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# Growing Progress in Supporting Postdocs

**2021** National Postdoctoral Association  
Institutional Policy Report

**SIGMA XI**  
THE SCIENTIFIC RESEARCH HONOR SOCIETY

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# 2021 National Postdoctoral Association Institutional Policy Report

## Introduction

Over the past 19 years, the National Postdoctoral Association (NPA) has grown from a committee of postdoctoral leaders from across the country to an established nonprofit with the continuous mission to improve the postdoctoral experience. Through advocacy and outreach activities, the NPA provides a unified national platform to facilitate connections, raise awareness, and collaborate with stakeholders within the postdoctoral community at all levels (individual, organizational, and national). This report represents the results of the third iteration of the NPA Institutional Policy Survey, which seeks to understand the needs of the postdoc community, to document institutional and training environments, and to assess the supporting policies and training opportunities led by the offices of postdoctoral affairs that direct and manage these activities. The NPA Institutional Policy Survey is typically conducted the year prior to the release of each Institutional Policy Report.

Postdoctoral scholars, or postdocs, are defined by the National Institutes of Health and other institutions as individuals who hold doctoral degrees and who are engaged in a temporary period of mentored research and/or scholarly training for the purpose of acquiring the professional skills needed to pursue their chosen career path.<sup>1</sup> Although postdoc fellowships have existed for more than a century, it is only in the past 30 years that this training model has been more widely adopted and subsequently studied. The most recent comprehensive report from the National Academies of Sciences, Engineering, and Medicine, published in 2018, noted continued challenges affecting the postdoctoral community, such as: the need for professional development appropriate for a diversity of career options; the collection and dissemination of alumni career outcomes; increased diversity, equity, and inclusion; increased compensation and benefits; mentor training; and expanded

NIH individual postdoc fellowship awards, among other challenges.<sup>2</sup> Numerous other research teams and publications are beginning to look at training outcomes and career options, creating comprehensive training programs, and postdoc salaries, as well as examining inequities within subgroups of U.S. postdocs (women, minorities, and people from other countries).<sup>3,8</sup>

Since 2005, the NPA's Recommendations for Postdoctoral Policies and Practices has served as a benchmark for an optimal postdoc training environment. These recommendations include four overarching themes:

1. establishing a postdoctoral office (PDO) and/or postdoctoral association (PDA) that actively engages and represents postdoctoral scholars
2. establishing postdoctoral policies
3. maintaining an office for international scholar services
4. establishing a diversity office to ensure diversity, equity, and inclusion (DEI)<sup>4</sup>

The Institutional Policy Survey was established to examine the institutional environments and adoption rates of the recommendations, and to summarize these findings for the benefit of all stakeholders in the postdoctoral community.

### The Need for Data Collection and Analysis

Data collection and analysis to evaluate the postdoctoral training environment continues to be vital for institutional- and national-level advocacy and policy that promotes initiatives to support postdoc training, including equitable compensation and benefits, professional development, DEI initiatives, and more. This report represents the third in a series started in 2014. It summarizes findings from the 2019 survey data and examines trends across the series. The questions used in the 2019 survey were based on the 2013 and 2016 surveys and were expanded to examine specific findings from the prior surveys in greater detail. The NPA's Institu-



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## 2019 NPA INSTITUTIONAL POLICY SURVEY RESPONDENTS

Arizona State University  
Boston College  
Boston University  
Broad Institute of MIT and Harvard  
Case Western Reserve University  
Children's Hospital of Philadelphia Research Institute  
Cincinnati Children's Hospital  
Cleveland Clinic, Lerner Research Institute  
Columbia University  
Cornell University  
Drexel University  
Duke University  
East Carolina University  
Emory University  
Georgetown University  
Georgia Institute of Technology  
Gladstone Institutes  
Harvard Medical School  
Harvard University Faculty of Arts and Sciences  
Indiana University Bloomington  
Iowa State University  
King Abdullah University of Science and Technology  
Maine Medical Center Research Institute  
Medical College of Wisconsin  
Medical University of South Carolina  
National Institutes of Health, Office of Intramural Training & Education  
New York University  
New York University Langone Health  
North Carolina State University  
Pennsylvania State University  
Purdue University  
Rice University  
Rosalind Franklin University  
Roswell Park Comprehensive Cancer Center  
Salk Institute for Biological Studies

