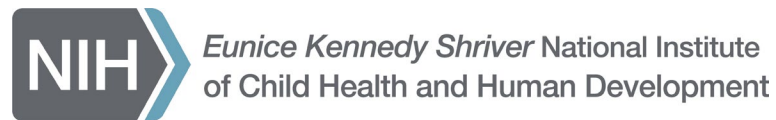


Responsible scientometrics: all of the questions; none of the answers

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

NICHD Strategic Plan 2020

Healthy pregnancies.
Healthy children.
Healthy and optimal lives.

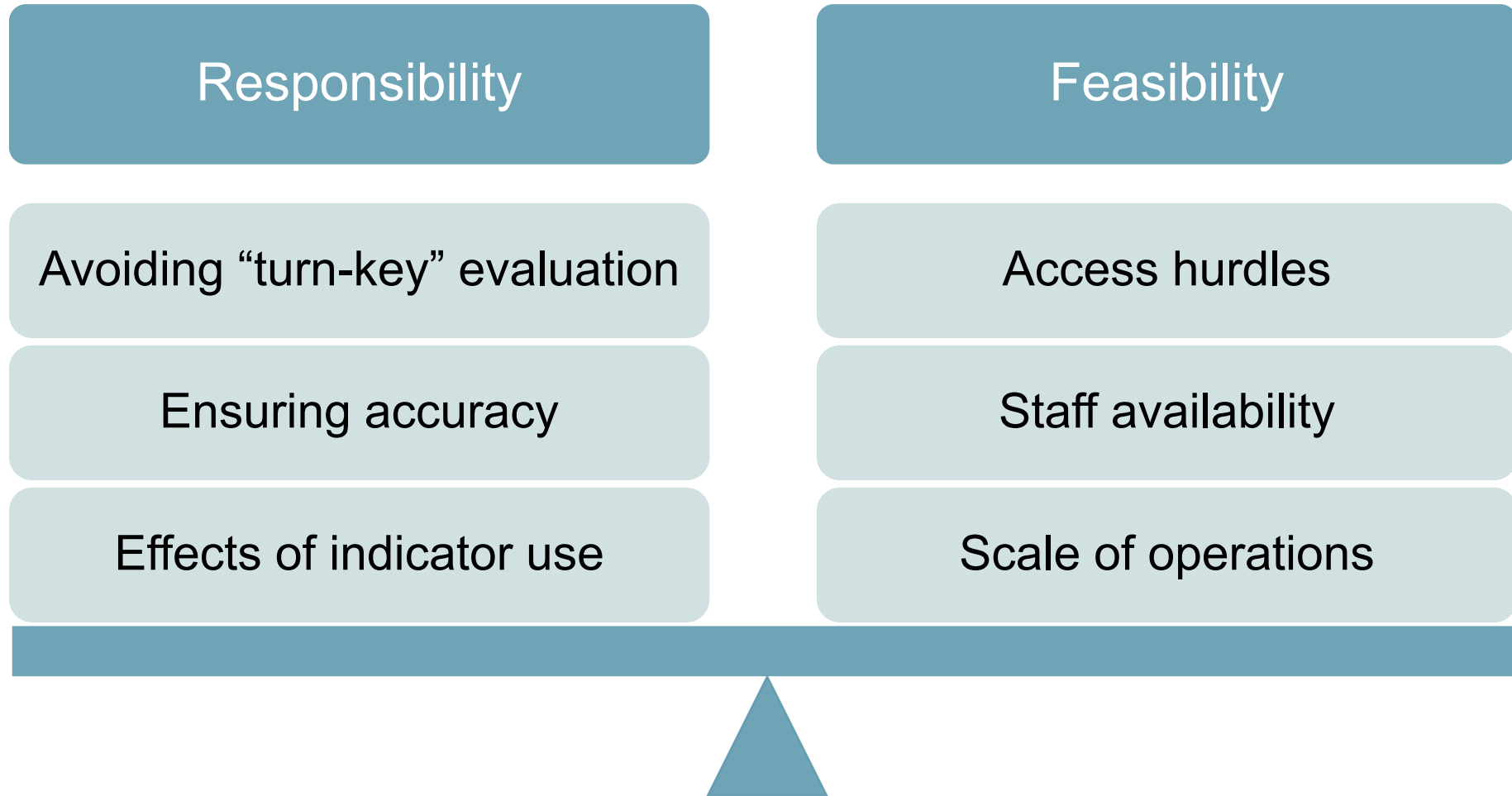


Background: About my job

- 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



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:

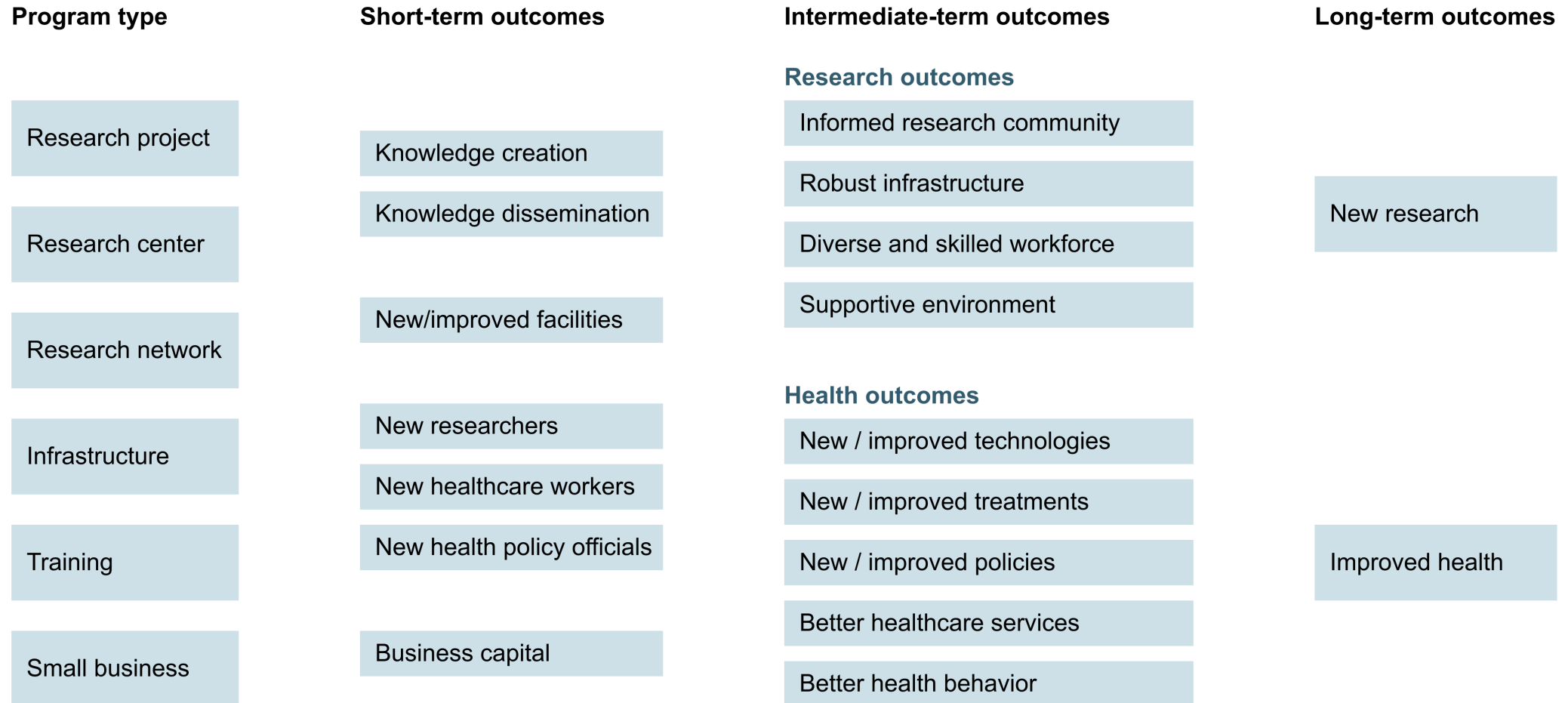
- We don't ask for what we need; we ask for what we think we can get

