



# Starting Up a New Survey of Government Facilities: Challenges and Lessons Learned

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# Presentation outline

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- Background and overview
- Defining the Federal Facilities population
- Contact strategy
- Questionnaire design
- Lessons learned and recommendations
- Wrap up
- Q&A

# Disclaimer

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# Background and overview

# National Center for Science and Engineering Statistics

Measuring America's progress in science, technology, and innovation



**Part of the U.S. National  
Science Foundation (NSF)**

*Located within the Directorate for Social,  
Behavioral, and Economic Sciences (SBE)*



**One of 13 principal federal  
statistical agencies**

*Overseen by the U.S. Chief Statistician  
within the White House Office of  
Management and Budget (OMB)*

## MISSION

Produce policy relevant, policy neutral **statistical information** on the **U.S. science and engineering enterprise**

- Research and development
- Science and engineering workforce
- U.S. competitiveness in STEM
- STEM education in the United States

# Current suite of NCSES R&D surveys

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- *State governments:* Survey of State Govt R&D
- *Universities:* Higher Education R&D Survey
- *Federally funded research and development centers:* FFRDC R&D Survey
- *Businesses:* Business Enterprise R&D Survey and Annual Business Survey
- *Nonprofits:* Nonprofit Research Activities Survey
- *Federal government:* Survey of Federal Funds for R&D (collects agency level obligations from budget offices)

# Overview of the Federal Facilities R&D (FFRD) Survey

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- The FFRD Survey is the first ever federal R&D **performer** survey
- Designed to collect annual R&D **expenditure** data at the federal research facility level
  - Expenditures: Funds spent on R&D conducted that year
  - Obligations: Amount committed to R&D projects for that year; could be spent over several years
- This survey completes our collection of expenditure data from ALL sectors of U.S. R&D performers

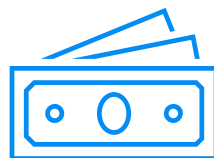
# FFRD survey content

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## Internal R&D spending

- Expenditures/outlays by type of R&D (basic research, applied research, development)
- R&D expenditures by sources of funds
- R&D expenditures by field



## R&D funding to other organizations

- Funding provided by type of agreement (grants, contracts, inter-agency agreements)
- Funding provided by type of recipient

