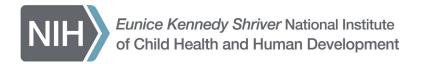
Responsible scientometrics: all of the questions; none of the answers

Chris Belter, Program Analyst, NICHD

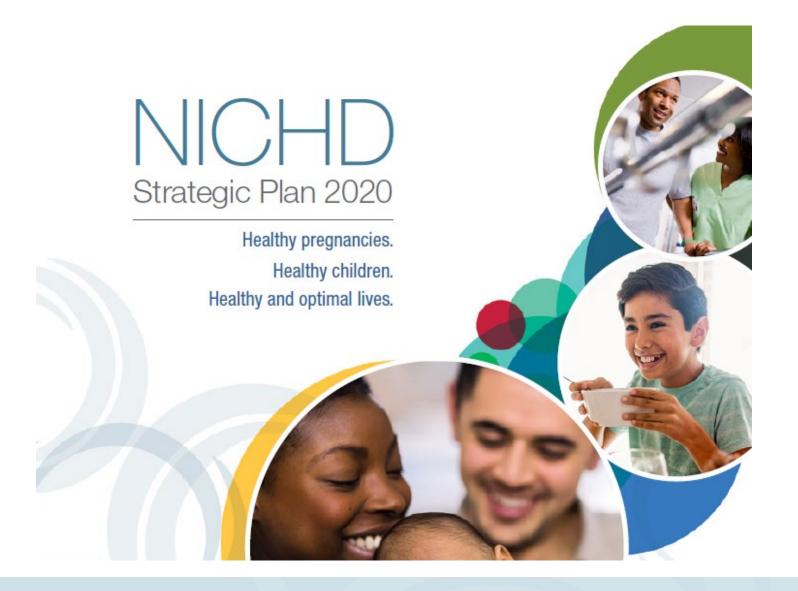


Some disclaimers

- All opinions are my own and do not necessarily reflect those of NICHD, the NIH, or the US Government
- All data are unofficial and provided for demonstration purposes only



Background: About NICHD





Background: About my job

 Ensure that analyses are used responsibly

- Design and conduct analyses to inform NICHD funding decisions
- Provide guidance on the use of data and analyses for decision-making
- Coordinate analytical activities across the Division of Extramural Research



The balancing act

Responsibility

Feasibility

Avoiding "turn-key" evaluation

Access hurdles

Ensuring accuracy

Staff availability

Effects of indicator use

Scale of operations



The question

How do we use data to inform our decisions in a way that is both **responsible** and **feasible**?





Lesson Learned #1: Measure what you care about

Some theory

From Library Science:

• We don't ask for what we need; we ask for what we think we can get

From Evaluation:

Assess programs based on what they are trying to accomplish

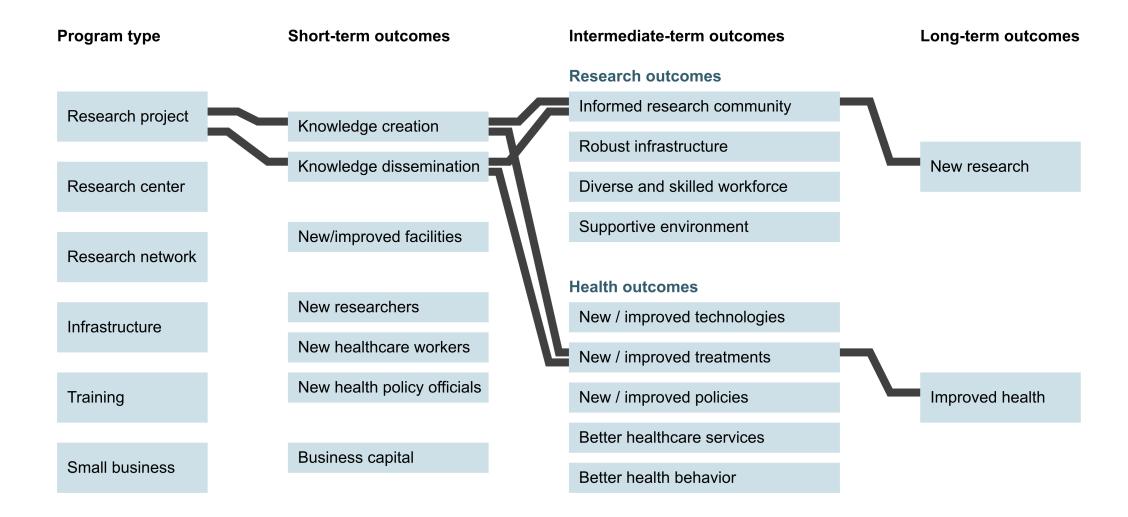


Example: Draft program evaluation framework

Program type	Short-term outcomes	Intermediate-term outcomes	Long-term outcomes
		Research outcomes	
Research project	Vnovlodge erection	Informed research community	
	Knowledge creation	Robust infrastructure	
Research center	Knowledge dissemination	Diverse and skilled workforce	New research
Research network	New/improved facilities	Supportive environment	
Research network		Health outcomes	
Infrastructure	New researchers	New / improved technologies	
imastructure	New healthcare workers	New / improved treatments	
Training	New health policy officials	New / improved policies	Improved health
		Better healthcare services	
Small business	Business capital	Better health behavior	