From Evaluation:

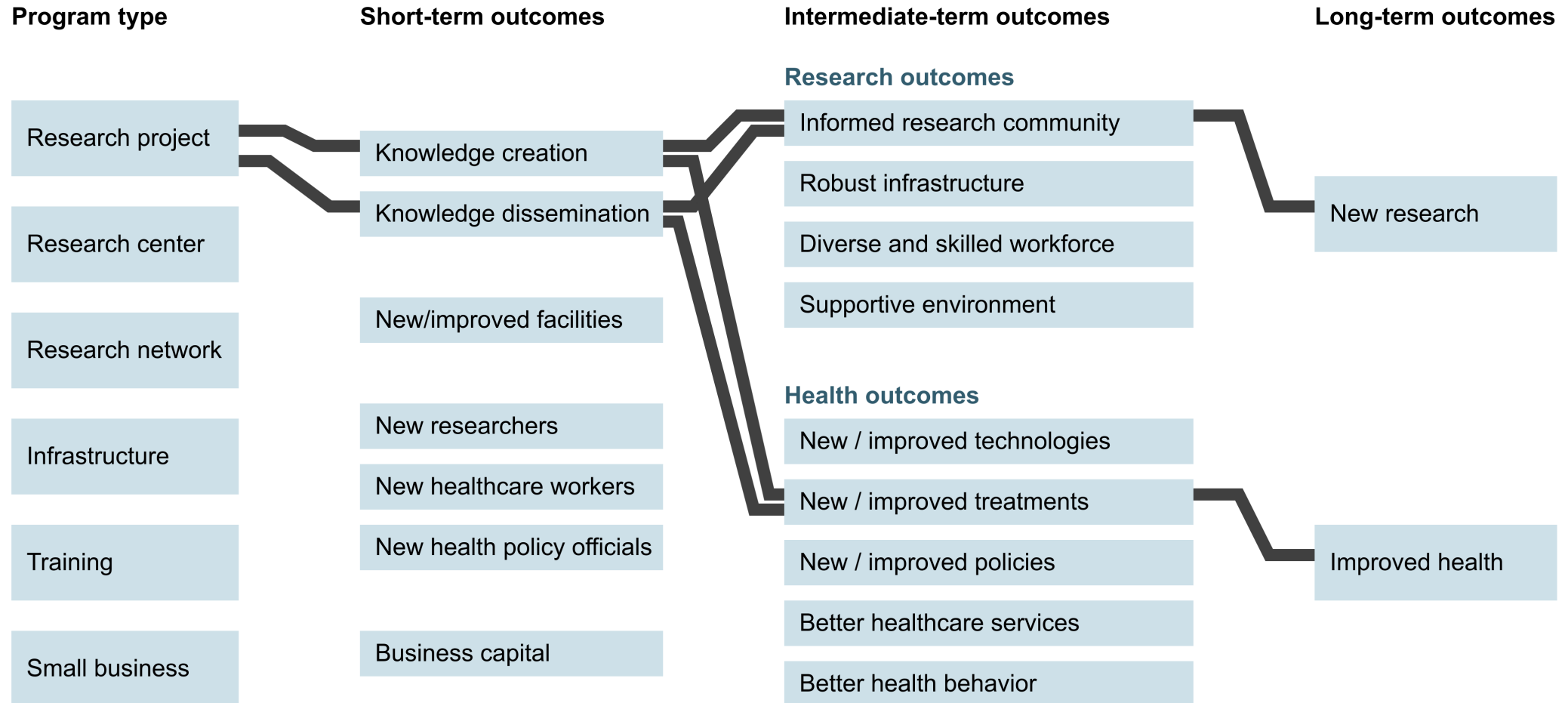
- Assess programs based on what they are trying to accomplish



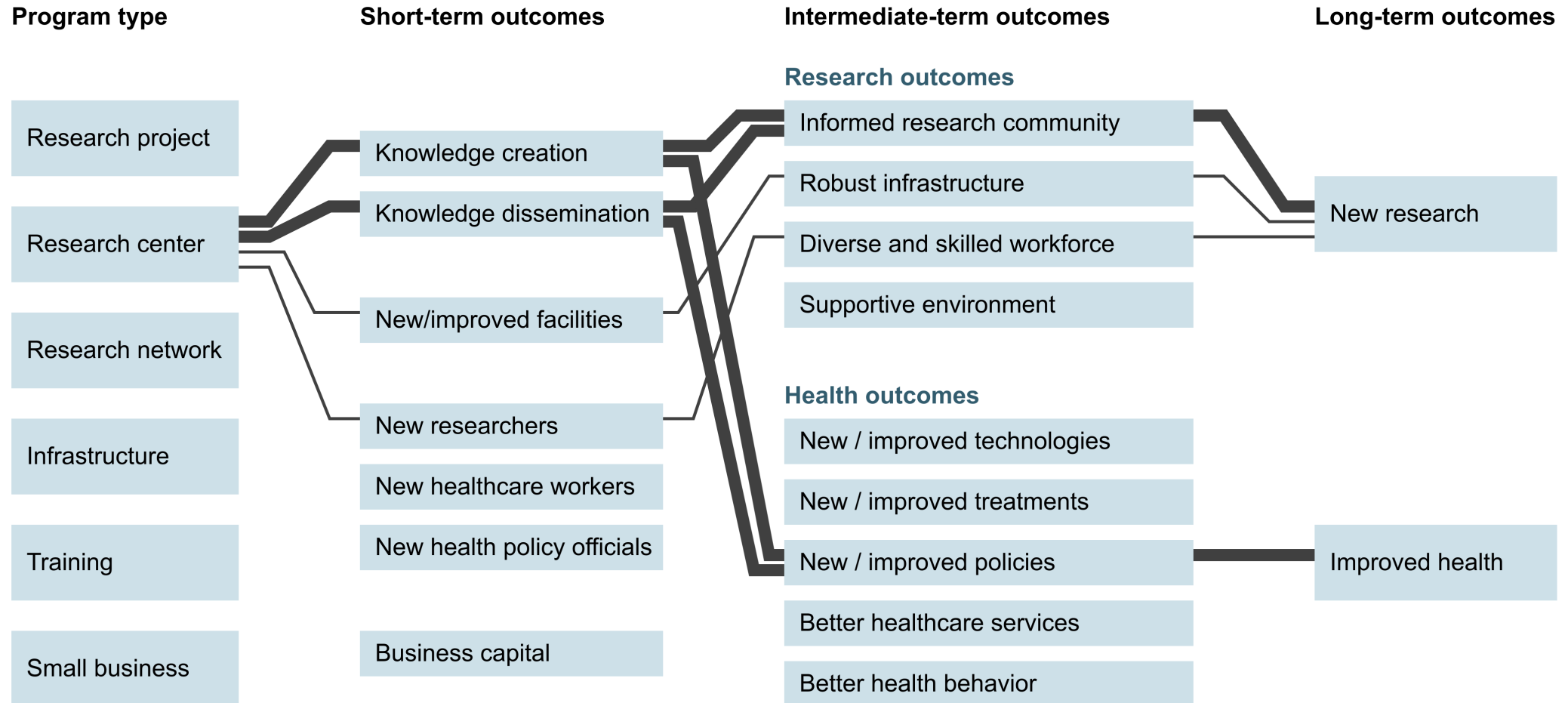
Example: Draft program evaluation framework



