NCSES Engagements with Academic Experts in Statistical Agency Research

Jeri Mulrow
NCSES Deputy Director

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National Science Foundation
National Center for Science and Engineering Statistics
www.nsf.gov/statistics
National Center for Science and Engineering Statistics (NCSES)

- One of 13 principle federal statistical agencies, formerly the Division of Science Resources Statistics (SRS)

- Serves as a central federal clearing house for the collection, interpretation, analysis, and dissemination of objective data on science, engineering, technology, and research and development.

- Established within NSF by Section 505 of the America COMPETES Reauthorization Act of 2010 with expanded mandate
Science, engineering, technology, research – complex topics

- Innovation
- U.S. competitiveness
- Interdisciplinary (multidisciplinary, transdisciplinary)
- Knowledge diffusion
- Postdoctoral position
- Educational and occupational pathways
Research needs

- Construct and measurement development
  - Validity and reliability

- Survey methodology
  - Questionnaire design
  - Appeals and incentives
  - Contact and nonresponse strategies
  - Design of experiments and testing

- Statistical
  - Frame development
  - Sample design
  - Nonresponse adjustments
  - Modeling, estimation, analyses
  - Disclosure and confidentiality protection
  - Data visualization
Types of Engagements with academic experts

- Informal interactions
  - Hallway discussions
  - Conferences, presentations, short courses
  - Restricted data licensees and other data users
Types of Engagements with academic experts

- Formal engagements
  - Expert panels
    - Short-term, 1 to 2 days
    - Longer-term, 1 to 2 years
  - National Academies of Science, CNSTAT panels
    - Short-term, 1 to 4 day workshops
    - Longer-term, multi-year panel
  - Grants
    - NSF-ASA fellowship program
    - Specific solicitations
  - Cooperative agreements
    - Via NASS IAA
  - Contracts
Examples of panels and workshops

- Human Resources Experts Panel
  - Pathways of scientists and engineers

- Data visualization expert panel
  - Presentation of state S&T indicators data

- CNSTAT workshop
  - R&D in NonProfit organizations

- CNSTAT panel
  - Indicators of science and technology

- Statistical expert panel
  - Sample expansion and redesign for Survey of Doctorate Recipients
Examples of grants, agreements & contracts

- **ASA-NSF Fellowship**
  - Three researchers over a five-year period
    - Summers at NCSES

- **Grant Solicitations**
  - Dozen+ researchers over three-year period
    - All research conducted at home institution

- **Cooperative agreement via NASS IAA**
  - Washington State University
  - University of Nebraska

- **Contracts**
  - IDIQ – Indefinite delivery, indefinite quantity
Summary of experiences

- **Workshops -- work well if**
  - Focus is on specific topics
  - Able to identify experts

- **CNSTAT panels and workshops -- work well**
  - High quality and authoritative

- **Grants -- mixed**
  - Researcher is in the drivers seat
    - Agency input may or may not be taken
  - Fellows working on-site work well,
    - Ability to interact on daily basis
Summary of experiences

- Cooperative agreements – works well if
  - Agency needs and research interests are aligned
  - Researcher actively seeks agency interactions
  - Researcher presents seminars and meets with agency staff on a regular basis

- Contracts -- work well if
  - Statement of work is clearly defined
  - Agency is highly involved
Questions?