proposed for ARPA-H  
Pending inaugural director's approval*

# Creating Reproducible Health Revolutions

## Intelligible Failure

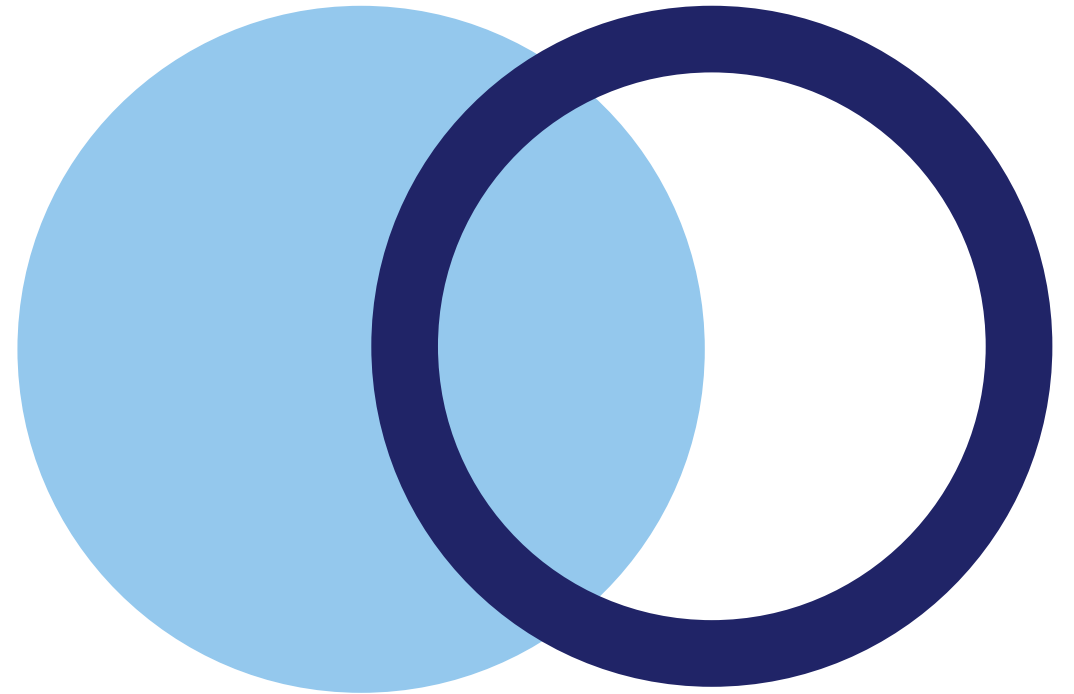
- **Good Problems:** clearly important, clearly hard, and clearly measurable. "The only real failure is the one we learn nothing from."

## Metascience

- **Permanent Beta:** "science is a way of trying not to fool yourself. The principle is that you must not fool yourself, and you are the easiest person to fool."

## Test and Evaluation

- **Trust but Verify:** "It's not what you don't know that will hurt you. It's what you know for certain that just ain't so."