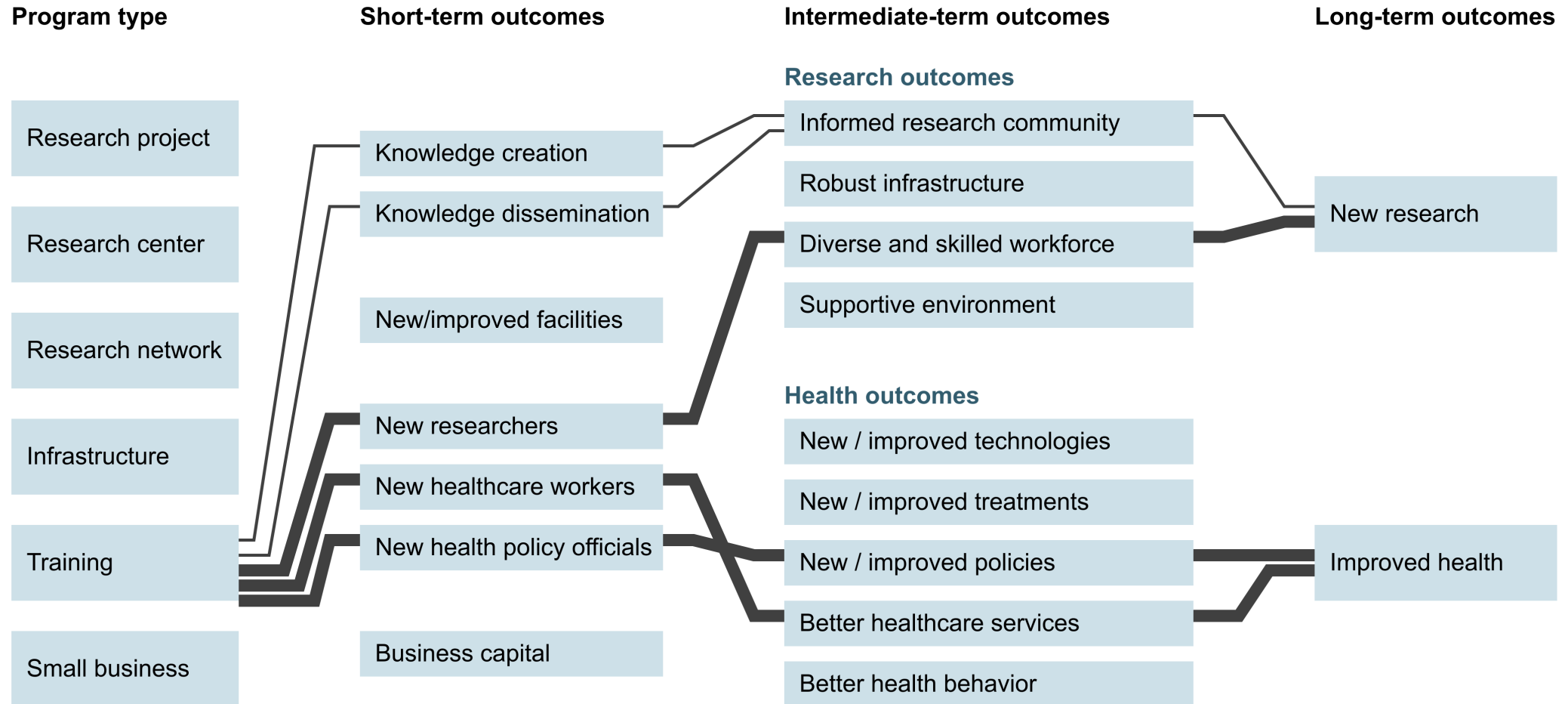
Impact for a clinical research project



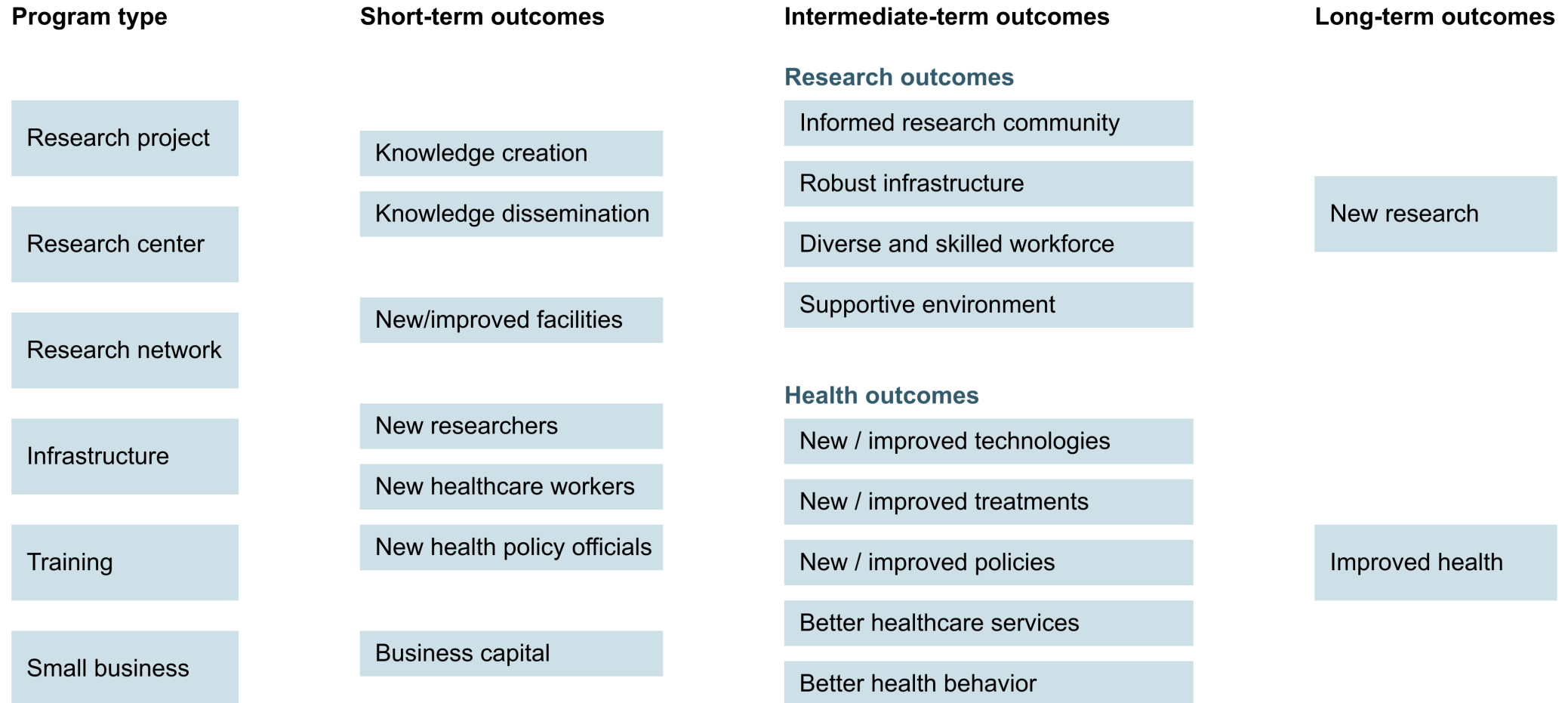
Impact for a sociological research center



