Data on Postdocs in the US: Where Have We Been, and Where Are We Headed?

NPA Annual Meeting
March 16, 2013
Data.

Scott Adams, @UniversalUclick
Today’s Program

Past and Current National Data Collection Efforts
• NSF Surveys
• Sigma Xi Postdoc Survey
• Other National Collection Efforts
• NPA Data Collection

Snapshot of National Postdoc Data

Institutional Data Collection Efforts
• Survey Results

What’s Next?
• ECDS
• ORCID
• NPA Institutional Policy Database
National Data Collection Efforts

Past and Current
National Data Collection Efforts

National Science Foundation

National Center for Science and Engineering Statistics (NCSES)

Survey of Earned Doctorates (SED)
Survey of Doctorate Recipients (SDR)
Survey of Graduate Students and Postdoctorates in Science and Engineering (GSS)
National Data Collection

Survey of Earned Doctorates (SED)

Began in 1957
Response rate of over 96%
Sponsored by NSF, NIH, DOE, DOA, NEH, & NASA
Measures individual's education, characteristics, and postgraduation plans

Limitations: Good data, but only captures U.S. trained-PhDs
National Data Collection

Survey of Doctorate Recipients (SDR)

- Conducted every 2 to 3 years since 1973
- Follows individuals from graduation through age 75
- Samples drawn from the SED
- Longitudinal study designed to track career movement over time

Limitations: Good data, but only captures U.S. trained-PhDs
National Data Collection

Survey of Graduate Students and Postdoctorates in Science and Engineering (GSS)

Began in 1966
Sponsored by the NSF & NIH
Captures data on # of grad students, postdocs, and PhD-holding non-faculty researchers
2009—focused on graduate students
2010—major redesign of instrument, expanded postdoc section and changed methodology

Limitations: Includes PhDs trained outside of the U.S., but limited data (does not include race, ethnicity, career plans, etc.), and does not capture postdocs in industry, non-profits
National Data Collection

Sigma Xi Postdoc Survey

Surveyed 22,000 postdocs in 2003-2004
7,600 respondents
Comprehensive survey, covered demographics,
career plans, satisfaction with postdoc experience,
mentorship, benefits, salary

Limitations: Data is no longer current
Other National Efforts

Publications

The Scientist: Best Places to Work

Professional Associations

AAS postdoc child care study

Individual studies

Kenneth Gibbs/Kimberly Griffin

STEM Ph.D. Careers
Efforts within the NPA

National Postdoctoral Association

**Postdoc Pilot Survey**, 2009 (funded by Sloan Foundation)
"Quick Surveys"
- Retirement, March 2010
- Postdoc Status for Grant Proposals, May 2010

**Institutional Survey on Postdoctoral Compensation, Benefits, and Professional Development Opportunities**, 2011

**Survey of Postdoctoral Scholars**, 2012
- Led by the Resource Development Committee
- Completed by more than 1,300 postdocs
- Report to be released in 2013
National Data Collection

Snapshot of National Postdoc Data
Postdoc Data Over Time

Number of Postdocs in Science, Engineering, Health

*Only includes postdocs from degree-granting institutions

Postdoc Data Over Time

Postdocs in Science & Engineering by Gender

Percentage of female S&E postdocs, 2010: 34.7%

Postdoc Data Over Time

Postdocs in Science & Engineering by Citizenship

Percentage of S&E postdocs with temporary visa, 2010: 53.6%

Postdoc Data

Postdocs in Science & Engineering by Race/Ethnicity

Of total # of PhDs with plans, % of URM PhDs, 2010: 12%

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Earned Doctorates, 2010
Institutional Data Collection

Survey Results
Institutional Data Collection

Do you currently conduct survey(s) of your postdoctoral population?

- Yes: 77%
- No: 23%

Source: NPA mini-survey to Sustaining Members. Data collected from 1/7/2013-2/2/2013, N = 82, 49% response rate
Institutional Data Collection

What type(s) of survey data do you gather? Check all that apply.

- Demographic data: 70.6%
- Satisfaction with postdoc appointment: 66.7%
- Program evaluations: 66.7%
- Careers of interest / career plans: 76.5%
- Exit / outcome / employment data: 31.4%
- Other (please specify): 33.3%

Other: # of publications, talks; program suggestions; mentoring; benefits
Institutional Data Collection

How frequently do you survey your postdocs? List all that apply.

- Monthly: 2.0%
- Annually: 39.2%
- At beginning of appointment: 17.6%
- At end of appointment: 25.5%
- Sporadically: 41.2%
- Other (please specify): 35.3%

Other: biennially, after programs
Institutional Data Collection

How do you use your survey data?

