



# Postdoc Data Project (PDP)

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Technical meeting of the Expert Group on  
Careers of Doctorate Holders

OECD, UNESCO, Eurostat

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



# Impetus

- Postdocs are an important component of the U.S. workforce and research enterprise
- Current NSF/SRS postdoc-related surveys have considerable coverage and content gaps
- Need better postdoc-related aggregate, descriptive, and longitudinal statistics

*Engaged in multi-year effort to increase quality  
and quantity of information on postdocs*



# Identified Gaps

- Uniform postdoc definition
- Postdoc coverage
  - Employment sector (academic, government, nonprofit organizations, private industry)
  - Citizenship status and country of PhD
  - Degree type (PhD, PhD-equivalent degree)
- Postdoc data content
  - Population statistics
  - Postdoc quality and experience indicators
  - Pipeline issues and career transitions data
  - Institution data



# Goal

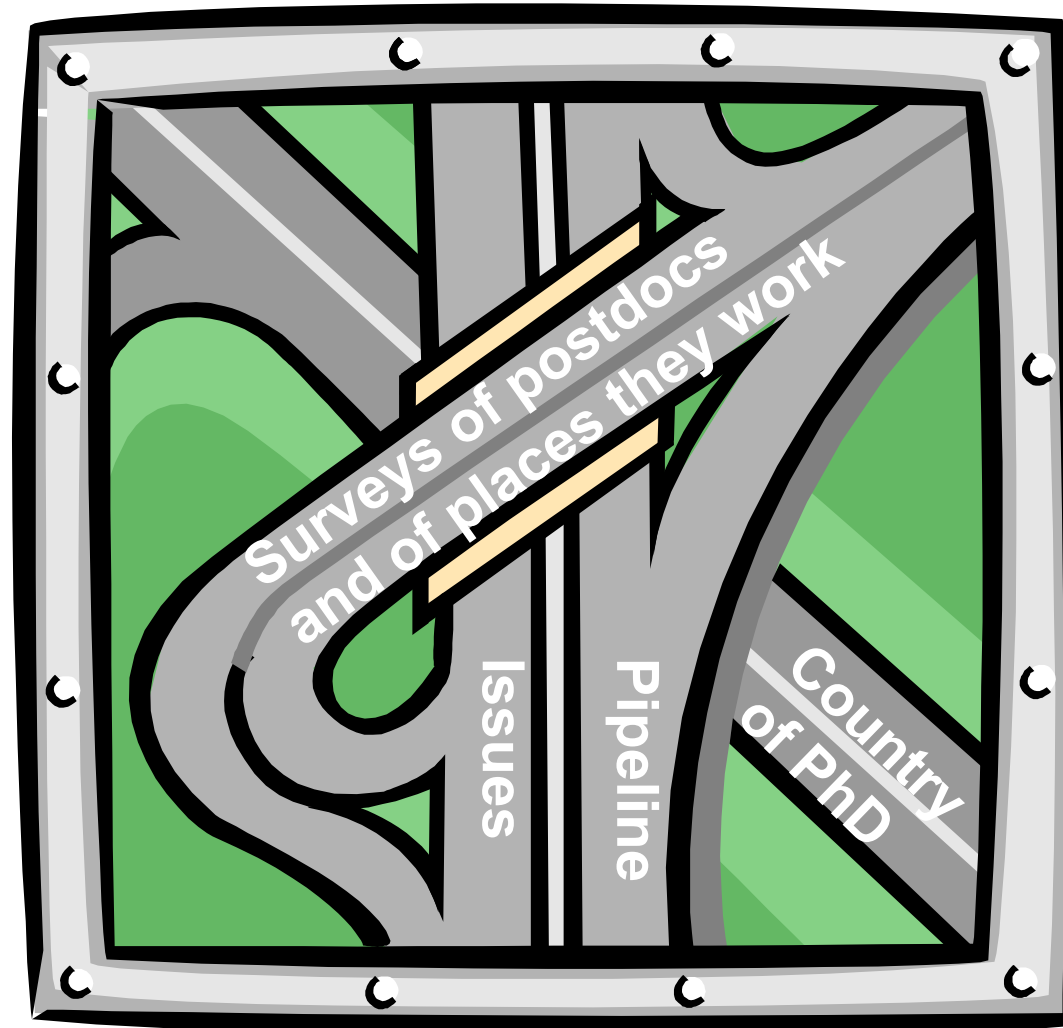
Develop a Comprehensive NSF/SRS  
Postdoc Information Strategy



