



# Postdoc Data Project (PDP)

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**Division of Science Resources Statistics**  
[www.nsf.gov/statistics](http://www.nsf.gov/statistics)



# Postdoc Data Project

- Postdocs important component of U.S. S&E labor force
- Current NSF workforce surveys have substantial coverage gaps
- Heard requests from many sources for more information about postdocs in all sectors
- Engaged in multi-year effort to increase quality and quantity of information on postdocs



# PDP Impetus

Unknown implications for the U.S. research enterprise, U.S. workforce, and science and engineering (S&E) employment markets due to the increasing ...

- Number of total postdocs
- Duration of postdoc appointments
- Number of non-U.S. citizens in postdocs



# PDP Goals

- Improve aggregate counts of postdocs
- Develop a comprehensive integrated postdoc information strategy



# PDP: If Life Were Easy



**U.S. Postdocs  
SDR**

**+**

**Non-U.S. Postdocs  
Immigration Database  
SEVIS/HB1**

**=**

**Total Postdoc Count**



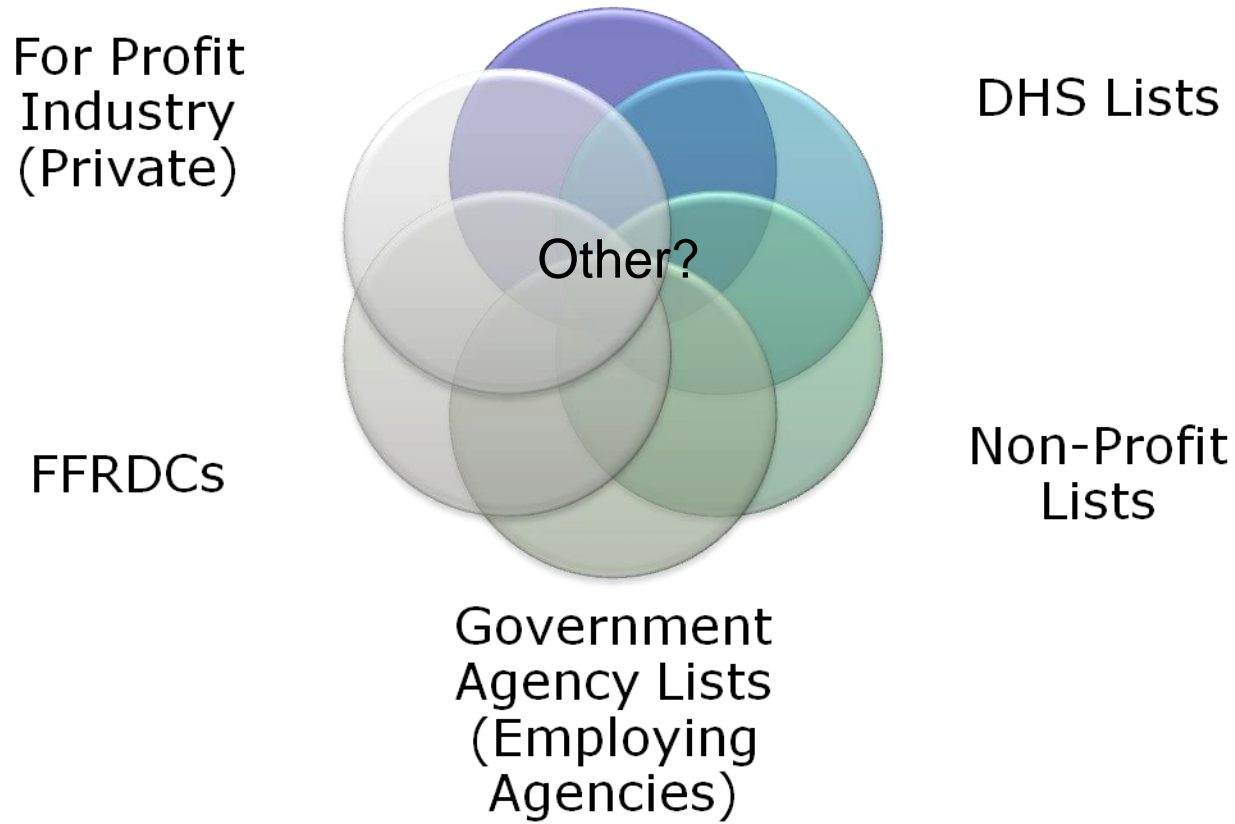
**Postdoc Frame**



**Survey**

# PDP: Life is Really Not Easy *Counting Postdocs*

**GSS**

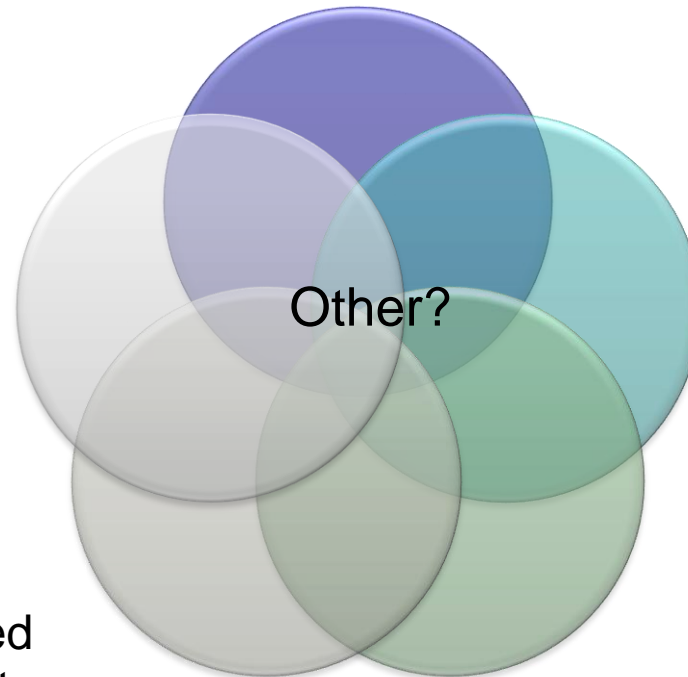


# PDP: Life is Really Really Not Easy *Creating a Frame*

AAAS

Institutions  
contacted  
during postdoc  
count

NPA



Postdocs Funded  
by Government

**SEVIS and H1B**



# Phase 1

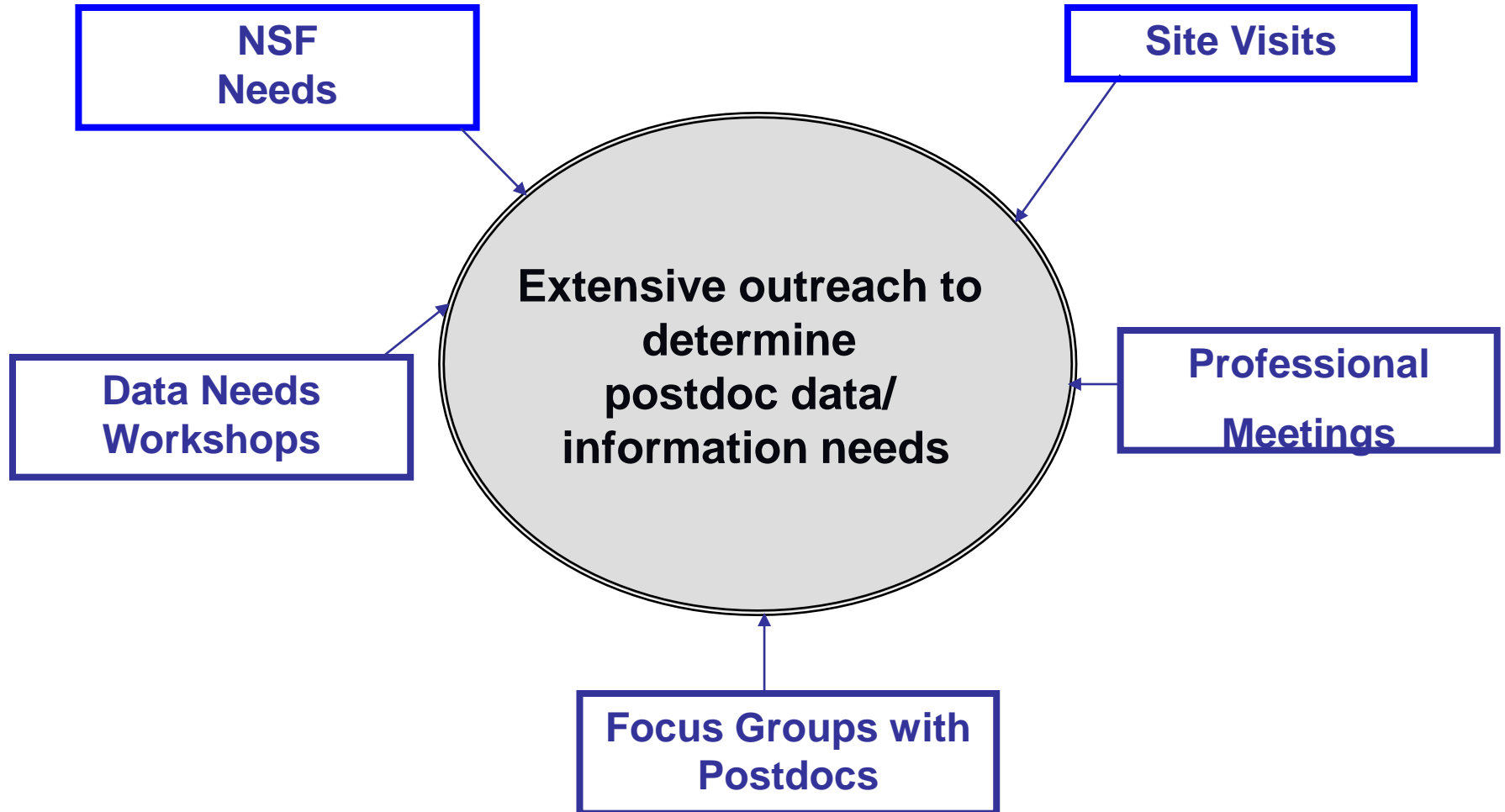
Assess the **feasibility of gathering** more **comprehensive** information on all types of postdocs in the U.S. **in all employment sectors**