## 2019 NPA INSTITUTIONAL POLICY SURVEY RESPONDENTS (continued)

Sanford Burnham Prebys Medical  
Research Institute  
Scripps Research  
Seattle Children's Research Institute  
Stanford University  
Stony Brook University  
Stowers Institute  
The Ohio State University  
Thomas Jefferson University  
Tufts University  
Tulane University  
University of Arizona  
University of California, Los Angeles  
University of California, San Francisco  
University of Central Florida  
University of Connecticut  
University of Georgia  
University of Illinois at Chicago  
University of Illinois at Urbana-Champaign  
University of Maryland, College Park  
University of Miami  
University of Michigan  
University of Missouri  
University of Nevada, Las Vegas  
University of North Carolina, Chapel Hill  
University of North Texas Health Science  
Center  
University of Notre Dame  
University of Pennsylvania  
University of Pittsburgh  
University of Rochester  
University of South Florida  
University of Texas Health Science Center  
at Houston  
University of Texas MD Anderson Cancer  
Center  
University of Texas Southwestern Medical  
Center  
University of Vermont  
University of Virginia  
University of Washington  
University of Wisconsin-Madison  
Van Andel Institute  
Vanderbilt University  
Virginia Commonwealth University  
Virginia Tech  
Wake Forest School of Medicine  
Washington University in St Louis  
Wayne State University

tional Policy Survey remains the only comprehensive survey of institutions that train postdoctoral scholars.

To understand the national landscape of postdoctoral issues, the NPA surveys its member postdoctoral offices to record the general demographics of their postdoc populations; structure of the office that serves them; postdoc-specific institutional policies, compensation, and benefits; and career and professional development services.

### Previous Studies and Recommendations

Previous NPA Institutional Policy Report recommendations highlighted the need for continued support to

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## Although postdoc fellowships have existed for more than a century, it is only in the past 30 years that this training model has been more widely adopted and subsequently studied.

expand funding for PDOs, to expand professional development training programs, to expand health benefits and retirement account options for postdocs, to limit the postdoc training period to five years, and to capture data both through exit surveys and longitudinally about career outcomes of alumni.<sup>5,6</sup> In recent years, more surveys/studies to examine aspects of the postdoctoral experience have been conducted on a variety of topics (including professional development, diversity issues including gender, parenting, and minorities, and sexual harassment).<sup>7,8,9,10</sup> Although these studies have been focused at the individual postdoc level, the findings from these surveys corroborate our previously published institution-level findings and highlight the need for continued work in these areas.

## Methodology

### 2019 NPA Institutional Policy Survey

Each of the 199 NPA institutional members received a unique link to the 2019 NPA Institutional Policy

Survey via email in April 2019, followed by scheduled reminders. These members consisted of U.S. universities and research institutes training postdocs. Of these, 89 institutions (45 percent) started the survey and 79 institutions (40 percent) completed the survey in its entirety. This unique, comprehensive survey was designed to facilitate understanding of the current state of the postdoc environment at institutions nationwide, and covered the following topics:

- institution demographics (including postdoc office structure)
- appointment, review, and exit processes
- postdoc-specific institutional policies
- compensation and benefits
- professional development/training programs
- demographics of the postdoc population

The same four postdoc appointment categories were used to ensure direct comparison between the 2013, 2016, and 2019 surveys:

**Institutionally Funded Postdoc Employees (IFPE):** The classification(s) an institution typically uses for a postdoc funded on a principal investigator's grant (for example, an NIH R01 grant).

**Institutionally Funded Postdoc Trainees (IFPT):** The classification(s) an institution typically uses for a postdoc funded on a principal investigator's grant (for example, an NIH T32 grant) but who cannot be an employee of the institution.

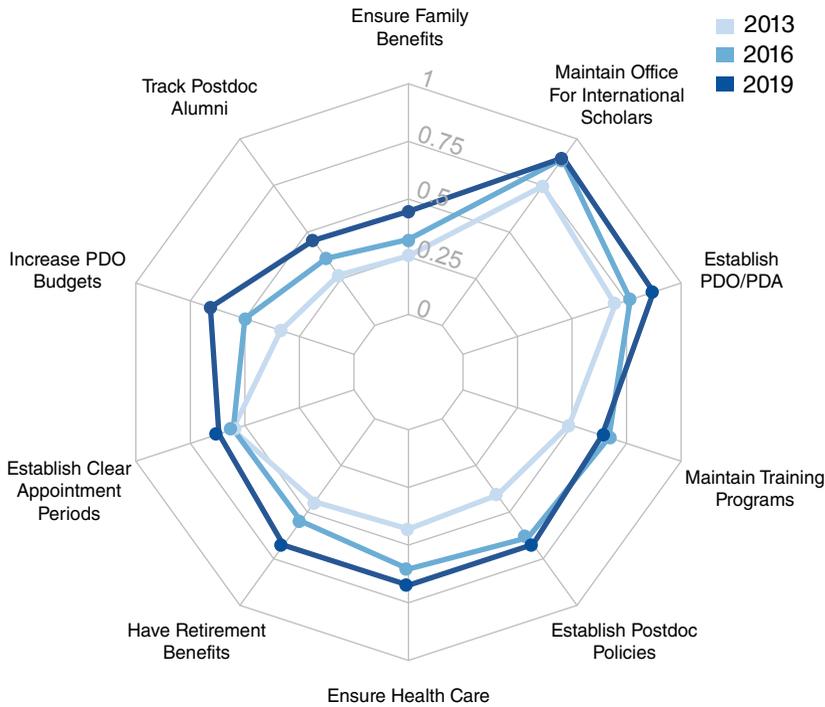
**Individually Funded Postdocs (IFP):** The classification(s) an institution typically uses for a postdoc individually funded by a fellowship that is paid to the institution (such as an NIH National Research Service Award).