# Plan

- Design a survey for postdocs that gathers in-depth information to fill the content gaps in current NSF/SRS surveys
- Create a list of temporary visa holders and of MD/PhD postdocs
- Provide the total count of postdocs in U.S. academic and non-academic institutions
- Collect postdoc data from U.S. non-academic institutions
- Improve NSF/SRS postdoc data collected from U.S. academic institutions

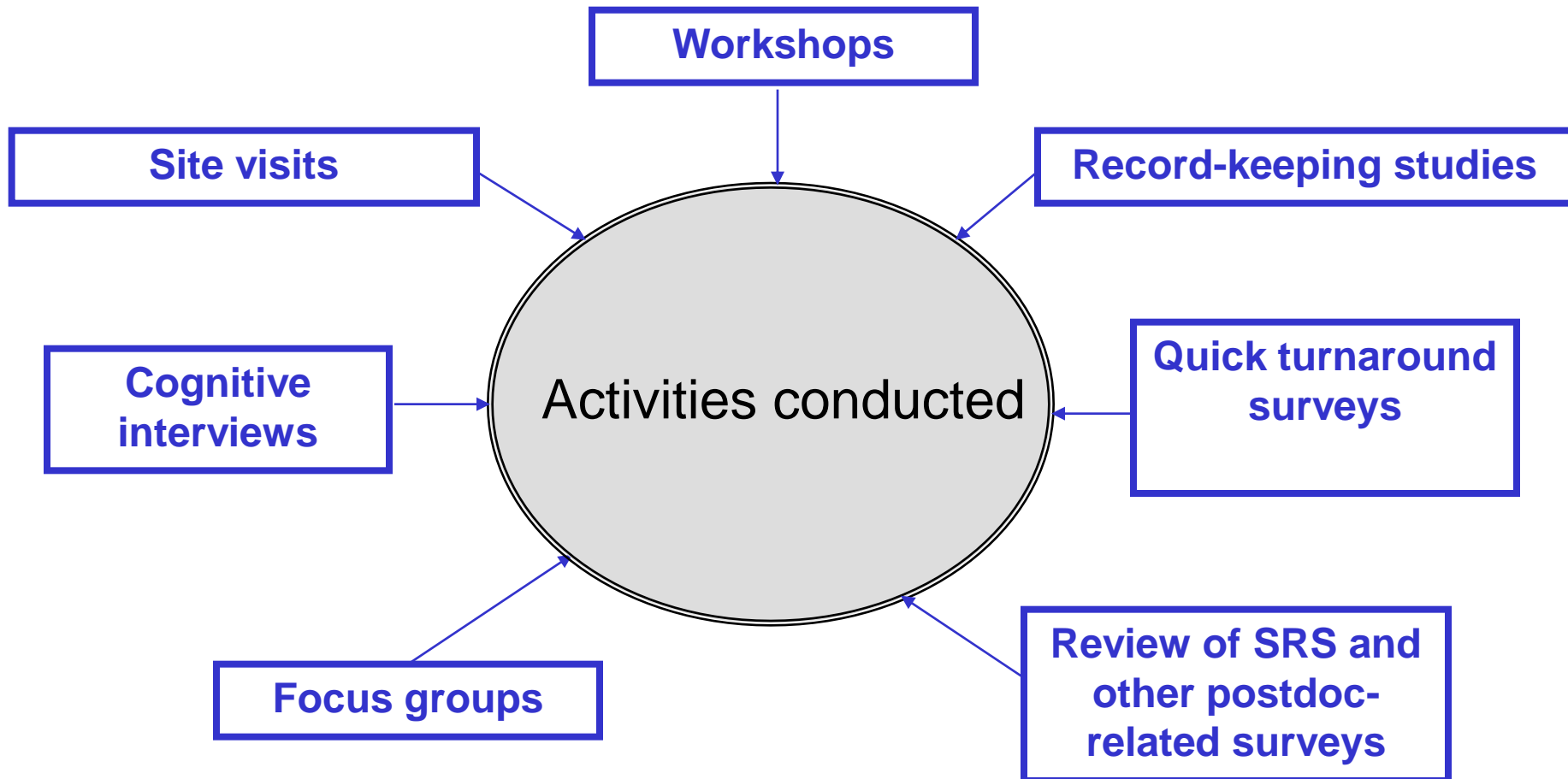
# *PDP: Multi-Phase, Multi-Path, Multi-Frame Multi-Dimensional Feasibility Project*