Impact for a training program



Develop measures based on the framework

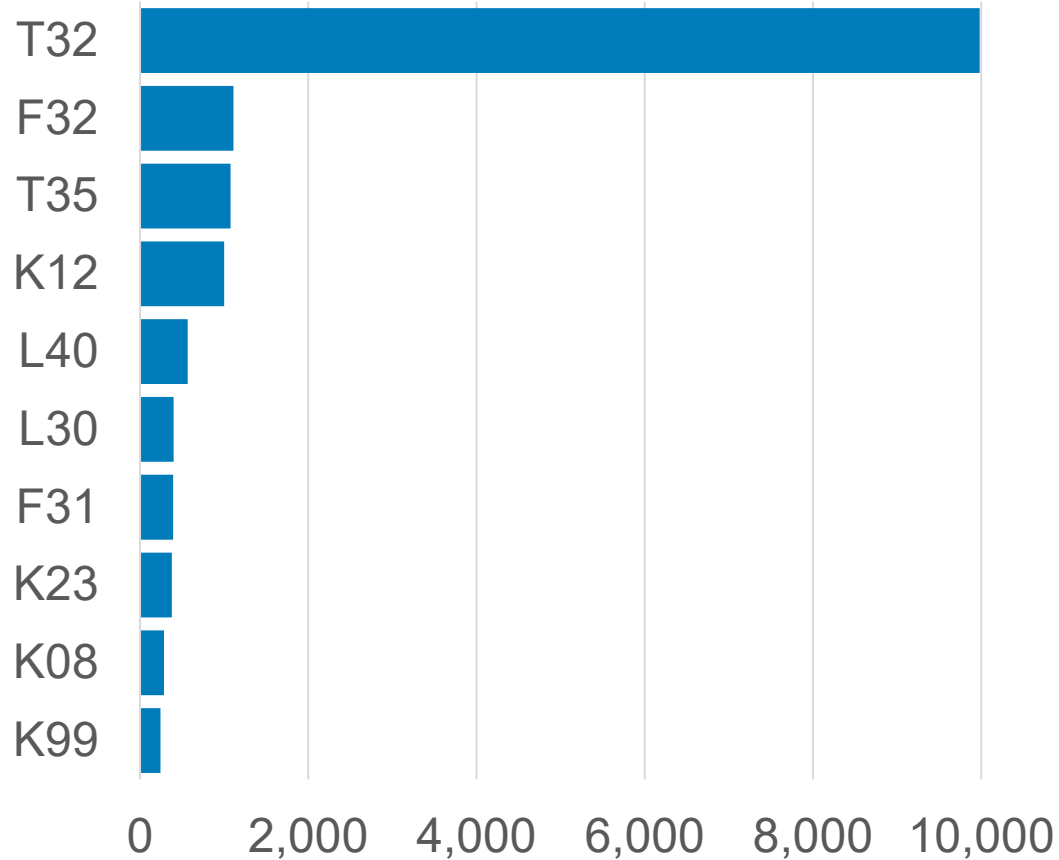




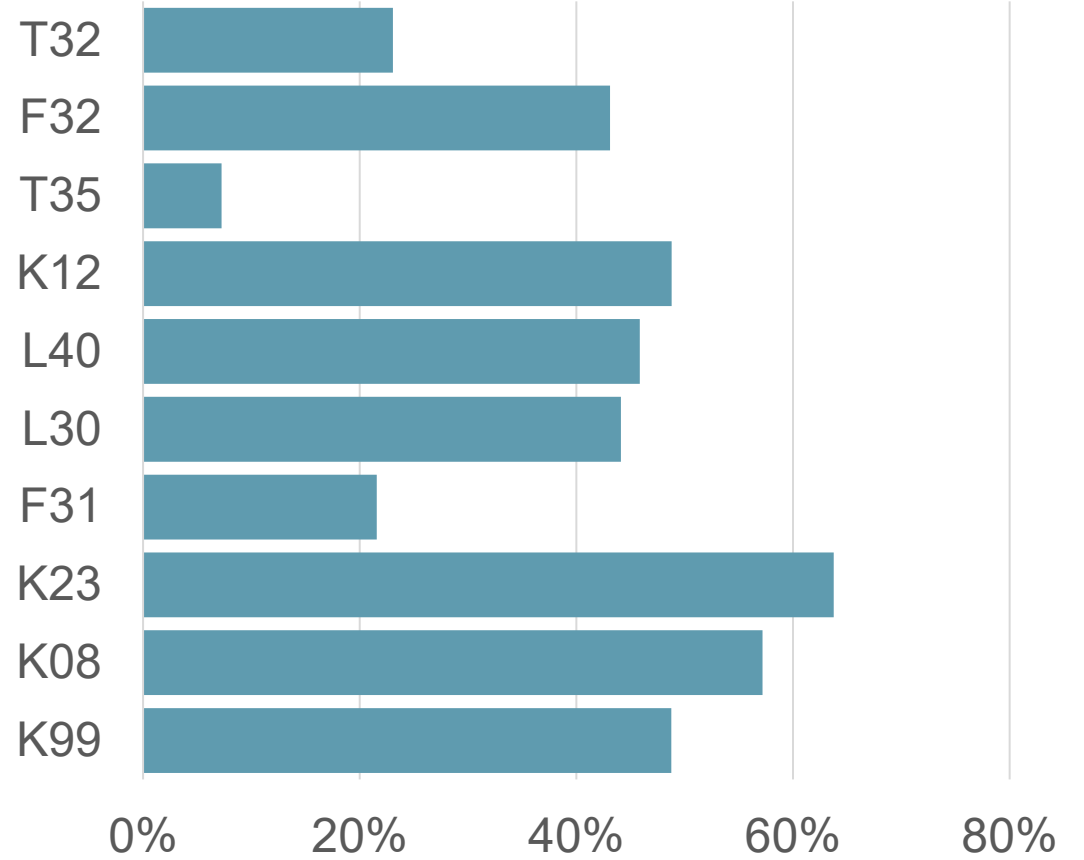
**Lesson Learned #2:
Never take a measure at face value**