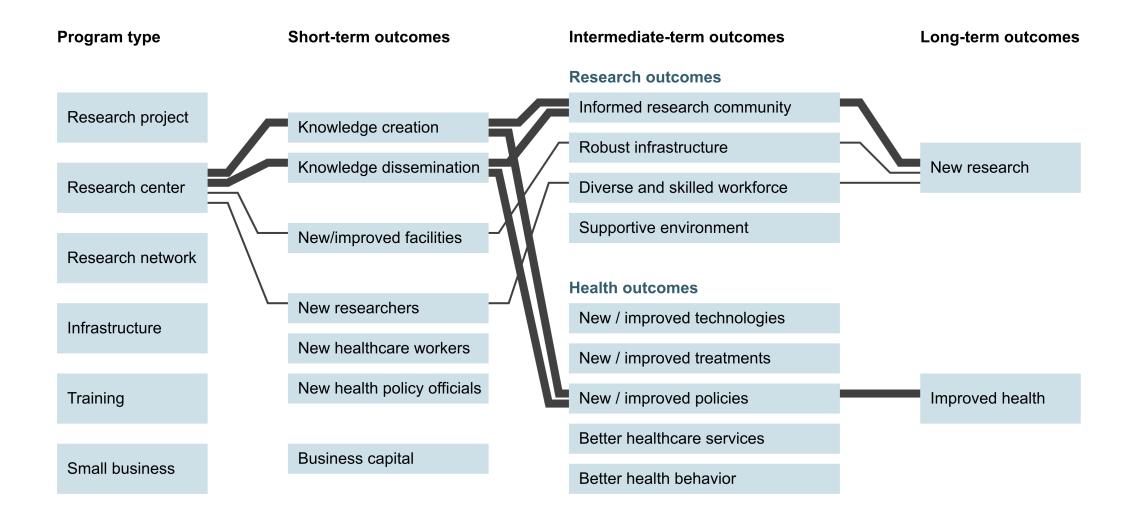


Impact for a clinical research project



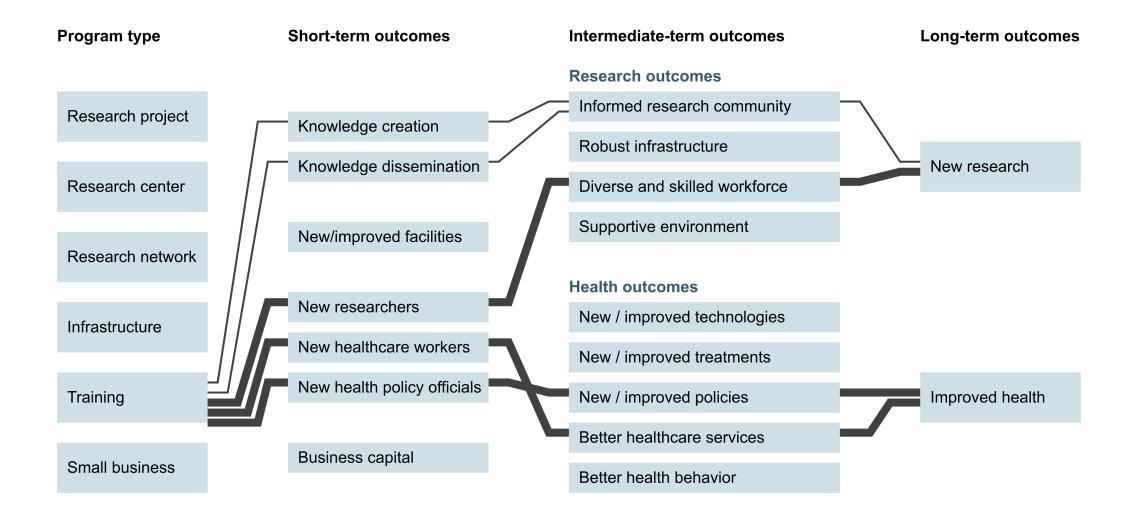


Impact for a sociological research center





Impact for a training program





Develop measures based on the framework

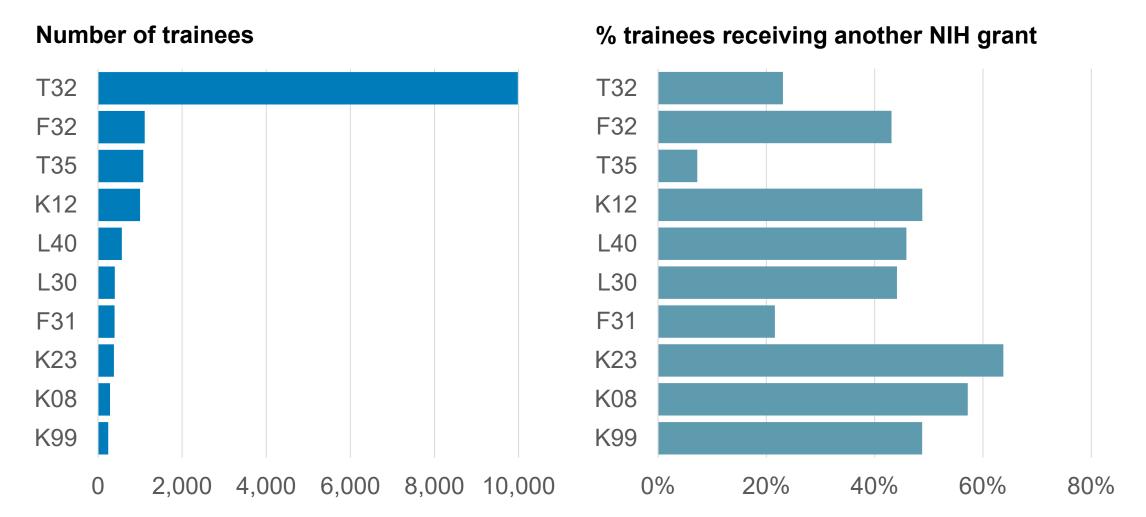
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		Better healthcare services	
Small business	Business capital	Better health behavior	





Lesson Learned #2: Never take a measure at face value

Example 1: NICHD training grants





Trainees vs. applicants

Number of trainees % applicants receiving another NIH grant T32 T32 F32 F32 T35 T35 K12 K12 L40 L40 L30 L30 F31 F31 Applied for NIH K23 K23 funding K08 K08 ■ Did not apply for NIH funding K99 K99