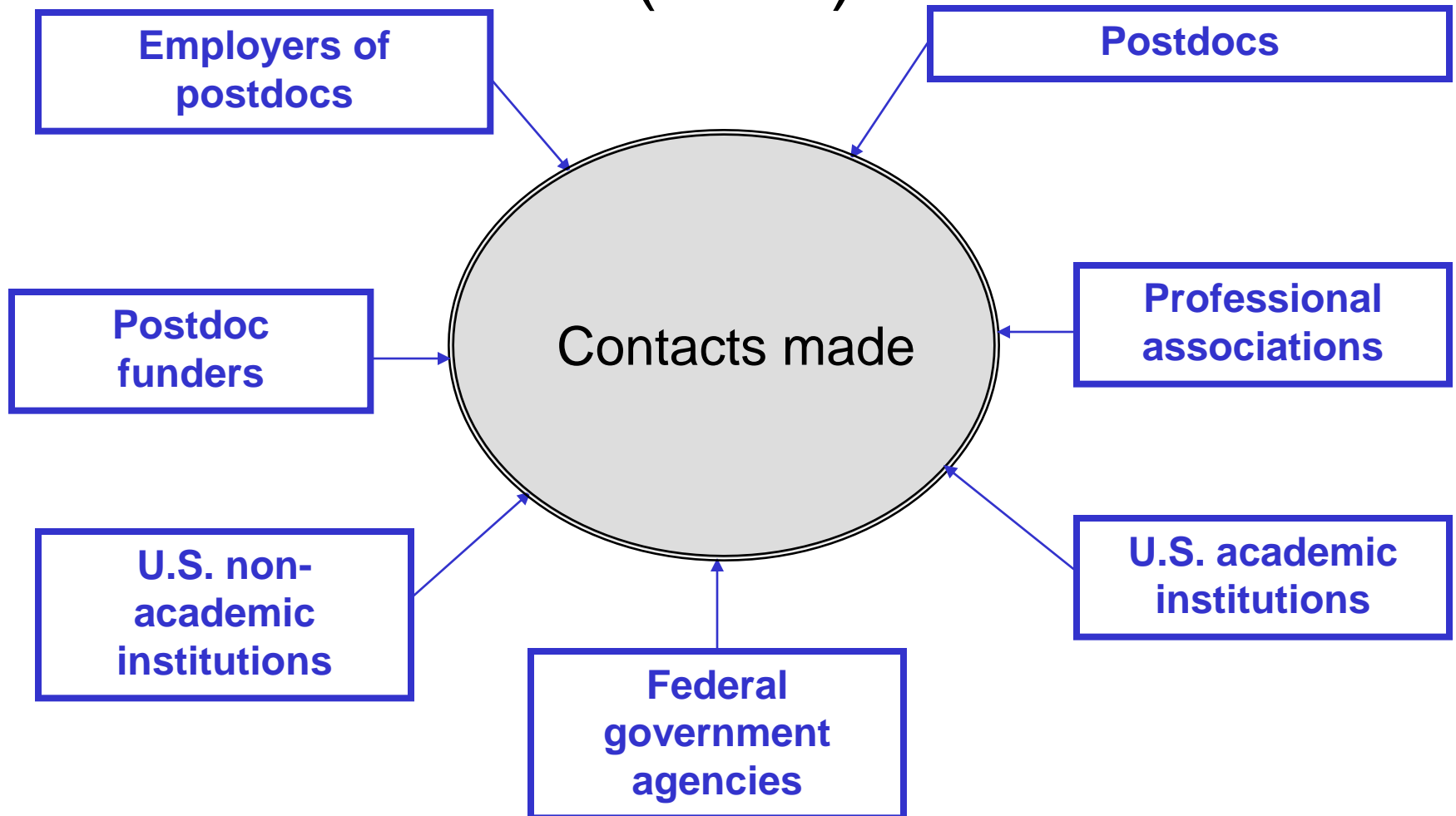


# Closing the Identified Gaps – Uniform Postdoc Definition

# Developing a Uniform Postdoc Definition



# Developing a Uniform Postdoc Definition (cont.)





# Key Findings for Establishment Postdoc Definitions

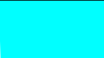
Establishments may have two general types of postdoc definitions:

- **functional definitions** – are descriptions in that they **highlight** formal requirements, appointment purpose, scope, and job expectations.
- **policy-based definitions** – are *prescriptive in that they set a the for outcomes of the and* focus on the realization of future outcomes, such as enhancing the quality of postdoc mentoring relationships and increasing postdoc compensation and benefits.