Example 1: NICHD training grants

Number of trainees

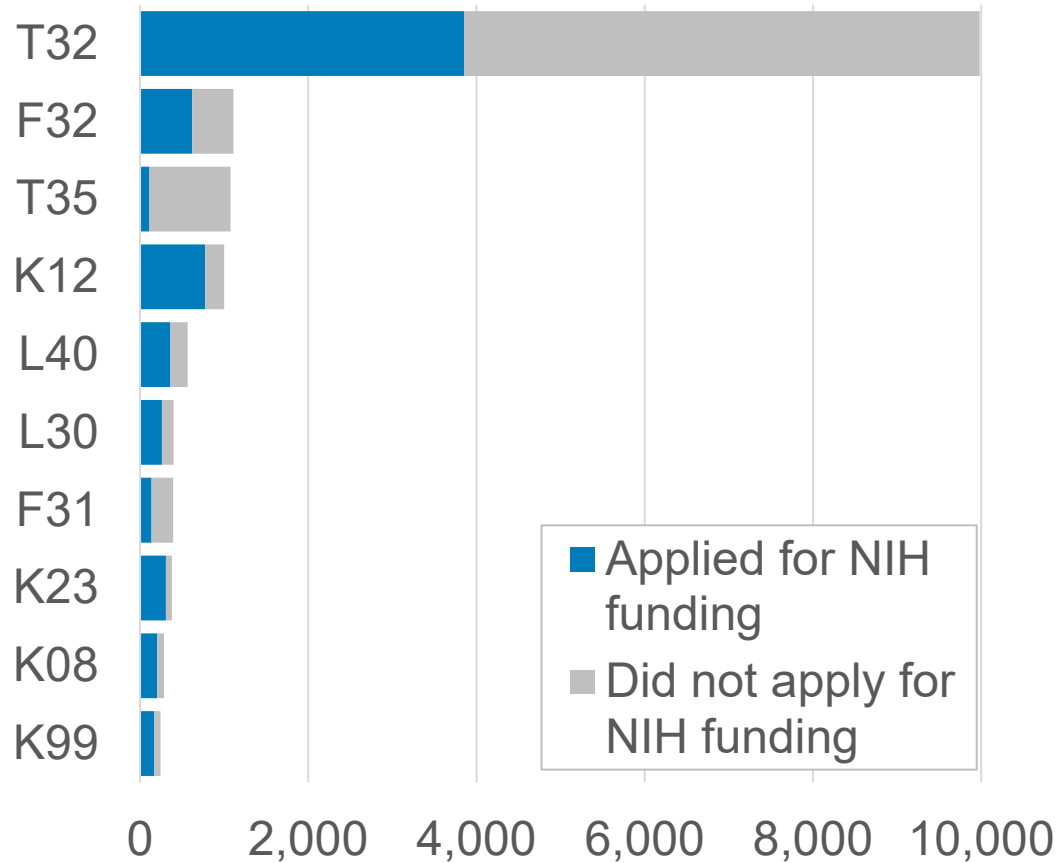


% trainees receiving another NIH grant

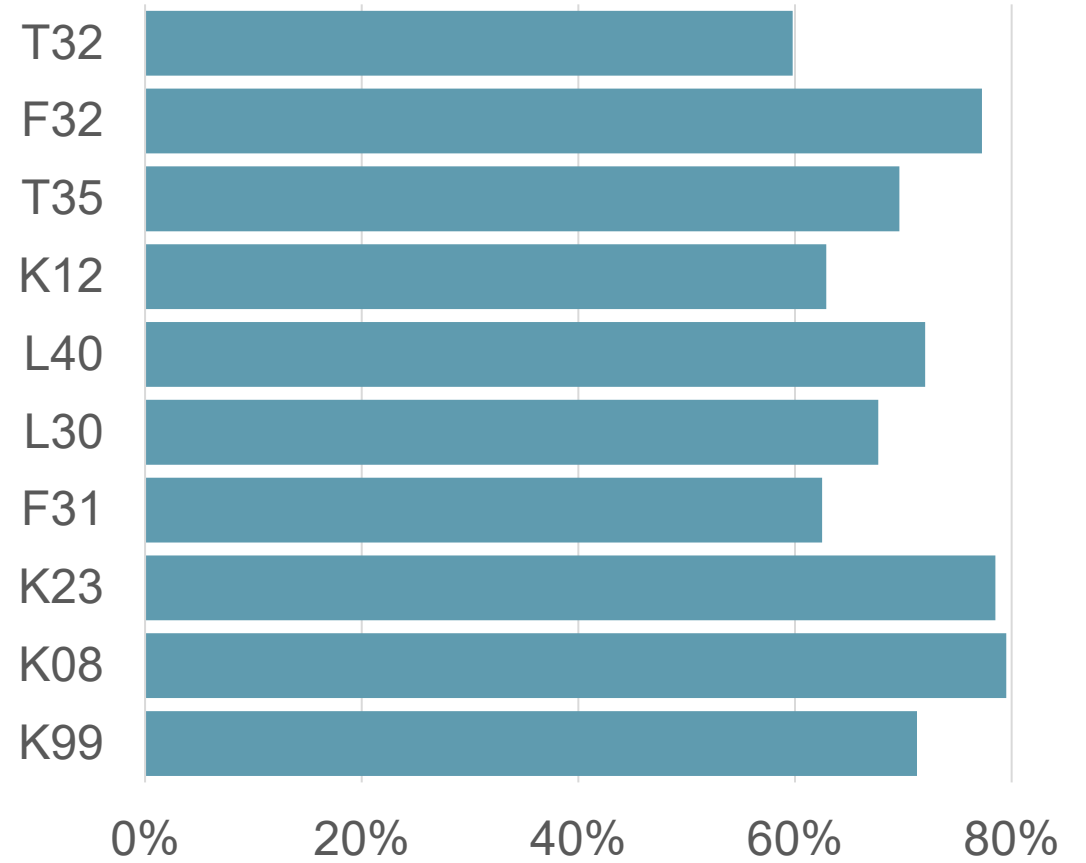


Trainees vs. applicants

Number of trainees