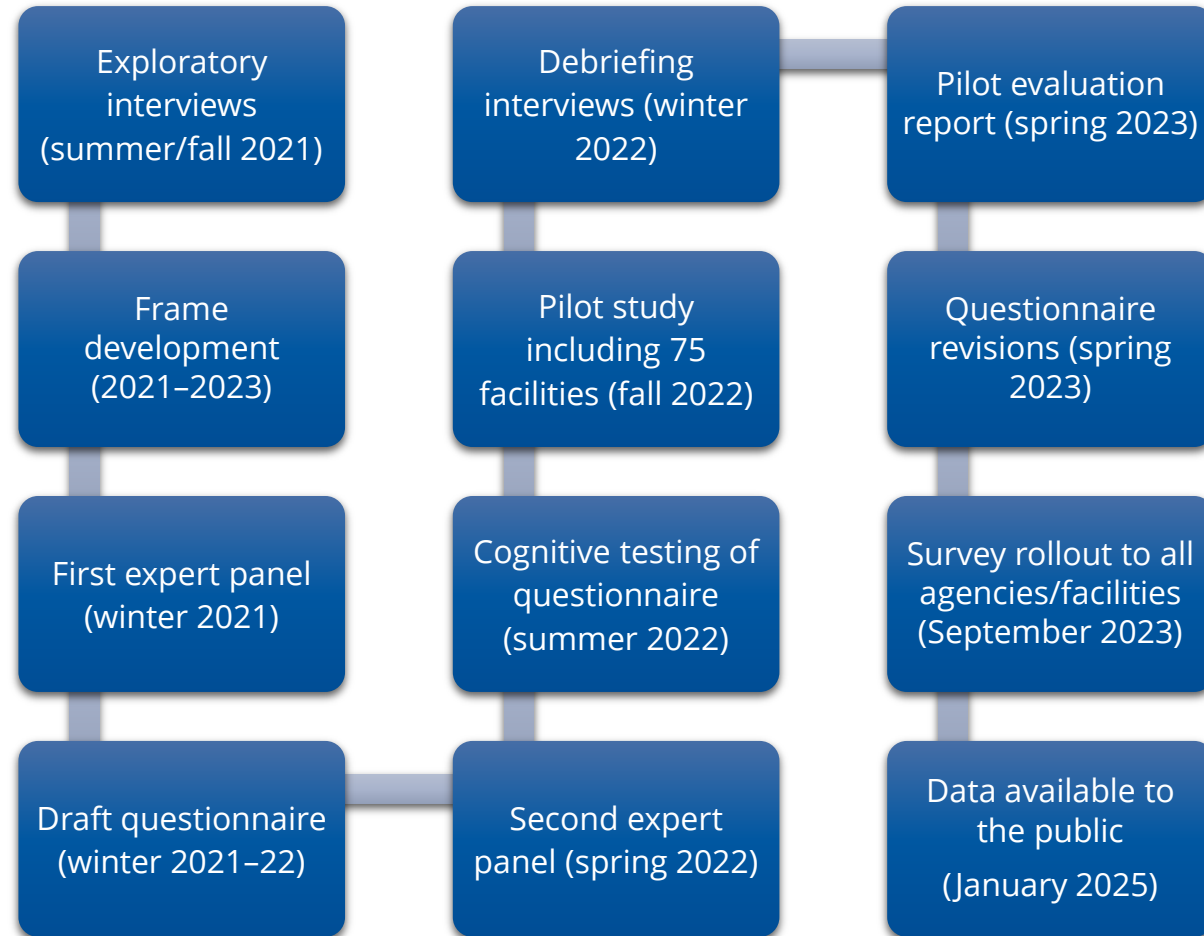


## R&D personnel

- Personnel headcounts by type of employee and type of R&D function
- Federal full-time equivalent (FTE) counts by R&D function

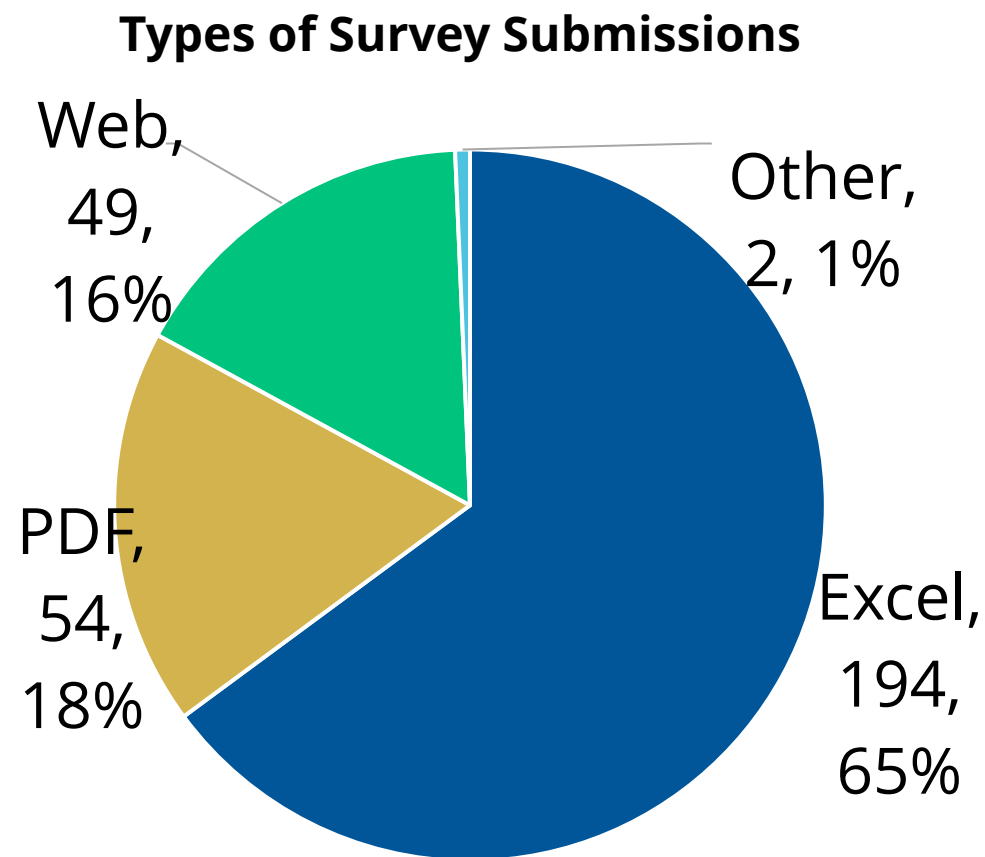


# Timeline



# Summary of first full rollout (2023)

- Survey sent to 398 facilities; 79 found ineligible during data collection
- Collected FY 2022 data
- Web, PDF, and Excel options for survey submissions
- Final response rate: 94%



# Defining the population

# Defining the population of interest

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- **Goal:** To collect the total amount of R&D being conducted by federal agencies
- **Challenge:** Defining the “unit” of analysis
- **Solution:** Flexible definition of reporting unit

# Multi-level frame

Frame constructed for agencies that conducted R&D  
(Federal Funds Survey)

- Original frame developed from Federal Lab Consortium list and agency research (org structure, facilities, etc.)