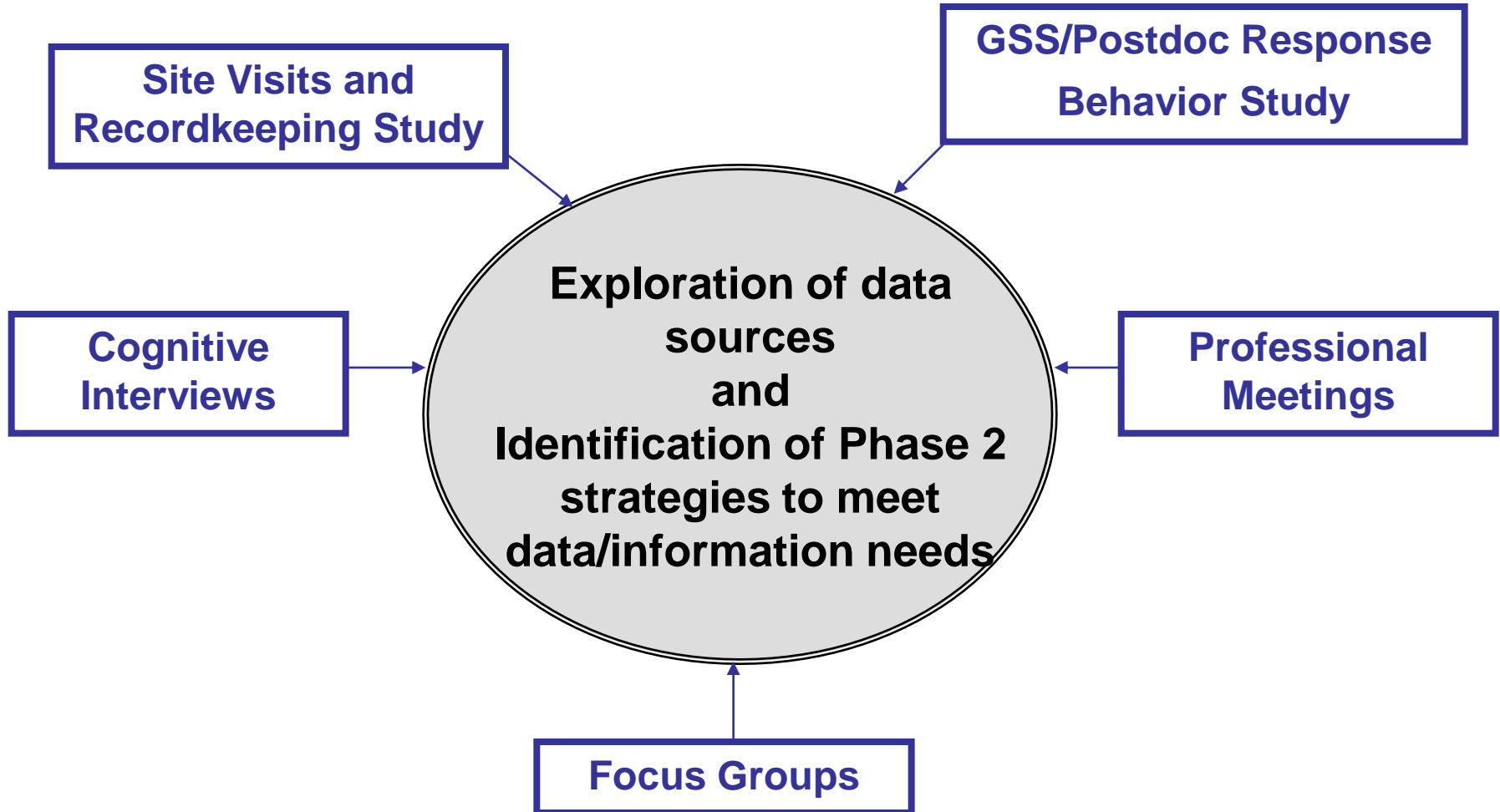
Completed in 2006



# Phase 1 Activities

- Gain historical perspective
- Extensive outreach to determine data gaps and user needs
- Exploration of existing data sources
- Identification of potential Phase 2 strategies to meet user needs and fill data gaps







# Phase 1 Findings

- Same concerns have been expressed since the late 60's
- Articulating the impact of not having the data is difficult
- Views on postdoc purpose and practices differ when talking to faculty vs postdocs and to those from the nonacademic sector vs academic sector



# Phase 1 Findings (cont'd)

- Institutions often do not have postdoc definitions or have ones that differ from the postdoc definition SRS uses
- Discussions of institutional postdoc definitions should also include institutional postdoc policies
- Many institutions have neither a postdoc policy or a definition



# Phase 1 Findings (cont'd)

- Knowledgeable person about postdocs usually not the respondent providing the postdoc data
- A single individual cannot always provide all of the postdoc information
- Apparent split between individuals with knowledge on the policies and definitions and individuals with the ability to provide actual data about postdocs



# Phase 1 Findings (cont'd)

- Information about counts of postdocs by foreign-degree status and degree type not available from either academic or non-academic institutions
- Different labels/definitions for the same type of position pose a problem for sampling and data collection activities



# Phase 1 Findings (cont'd)

To meet the goal of covering all types of postdocs across all employment sectors, we need a...

- Supplemental sample to the SDR of
  - Foreign-PhD degreed/temporary resident postdocs
  - PhD professional equivalent-degreed postdocs
- Nonacademic survey to enhance the aggregate postdoc data from the GSS



# Phase 1 Findings (cont'd)

To meet the goal of gathering more comprehensive information, we need data on...