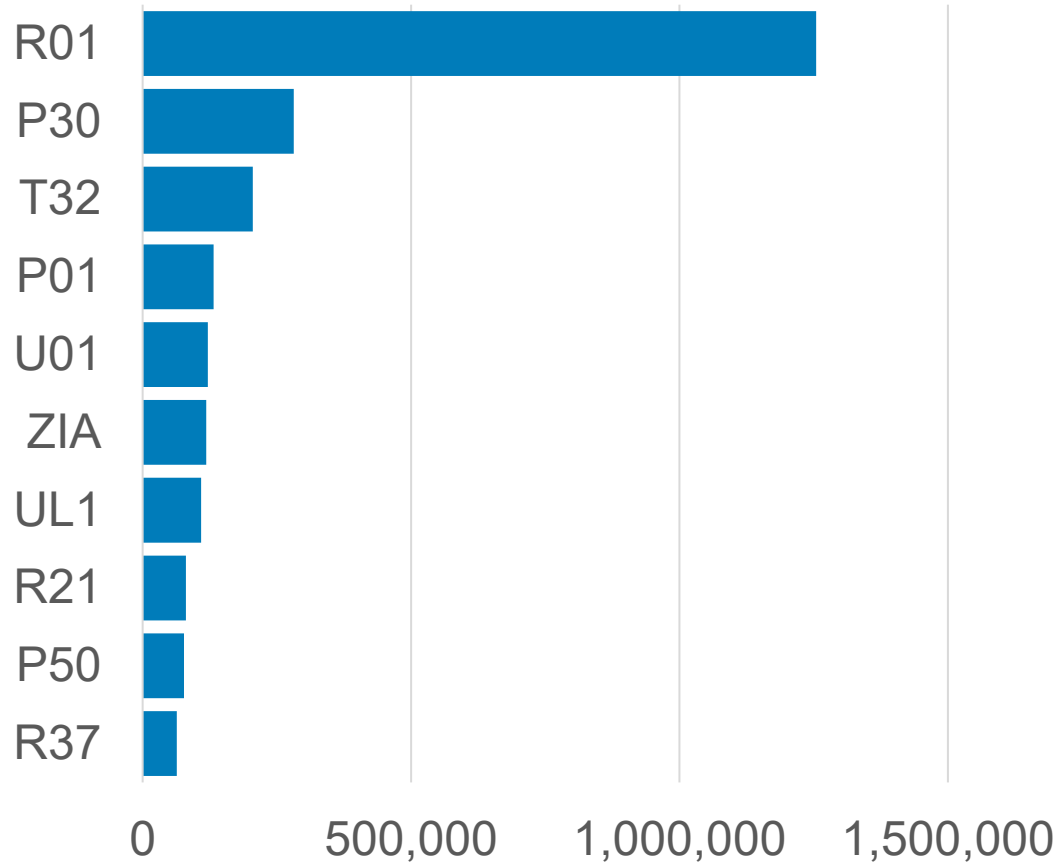


% applicants receiving another NIH grant

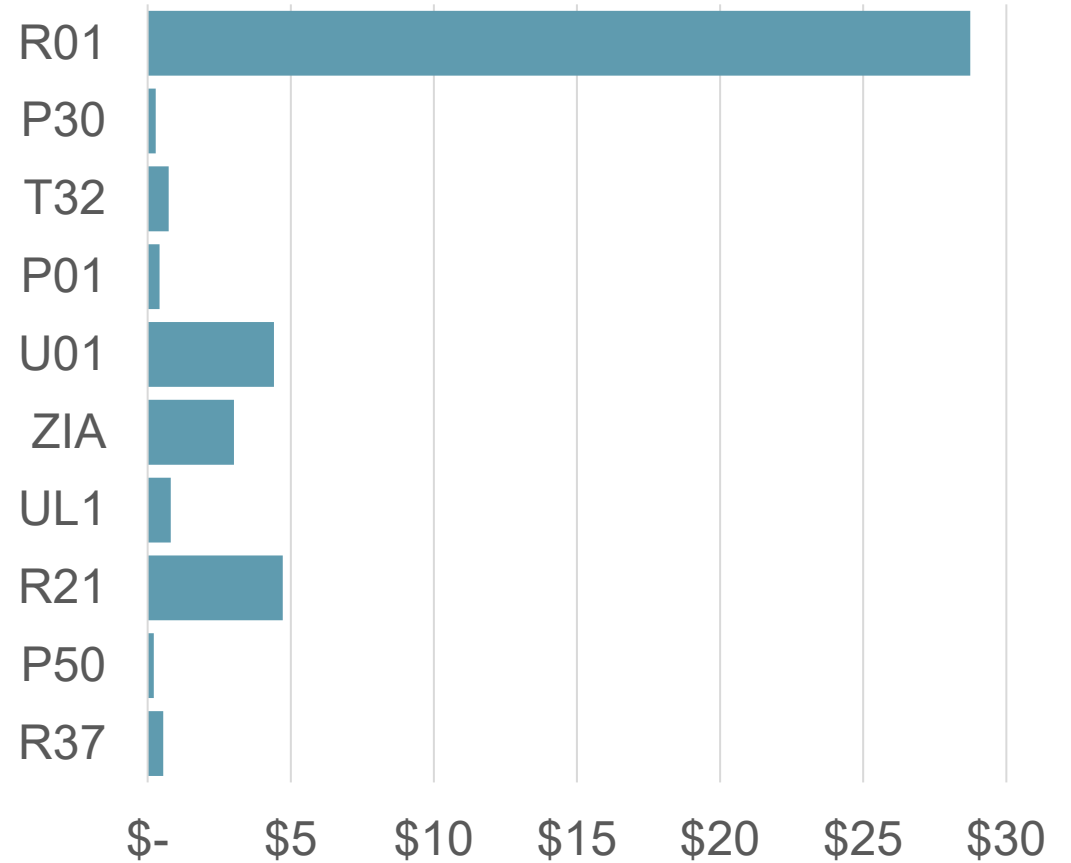


Example 2: Productivity of NIH activity codes

Total publications

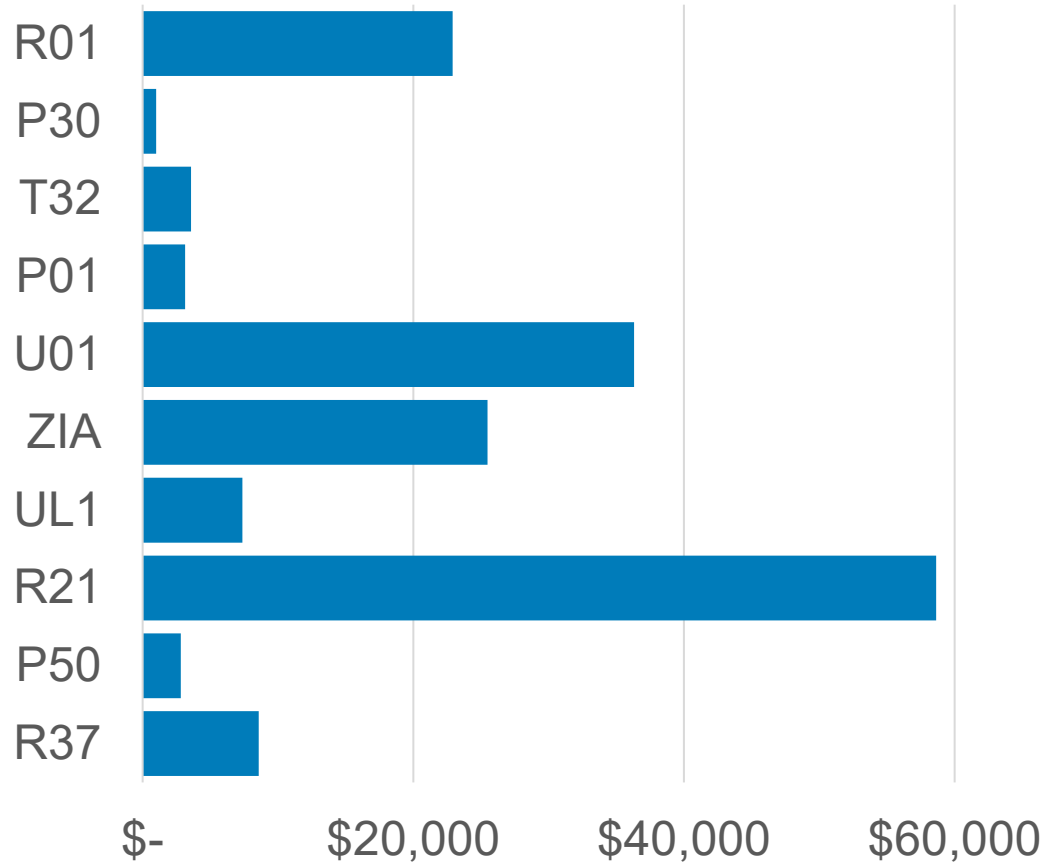


Total cost (\$B)