# Postdoc Definitions Research: Summary of Findings

	NAS	NSF/ NIH 2007	GSS	SED 2008	SDR 2008	AAU	NPA	Sigma Xi	AAMC	FASEB	UC
Research											
Training											
Temporary											
PhD Equivalent											
Supervised											
Full Time											
Publications											
Recent Degree											
Foreign PhD Equivalent											
Mentorship											
Clinical Fellow											

 Indicates definitional element is applicable



# GSS Postdoc Definition

1. Holds a recent doctoral degree, generally awarded within the last 5 years, such as:
  - PhD or equivalent (e.g., ScD or DEng) **or**
  - First professional degree in a medical or related field (MD, DDS, DO, DVM) **or**
  - Foreign equivalent to a U.S. doctoral degree

**AND**

2. Has a limited-term appointment, generally no more than 5–7 years:
  - Primarily for training in research or scholarship and
  - Working under the supervision of a senior scholar in a unit affiliated with **your** institution



# Findings from Quick Turnaround Survey with U.S. Academic Institutions

Which of the following characteristics are included in this department's/ program's/center's standard definition?	GSS Respondents
(!) The appointee holds a PhD or equivalent doctorate	90%
(!) The doctorate was awarded recently, generally within the last 5 years	61%
*(!) The appointment is for a limited term, the limit generally being 5-7 years	54%
(!) The appointment is primarily for the purpose of training in research or scholarship	71%
The appointee works under the supervision of a senior scholar in a department or research unit affiliated with the university	77%
Other (specify)	12%

n= 2,552; (!) In OECD top 5; \*Later changed to generally no more than 5-7 years  
Source: Postdoc Data Project – preliminary results



# Findings from Quick Turnaround Survey with Postdocs

Definitional elements selected as formal requirements and/or expectations of a postdoc	From a professional association (n=563)	From a federal government agency(n=72)
(!) Requires a PhD or equivalent doctoral degree, such as MD	94%	95%
Requires publication of research in scholarly journals	89%	90%
(!) Is primarily for the purpose of providing research training	79%	76%
Is for a defined period of time	73%	76%
(!) Is temporary	67%	67%
Requires that you work under a senior scholar	69%	62%
(!) Requires that the doctorate was recently awarded	54%	47%

# Findings from Quick Turnaround Survey with a Federal Government Agency

Definitional elements selected as formal requirements and/or expectations of a postdoc	Postdocs (n=72)	Non-postdocs (n=47)
(!) Requires a PhD or equivalent doctoral degree, such as MD	100%	87%
Requires publication of research in scholarly journals	94%	83%
(!) Is primarily for the purpose of providing research training	96%	45%
Is for a defined period of time	96%	47%
(!) Is temporary	94%	26%
Requires that you work under a senior scholar	79%	36%
(!) Requires that the doctorate was recently awarded	56%	33%



# Postdoc Definitions Used in Focus Groups

## AAMC/AAU

- The postdoctoral appointment is temporary and conferred upon an individual who has recently been awarded a Ph.D. or equivalent doctorate in an appropriate field and who will be involved in full-time research or scholarship. The appointment is viewed as preparatory for a full-time academic and/or research career, is supervised by a senior scholar, and the appointee has the freedom, and is expected, to publish the results of her/his research or scholarship during the period of the appointment.



# Postdoc Definitions Used in Focus Groups

## NPA

- A postdoctoral scholar (“postdoc”) is an individual holding a doctoral degree who is engaged in a temporary period of mentored research and/or scholarly training for the purpose of acquiring the professional skills needed to pursue a career path of his or her choosing. Postdoctoral appointees can pursue basic, clinical or translational projects so long as their primary effort is devoted toward their own scholarship.

## NSF/NIH

- An individual who has received a doctoral degree (or equivalent) and is engaged in a temporary and defined period of mentored advanced training to enhance the professional skills and research independence needed to pursue his or her chosen career path.”



# Postdoc Definitions Used in Focus Groups (cont.)

## SED\*

- A "postdoc" is a temporary position primarily for gaining additional education and training in research, usually awarded in academe, industry, or government.

## SDR 2006\*

- A "postdoc" is a temporary position awarded in academe, industry, or a *non-profit organization*, or government primarily for gaining additional education and training in research.

\*Postdoc definitions used in SRS surveys.

