

Indicators of Program Success

Bob Coyne and Audrey Levine
Program Directors, NSF EPSCoR

PD/PA Meeting

Arlington, VA

May 19, 2015



What is Success?

- What are the most meaningful metrics of success in meeting EPSCoR's goals?
- How should these metrics be applied?



EPSCoR goals (lite)

- Development of research capability and creation of new knowledge
- STEM education, training, and professional development
- Broadening participation
- Engagement of participants and stakeholders
- Sustainable impact



Recent Evaluations of EPSCoR

- 2012: EPSCoR 2030 Workshop
- 2013: National Academy of Sciences
- 2014: Science & Technology Policy Institute



Research Competitiveness Metrics

- Percentage of total NSF R&RA funding received by each jurisdiction (or each cohort)
- Number of proposals submitted/funded per jurisdiction/university/investigator (including a breakdown by new EPSCoR hires vs previous hires)
- Size of awards
- Effects on economic growth (patents, spin-off companies, percentage of workers in S&E occupations)
- Percent increase in these metrics over time
- Proposed additional metrics:
 - Proposal submission and success rate by type of institution
 - Success rates of proposals for Centers, MRI, REU, “Prestigious People” awards



To what extent can the measured effects on Research Competitiveness be attributed to EPSCoR investments?

- Time Series Regression Analysis with EPSCoR-specific and EPSCoR-independent variables
- Analysis of secondary effects on funding success
- Comparisons between EPSCoR and non-EPSCoR jurisdictions or between pre- and post-EPSCoR eligibility years



- National Academy of Sciences Report, 2013: *“Evidence to date suggests that EPSCoR programs have had little impact on the national distribution of academic research and development expenditures.”*
- Science & Technology Policy Institute Report, 2014: *“The EPSCoR program has contributed meaningfully to jurisdictions’ increased competitiveness for NSF funds.”*



EPSCoR 2030 Report

- “In telling the EPSCoR story, the states need to move beyond merely showing how many additional proposals were funded, how many additional research dollars were garnered, or how many research papers were published because of EPSCoR. Those things are important, but with regards to economics, they are not especially important to the public or lawmakers. The “impact” of these things needs to be told.”



What are the important issues to the public and lawmakers?

Regional Issues of National Significance

- Economic Opportunity and Development
- Educational and Training Opportunity
- Broad Participation of People and Institutions
- Environmental Quality and Diversity
- Resource Availability, especially Water, Energy, Food
- How have EPSCoR-catalyzed improvements in research capacity impacted these issues?



Discussion Topics

- What are the most appropriate metrics to measure the success of EPSCoR in meeting its research competitiveness/capacity goal?
- What alternative quantitative/qualitative and/or national/regional indicators of success could be used?