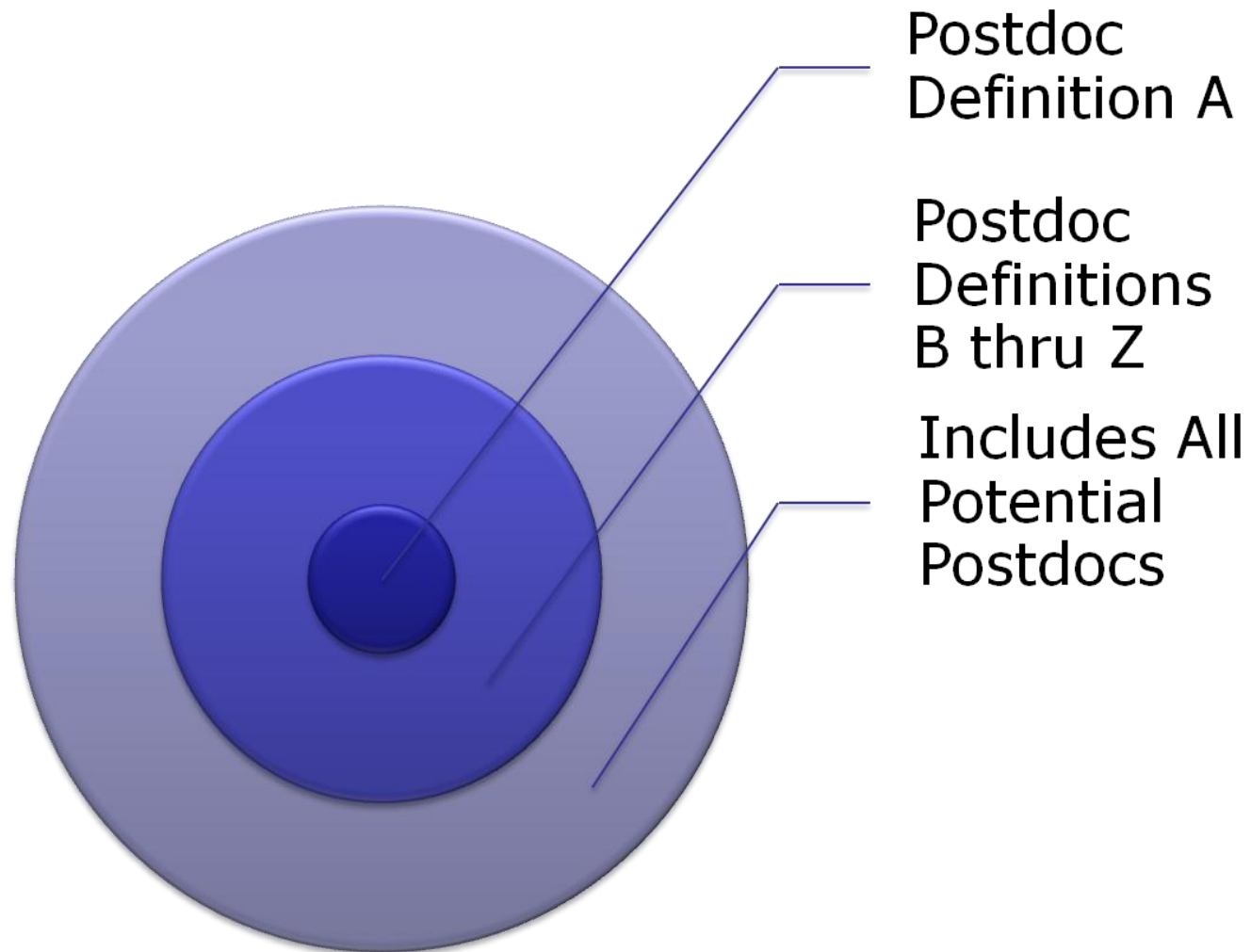
- Postdoc quality and experience indicators
- Career transitions to and from postdoc
- Pipeline issues (discouraged from entering S&E field?)
- Defining for frames and surveys what is a postdoc

# Phase 1: Road Map for Feasibility Testing in Phase 2

- Address coverage of postdoc population segments previously missed
- Explore postdoc subject matter issues
- Operationally define a postdoc



# Postdoc Population is a Moving Target





# Possible Strategy

- Survey (not just screen) all *potential* postdocs
- Have one survey that allows data comparisons among recent PhD recipients of postdocs (by various definitions) and nonpostdocs
- Adds additional dimension of being able to study those in other PhD research or “postdoc like” positions



## Phase 2

Assess **best methods** for gathering more comprehensive postdoc data particularly data on **foreign-degreed postdocs**



## Phase 2 Activities

- Contacting representatives of both academic and nonacademic institutions to determine best methods for collecting postdoc data from them
- Investigating the availability and suitability of the two major approaches to building a sample frame of postdocs --- use lists of:
  - Institutions/organizations where postdocs work
  - Individual postdocs
  - Hybrid of the two

## Phase 2 Activities (cont.)

- Acquiring and assessing potential lists from various sources for frame building, e.g. National Institutes of Health/American Medical Association lists for Ph.D. equivalent professional degreed postdocs
- Working with the Department of Homeland Security to acquire immigration data for foreign-Ph.D. degreed postdocs (Student and Exchange Visitor Information System (SEVIS), H-1B)
- Evaluating the effort required and the tradeoffs in using institutional lists to build a postdoc sample frame



# Issues for Collecting Postdoc Data from Institutions

- What mode of data collection works best in conducting a survey with institutions about postdocs?
- Does the institution have postdocs, however defined by the institution?
- What is our rate of success for finding a knowledgeable institutional contact about postdocs?
- What is the best way to define the target population to meet broad analytic needs?



# Issues for Collecting Information Directly from Postdocs

- What is the best way to define the target population to meet broad analytic needs?
- Can we obtain a list of individuals who may be in postdoc positions at an institution? For what types of institutions?
- What are the best methods for surveying postdocs? Non-U.S. degreed postdocs?

# Next Steps



- Expand/improve aggregate postdoc data from academic institutions
- Enhance aggregate postdoc counts with data from nonacademic institutions
- Build a sampling frame that supplements current SRS postdoc-related surveys
- Postdoc survey data from individuals compatible with the SDR from a comprehensive frame
- Develop a Comprehensive Integrated Postdoc Information Strategy