# Findings from Focus Groups with Postdocs

- Postdocs' order of preference for five postdoc definitions:
  1. NPA
  2. NIH/NSF and the AAMC/AAU (tied)
  3. SED
  4. GSS (*OECD - One of the two most popular postdoc definitions*)
- Postdocs indicated that the following are core criteria for the components of a postdoc definition:
  - Possess a doctorate
  - Early career stage and plans to advance
  - A period of training
  - Mentoring
  - The word “postdoc” in their official title



# Challenges

- Different labels for the same type of position pose a problem for sampling and data collection activities
- Determining concepts and definitions that will ensure standardization within and across institutions and that will minimize reporting errors
- Allowing for different ways of maintaining, updating, accessing and retrieving postdoc data within and across institutions
- Collecting postdoc data from the person most knowledgeable about postdocs



# Summary

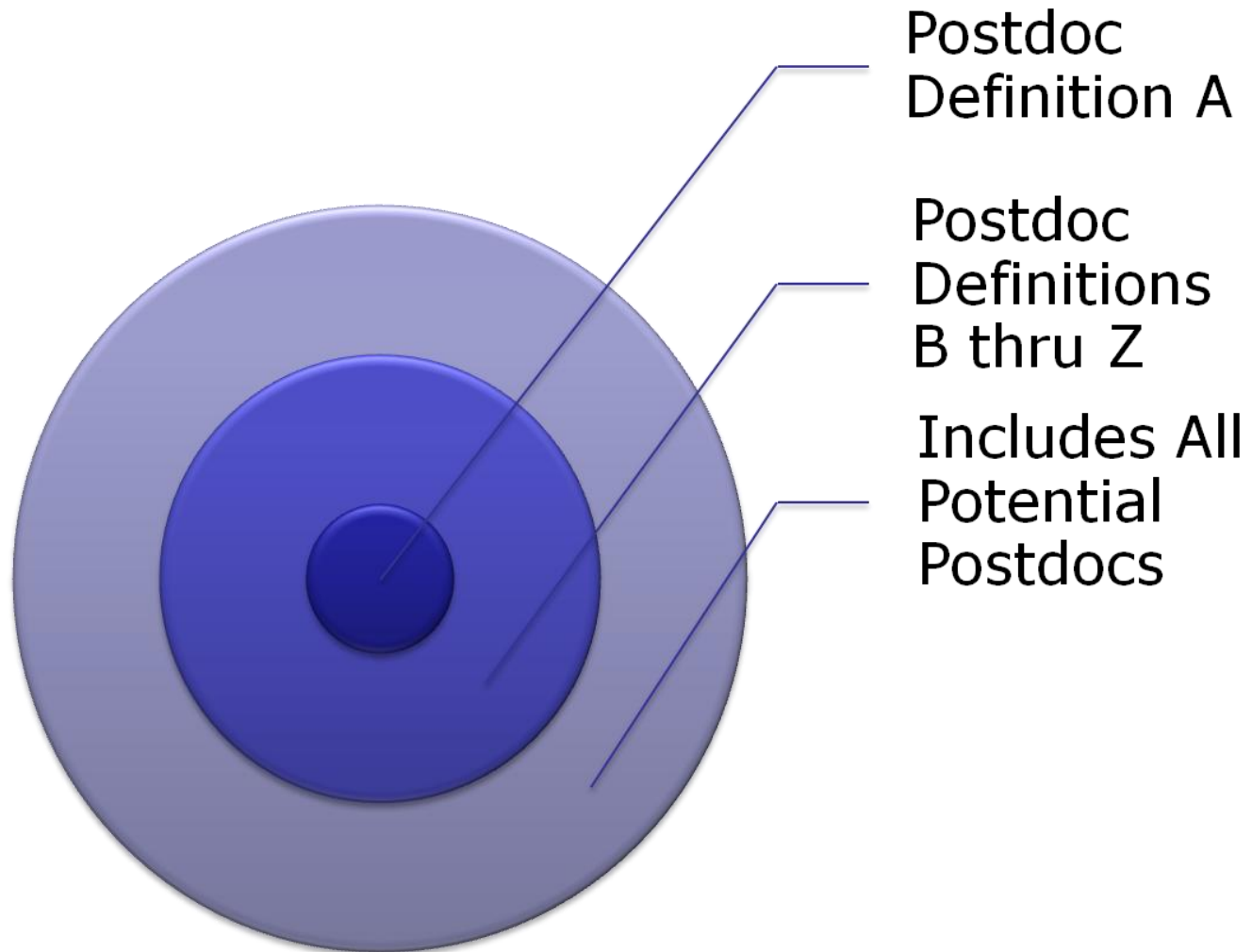
- New initiatives are developing in academic institutions for supporting and documenting postdocs
- Institutions often do not have postdoc definitions or have ones that differ from the postdoc definition NSF/SRS uses
- A single individual often cannot provide all of the postdoc information
- Postdoc data records do not typically include information about foreign degrees or funding sources