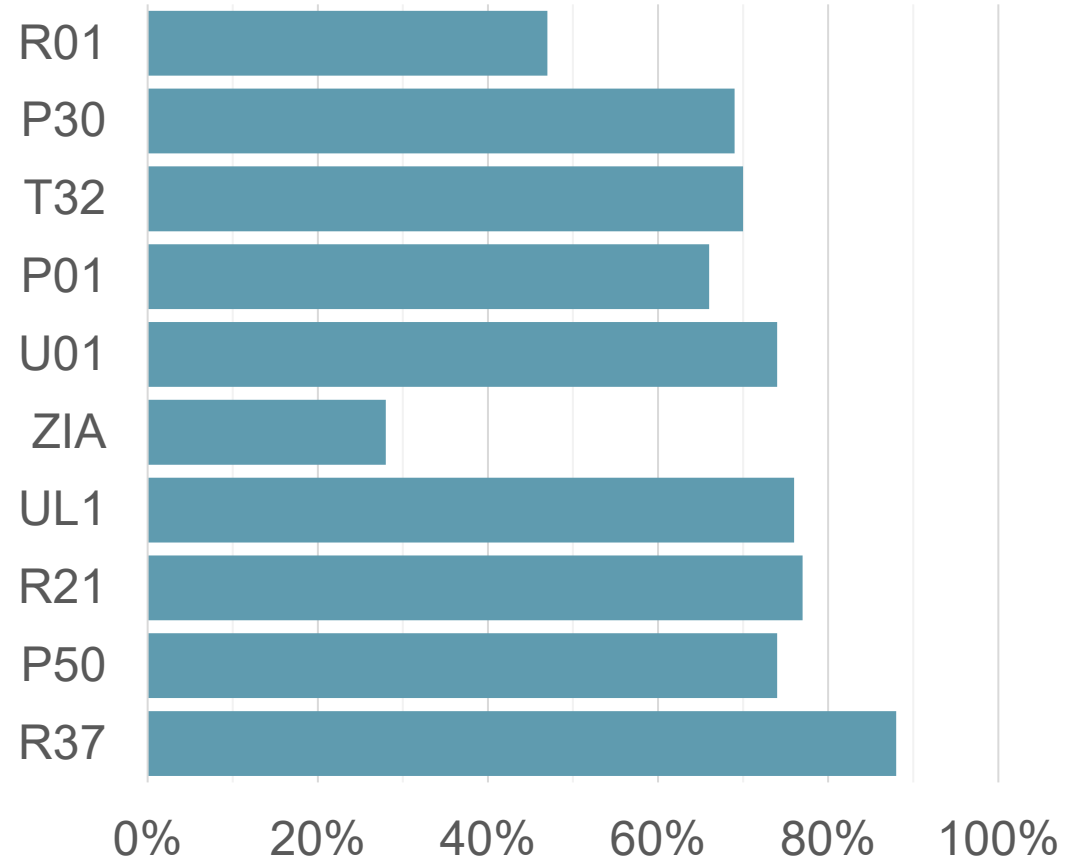


Publication cost estimates?

Cost per publication



Activity code co-funding rates




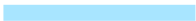



Reminder: publication \neq validity





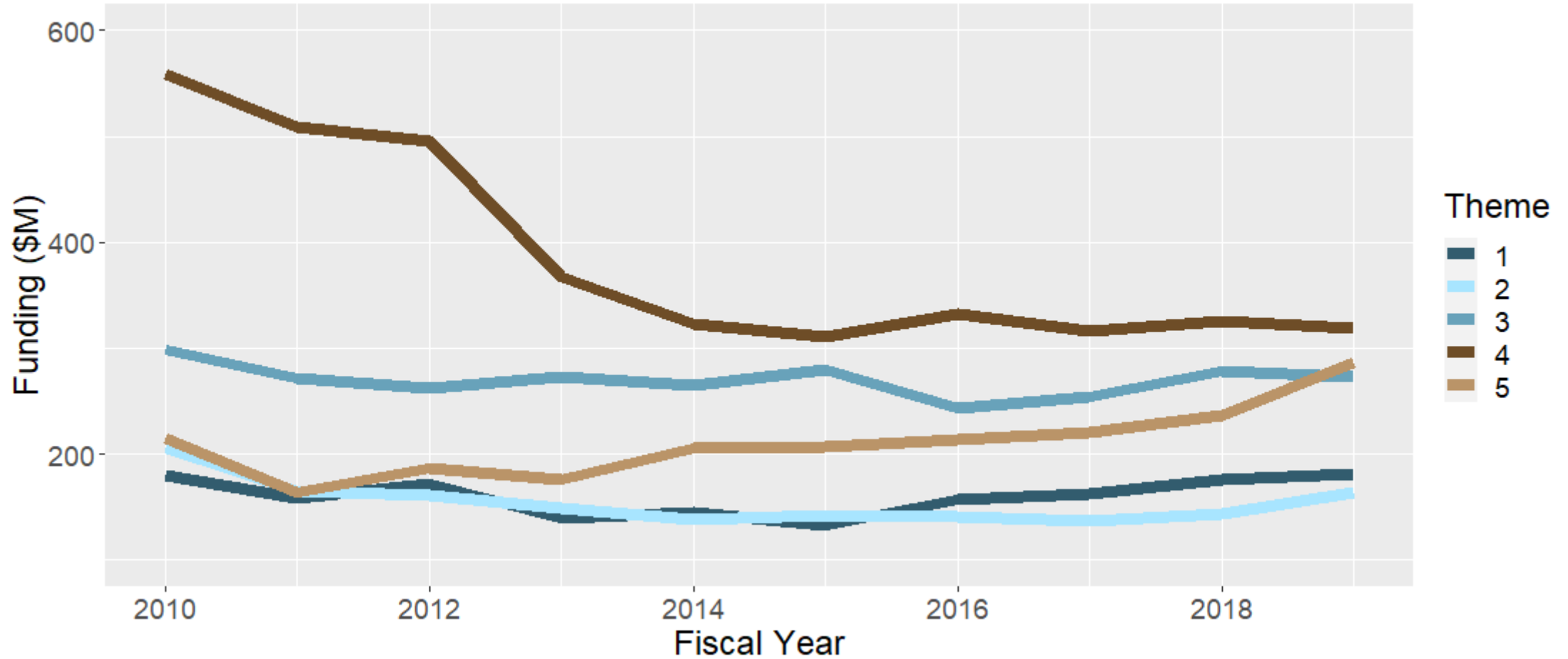
**Lesson Learned #3:
Measures can't make decisions**