0%

20%

40%

60%



80%

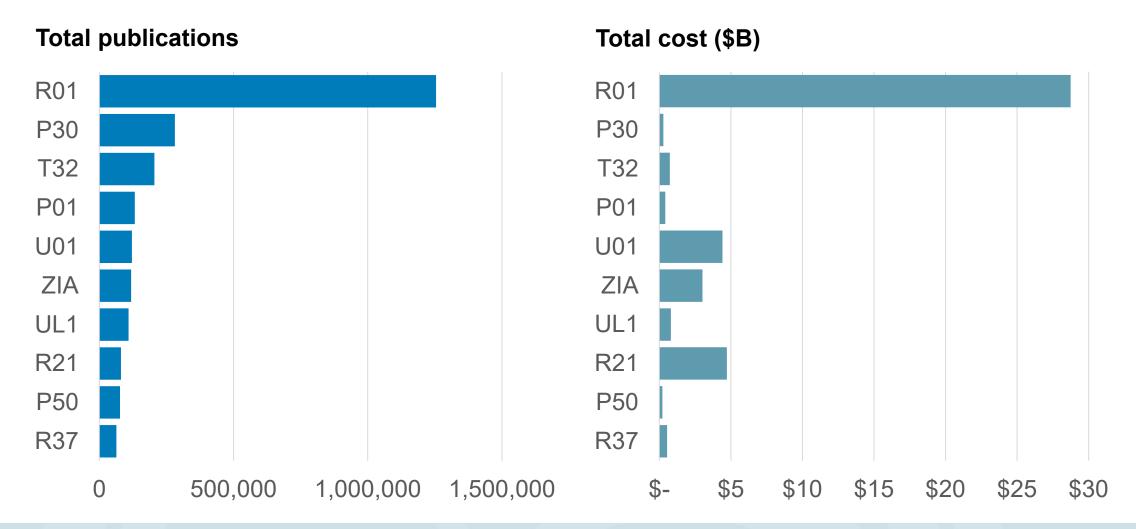
2,000

4,000

6,000

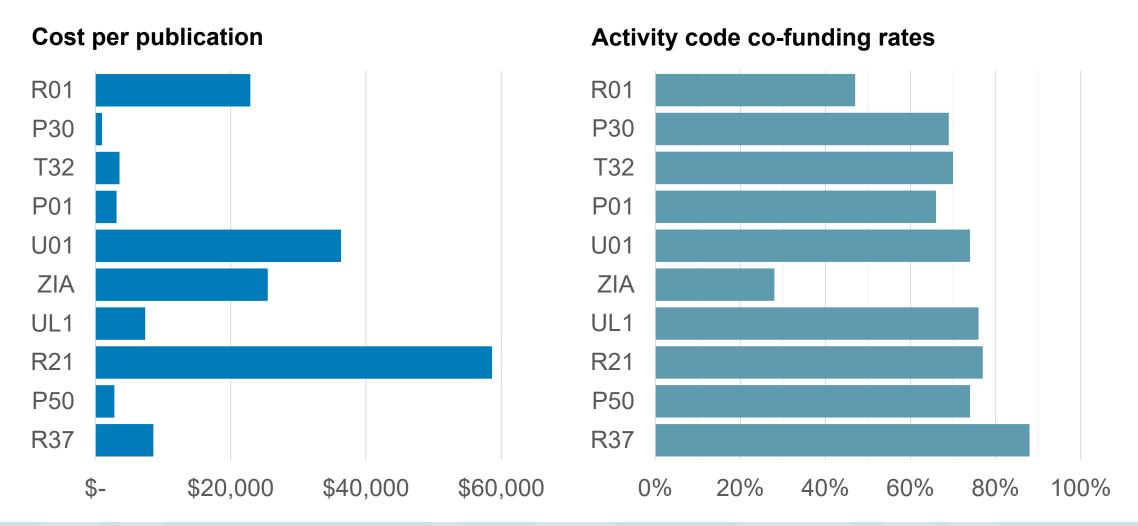
8,000 10,000

Example 2: Productivity of NIH activity codes





Publication cost estimates?





Reminder: publication ≠ validity





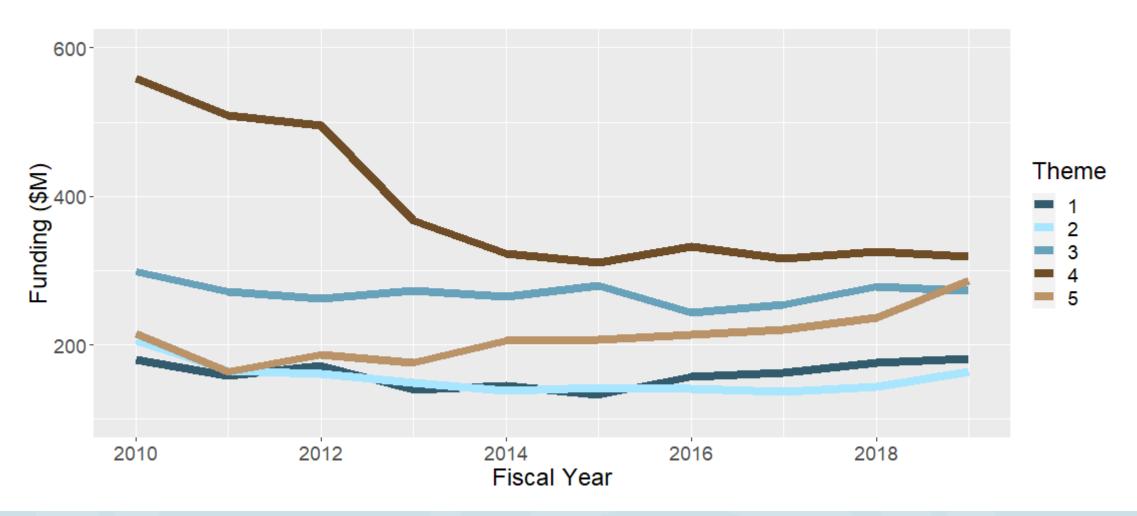
Lesson Learned #3: Measures can't make decisions