Department > Agency > LEVEL3 > LEVEL4 > LEVEL5 > LEVEL6

- Levels could be physical locations (e.g. centers) or administrative units (e.g. regions)
- Agencies ultimately defined their level of reporting (generally 3–5), usually during pre-survey discussions

# Keys to successful frame build

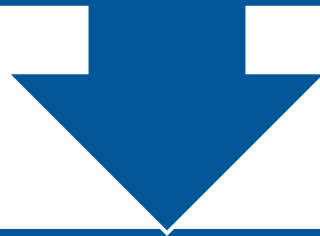
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- Use NSF Federal Funds Survey to limit the frame of agencies
- Identify the correct agency point of contact
- Flexible definition of reporting unit (key is capturing the agency's total amount of intramural R&D)

# Contact strategy

# Contact strategy: Finding the right person

**Challenge:** Finding the right person for responding to and/or tasking the survey



**Solution:** Adjusted the strategy along the way

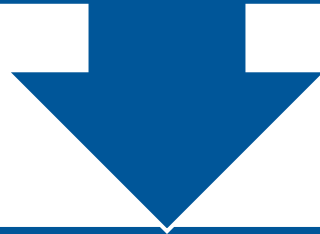
Obtained agency headquarters  
point of contact

Used the agency point of contact  
to identify the respondent



# Contact strategy: Gaining buy-in

**Challenge:** Resistance to the new survey



**Solution:** Building buy-in at the top of an agency to build a foundation for long-term cooperation and participation

Many high-level meetings

White House Office of Science and Technology Policy endorsement



# Questionnaire design

# FFRD questionnaire design

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Section 1: Internal R&D spending

Section 2: R&D funding to others

Section 3: R&D personnel counts

# Questionnaire design: What worked

- Reduced questionnaire scope → Decreased overall and item nonresponse
- Enhanced overall Web survey experience → Reduced post data collection follow-up

Check here if information entered for this question (1) is estimated.

Please provide any comments or additional information below. (Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)

Enter comments here

(500 characters remaining)

Please explain "Unavailable" responses indicated above:

(500 characters remaining)

The focus of this survey is to collect [expenditures](#) or outlays and not obligations or appropriations. Please confirm below that you are reporting expenditures.

Are you able to report FY 2022 expenditures or outlays for questions 1-5?

Yes

No

# Questionnaire design: Needs further improvement

- Further refine definitions
- Consider restructuring how the data are collected
- Develop tools, resources, and continue building relationships and understanding of the data requested

Question 1. How much of your [facility's](#) total [FY 2022 expenditures](#) for research and development (R&D) were for basic research, applied research, and experimental development?


*Include:*

- All of your facility's R&D expenditures, regardless of whether the funding was from direct appropriations, interagency agreements, reimbursable funds, or non-federal sources. Expenditures are often referred to as outlays.
- R&D performed by your facility's employees

*Do not include:*

- Funding for R&D performed outside your facility by contractors or other entities. You will report this in Section 2.

*Remember:*

- For this survey, we are interested in expenditures, not obligations or appropriations. 
- If possible, the type of R&D should be coded at the individual project level by the researcher or project director. Please communicate with other colleagues to gather necessary information. If only estimates are available please check the box below.
- R&D type examples can be found [here](#).
- Report expenditures funded by any agency of the United States government under the **Federal** column (column 1). Include federal funds passed through from another organization.
- Report expenditures funded by state or local governments, businesses, higher education, nonprofit organizations, or foreign sources under the **Nonfederal** column (column 2).

# Lessons learned and recommendations

# Lessons learned and recommendations (1)

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Unanticipated overlap/confusion with other surveys

- More advance training needed for respondents
- Hold joint training for both surveys to highlight differences

Direct contact from survey manager was necessary to gain cooperation

- .gov emails received more attention
- Meetings with higher-level offices were very impactful



# Lessons learned and recommendations (2)

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Agencies need a compelling reason to respond—what's the point?

- Get more endorsements from government and agency leadership
- Showcase how the data will be used

Use cleaner definitions on the survey

- Clarify distinction between internal and external R&D to improve consistency across responses
- Add reporting categories for items that were inconsistently included

# Wrap up

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# Q&A



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