NICHD Strategic Plan Themes

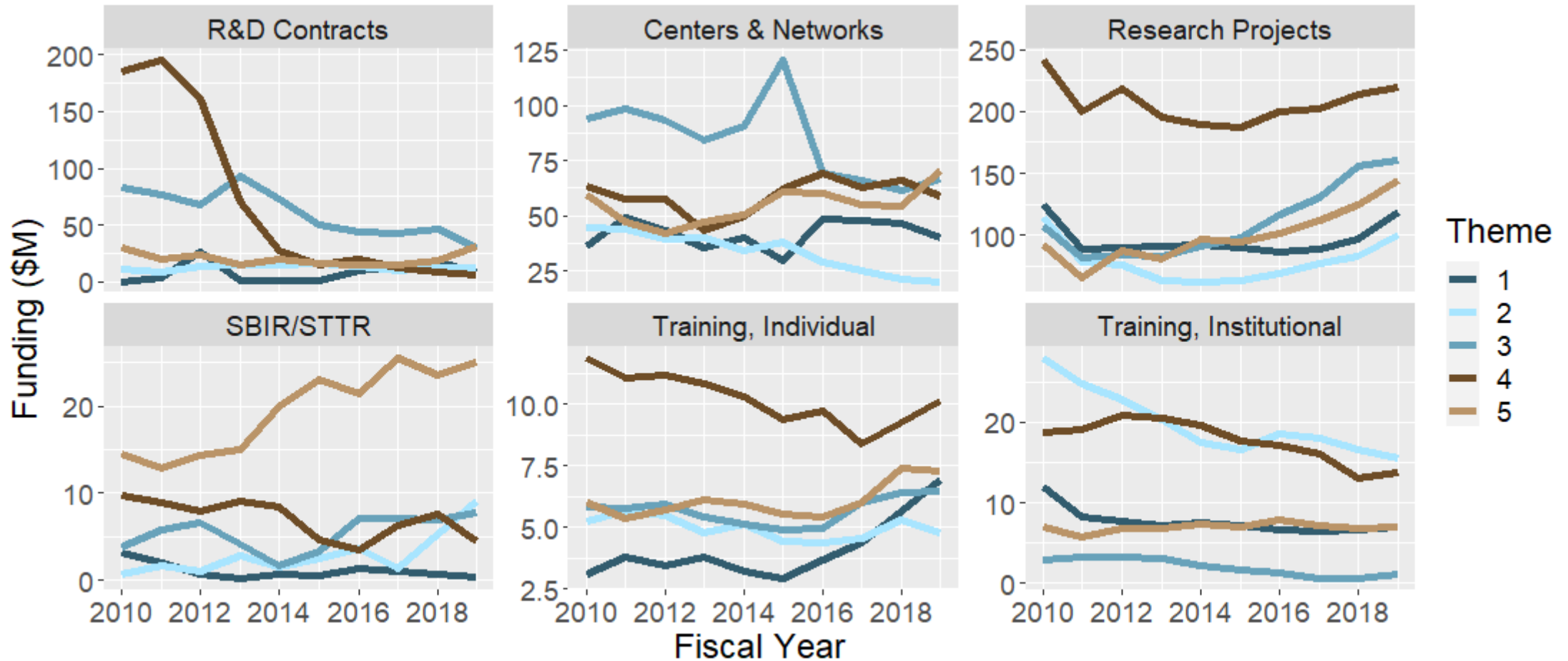
Theme	Color	Description
Theme 1		Understanding the molecular, cellular, and structural basis of development
Theme 2		Promoting gynecologic, andrologic, and reproductive health
Theme 3		Setting the foundation for healthy pregnancies and lifelong wellness
Theme 4		Improving child and adolescent health 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)



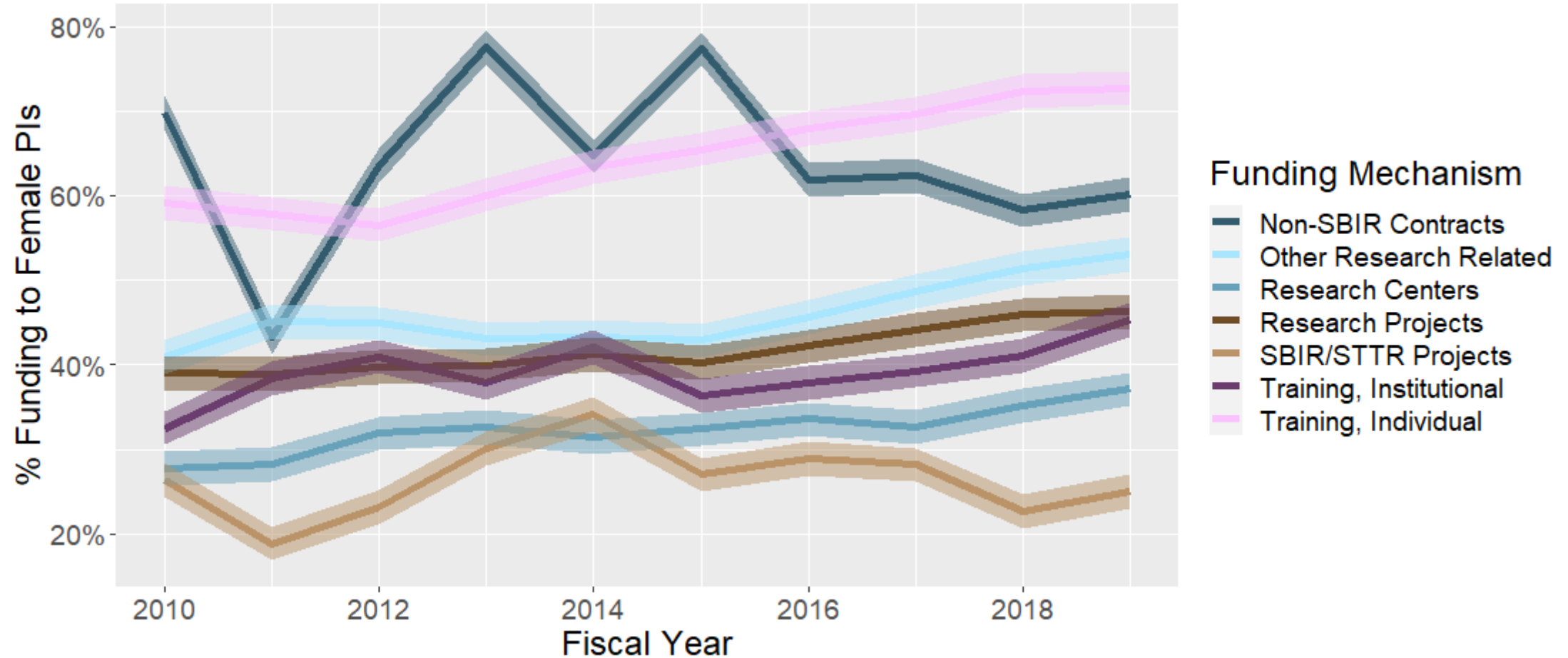
NICHD funding per theme per year (by award type)





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

Example: Estimated NICHD funding to female PIs



Questions?