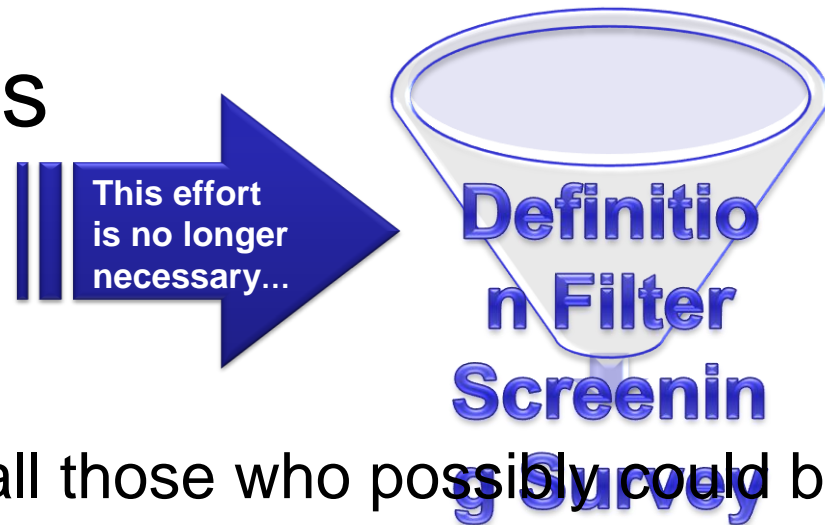
## Summary (cont.)

- Typically two definitions exist for postdocs within an institution: a functional definition and a policy definition
- Discussions of institutional postdoc definitions should also include institutional postdoc policies
- Many institutions have neither a postdoc policy nor a definition
- There is an apparent split between individuals within institutions with
  - knowledge on the policies and definitions
  - the assignment to provide actual data about postdocs

# Postdoc Population is a Moving Target



# Widening the Focus



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



# Widening the Focus: Developing a Uniform Postdoc Definition

Thinking about the positions for the individuals at {DISPLAY INSTITUTION NAME} who received a PhD within the last ten years, do any of the positions have the following characteristics? (Select all that apply.)

- The position is primarily for the purpose of training in research.
- The position is temporary.
- The position requires that you work under a senior scholar.
- The position requires publication of research in scholarly journals.
- The position is for a defined period of time.
- The position requires a Ph.D. or an equivalent doctorate, such as an M.D.
- The position requires that the doctorate was recently awarded.



# Widening the Focus: Developing a Uniform Postdoc Definition

Listed below are common characteristics of early career research positions. For each characteristic, please tell us if it is a requirement of your current position. (1. Yes, 2. No)

The position...

- Requires a Ph.D. or an equivalent doctorate, such as an Sc.D., M.D., D.V.M or D.D.S.).
- Requires that the doctorate was recently awarded.
- Is temporary.
- Is intended to provide training in research.
- Is intended to advance professional skills.
- Requires a full-time commitment to research.
- Requires that you work under the direction of a senior scholar.
- Requires publication of research in scholarly journals.
- Is for a defined period of time.
- Requires mentorship for professional development.
- Is intended to prepare you for an independent career.



# Next Step for Developing a Uniform Postdoc Definition

Test the feasibility of conducting a survey that allows data comparisons among recent PhD recipients of postdocs (by various definitions) and nonpostdocs among recent PhD recipients



# Widening the Focus: Developing a Uniform Postdoc Definition

- When offered this position, were you provided information on...(yes, no, don't know)
  - Salary
  - Benefits
  - The end date of the position
  - Research projects that you would be working on
  - The responsibilities of the position
- What were your primary reasons for left...



# Widening the Focus: Developing a Uniform Postdoc Definition

- Are you currently working for pay?
- Are you currently engaged in research activities?
- Are you a postdoctoral researcher (i.e. postdoc)?
  
- How does your institution classify your position...
  - Employee
  - Student
  - Other
  - Don't know