# ARPA-H's "What"

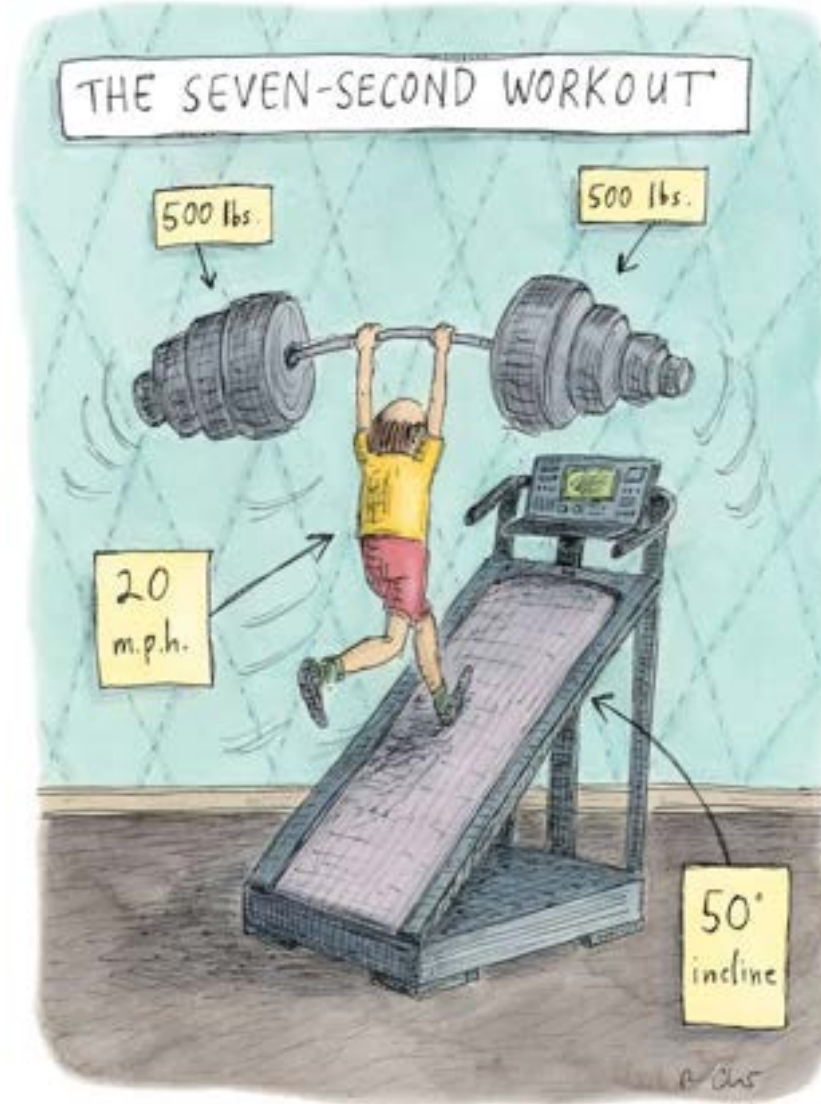
---

ARPA·H



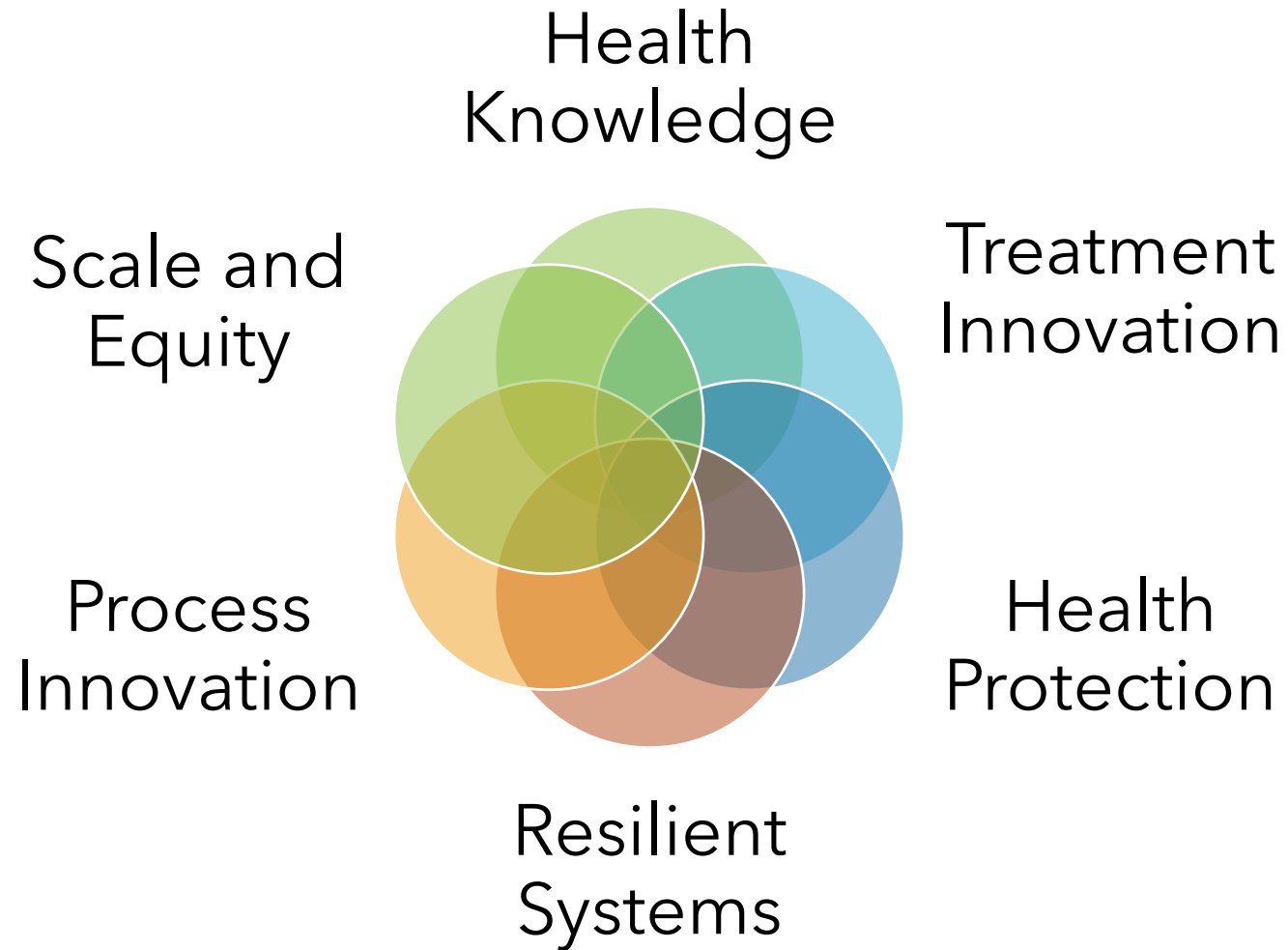
# Fighting the "Quick Win" Mentality

The Risks of Shortcuts



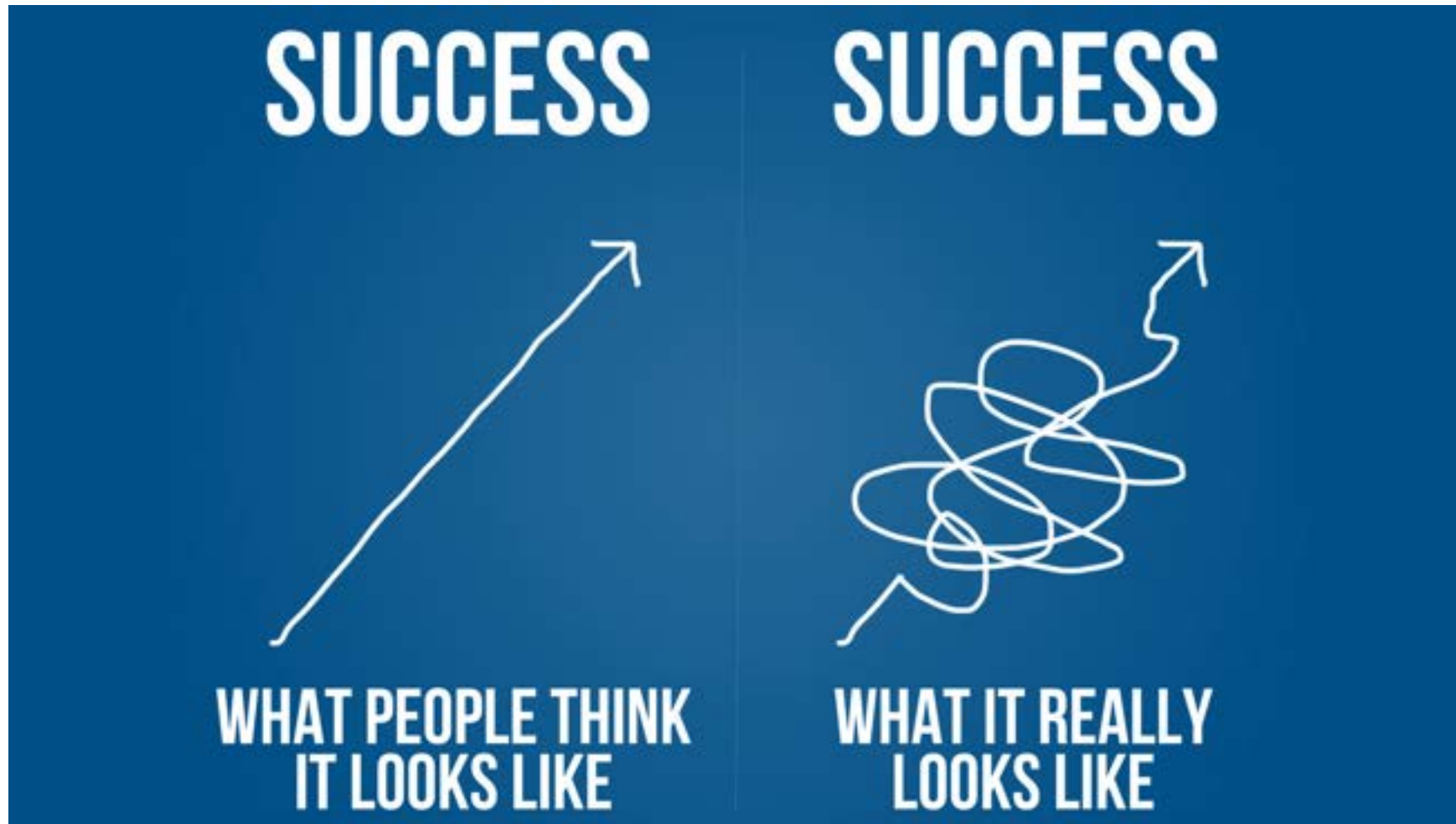


# What are some potential "Big Levers" for ARPA-H?





# "LO": A Reminder



# ARPA•H

**We're building our foundation now and the first channels we'll launch in the coming months will be our website [arpa-h.gov](http://arpa-h.gov) and LinkedIn**

**In the meantime, for more information, questions, or comments, please reach out to [arpahcomments@arpa-h.gov](mailto:arpahcomments@arpa-h.gov)**

# Thank you

---