- 92.0% To improve postdoc satisfaction
- 88.0% To develop targeted programming
- 58.0% To educate our faculty
- 20.0% To benchmark our center/institution
- 20.0% Other (please specify)
- Other: to build a postdoc database, to measure productivity, to respond to NSF
Sample Survey

MIT Institutional Research, Office of the Provost

Population
Honors & Awards
Common Data Set

Financial Indicators
Research Expenditures
Tuition Data

Briefing Book
Education Highlights
Research Highlights

Surveys
Rankings
MIT IR Staff

< Surveys

Postdoctoral Scholars Survey

MIT periodically surveys the postdoctoral community on a broad range of topics to better understand the needs of this community.

<table>
<thead>
<tr>
<th>Survey</th>
<th>Instrument</th>
<th>Response</th>
<th>Results</th>
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</thead>
<tbody>
<tr>
<td>2012 Faculty and Staff Quality of Life Survey</td>
<td>Web Preview</td>
<td>61% Overall</td>
<td>Highlights Frequencies by Employee Type (Main Campus)</td>
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<tr>
<td>2010 Postdoctoral Life at MIT</td>
<td>Web Mockup</td>
<td>57%</td>
<td>Findings from the 2010 Postdoctoral Scholar Survey</td>
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<tr>
<td>2003 Survey of Postdoctoral Scholars</td>
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<td>Overall Results</td>
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Recent Findings (2010 Postdoctoral Life at MIT)

- Postdoctoral scholars report working hard.
  Overall 34% of respondents reported working 50 to 59 hours a week, and 29% reported working over 60 hours a week.
- Postdoctoral scholars generally have a positive perception of the workplace climate. Generally, postdoctoral scholars feel that their supervisor creates a collegial and supportive environment and helps them obtain the resources they need.
- When asked to rate their satisfaction with their overall postdoctoral experience at MIT, 87% of respondents said they were very or somewhat satisfied. This is slightly up from 83% in 2003, however, the percentage of very satisfied respondents jumped dramatically from 24% in 2003 to 48% in 2010. (On the 2012 Quality of Life Survey, 88% of postdoctoral scholars report they are somewhat or very satisfied being an employee of MIT.)
- Postdoctoral scholars were asked if they would recommend spending time in a postdoctoral position at MIT to a present graduate student similar to themselves. 84% said they would recommend or enthusiastically recommend MIT. This is slightly up from 79% in 2003, but the percentage of respondents who would enthusiastically recommend MIT jumped from 26% in 2003 to 43% in 2010.
- Read more in Findings from the 2010 Postdoctoral Scholar Survey.
What’s Next?
What’s Next?

NSF Early Career Doctorates Study (ECDS)

Originally called Postdoc Data Project
Expanded to include “early career doctorates”
SDR → benchmark for ECDS
2012—Initial data collection launched
40 institutions, 2100 respondents, closed 3/4/2013
Fall 2013—Full survey launch

Limitations: Unknown at this point.
What’s Next?

**ORCID: Open Researcher and Contributor ID**

- Registry of unique identifiers for researchers
- FREE for all researchers worldwide
- NIH is working to embed ORCID identifiers into grant application process
- 75,913+ researchers have an ORCID iD
- BU is 1st university to integrate with ORCID

Limitations: Will take time to realize potential, including tracking researchers career development over time
Announcing the **NEW & IMPROVED** Institutional Policy Database!
Replaces IPD from 2011
In testing phase; full launch anticipated in April.

We need volunteers to test the system.

Special thanks to the task force:
- **Leslie Beckman**, The University of Texas Health Science Center at Houston;
- **Valerie Saltou**, The University of Colorado at Denver;
- **Melanie Sinche**, Harvard University; and
- **NPA Staff Member Kryste Ferguson**.
- **NPA Staff Members** Cathee Johnson Phillips, Amy Wilson, and Kathleen Flint Ehm.

Special thanks to the **Burroughs Wellcome Fund** for their support.
NPA Institutional Policy Database

Will insert link to database here
NPA Institutional Policy Database

**Improvements**
- Carefully worded questions
- User-friendly interface
- Ability to download customized reports

**Important Outcomes**
- Provides ongoing source of reliable data for institutional support of postdocs
- Institutions can compare themselves with their peers
- Federal agencies can gain knowledge of the postdoctoral community

**Required for Success**
- Your participation, initially and annually thereafter
Final word.

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