NICHD Strategic Plan Themes

Theme	Color	Description
Theme 1		Understanding the molecular, cellular, and structural basis of development
Theme 2		Promoting gynecologic, andrologic, and reproductive health
Theme 3		Setting the foundation for healthy pregnancies and lifelong wellness
Theme 4		Improving child and adolescent health and the transition to adulthood
Theme 5		Advancing safe and effective therapeutics and devices for pregnant and lactating women, children, and people with disabilities

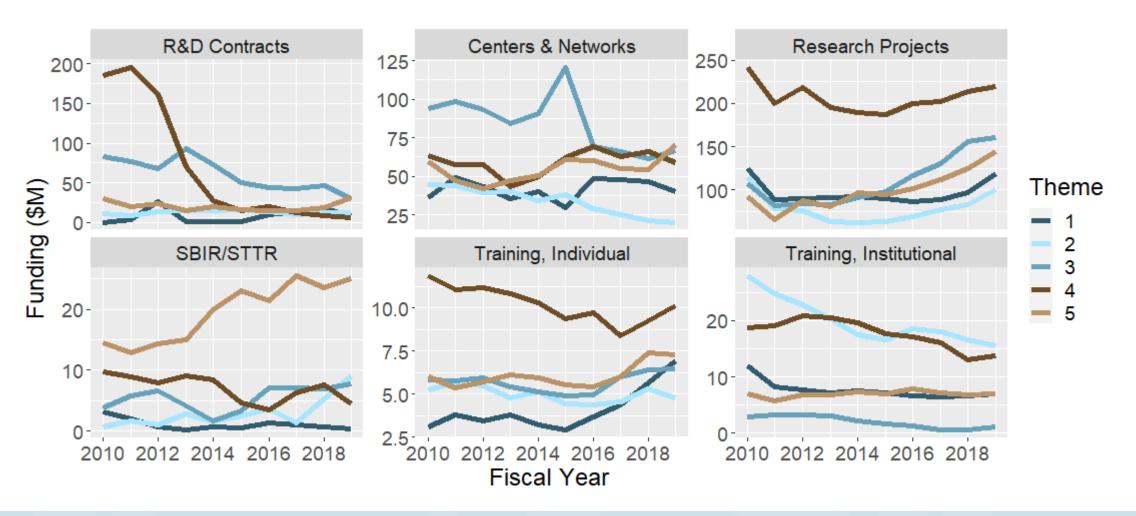


NICHD funding per theme per year (all awards)





NICHD funding per theme per year (by award type)

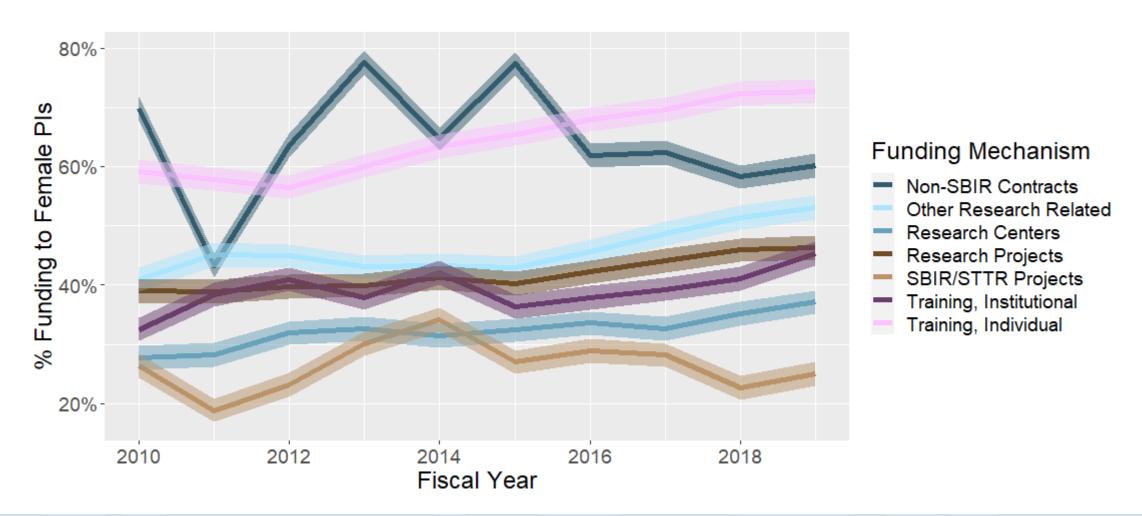






Take-home message:
Use analyses to help you ask the right questions

Example: Estimated NICHD funding to female Pls





Questions?