**Externally Funded Postdocs (EFP):** The classification(s) an institution typically uses for a postdoc funded by a fellowship that is paid directly to the postdoc (such as a fellowship from a foreign country).

### Expanding the Survey for 2019

After analyzing the findings of the 2016 survey, it was clear that additional questions were necessary to allow the 2019 survey to clarify certain structures and policies highlighted in the 2017 report. Eighteen new questions were strategically added by

## Historical Trends and Opportunities for Growth for NPA Recommendations



the NPA Institutional Policy Survey Taskforce (“survey taskforce”) to provide insight regarding postdoc office (PDO) structures and administrative functions, postdoc-specific policies, and benefits equity among different classifications of postdocs. Anecdotal evidence of PDO expansion at some member institutions required additional questions to identify and define the nuances of how PDOs are structured, and to better understand their role in shaping the postdoc experience. Although different PDO structures can achieve the same goals, it is important to know how they are supported at the institutional level.

These new questions queried basic information, such as the name of the PDO and the year the office was established, the scope and reach of PDO activities within the institution, and which individuals are responsible for postdoctoral affairs activities, including that individual’s title and percent effort. These new data allow analysis and clearer understanding of the various ways PDOs can be successfully structured and supported at institutions. Upon reflection on the institutional needs that were identified in 2016, the survey taskforce also added more detailed questions to ascertain the success of institutional processes to ensure that postdocs are

accurately identified and counted, and whether PDOs are adhering to and enforcing these related policies. Lastly, additional questions were created to clarify institutional administrative functions (e.g., appointment process, orientation, exit surveys, and alumni tracking), benefits (e.g., fringe rates and clarifying access to benefits across appointment types), and access to mental health and wellness programs.

## Overview of Findings

The NPA Institutional Policy Survey was initiated in 2013 to measure the implementation of the NPA Recommended Policies and Practices, established as best practices for institutions hosting postdocs; this report is written with that framework in mind. The data have been analyzed to visualize the growth and sustainability of policies and programs, including subgroup analyses by institution type, number of postdocs, and NIH funding levels. Additionally, this report examines trends across the three survey years (2013, 2016, and 2019) for the subset of institutions with longitudinal data, to see if certain areas have decreased, increased, or remained the same. The distribution of postdocs among respondents to this survey mirrors those across

the NPA’s overall institutional distribution, providing confidence that our sample is representative of the overall population. Indeed, the respondents represent about 35,000 postdocs, approximately half of the estimated 70,000 postdocs at all 199 NPA member institutions in 2019.

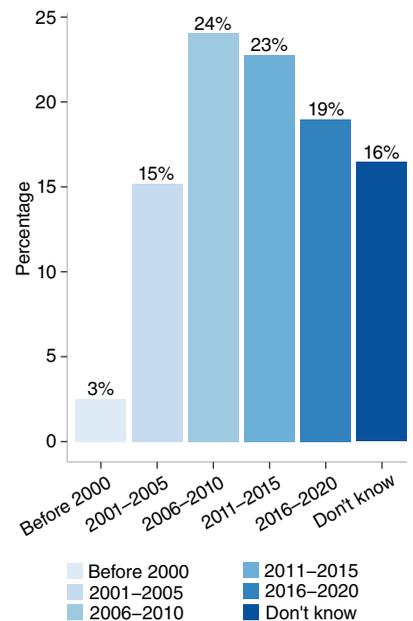
The extent of institutional adoption over time of key NPA Recommended Policies and Practices is represented in the radar graph. There is anecdotal evidence that when these 10 best practices are achieved at institutions, the success of postdocs hosted at such institutions increases during and after their postdoc, as outlined in the NPA’s Core Competencies.<sup>11</sup>

Overall, it is encouraging that there is consistent growth in adoption of these policies and practices over time, despite asymmetrical adoption. Some of the 10 recommendations have been heavily adopted whereas others have seen minimal change over the past six years. The overarching picture still highlights opportunities for significant improvement across institutional postdoc training programs.

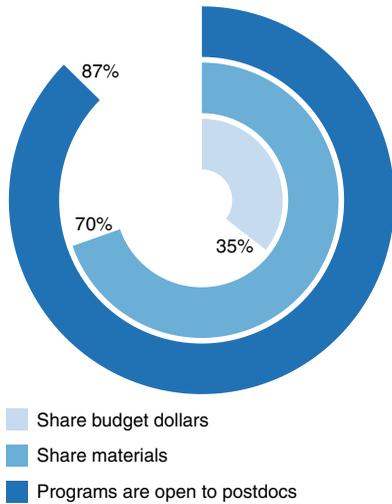
## Postdoc Office Role and Challenges

The postdoc office (PDO) is the lifeblood of postdoc affairs, providing a central resource for all policies and programs pertaining to postdocs at the institutional level. At each survey

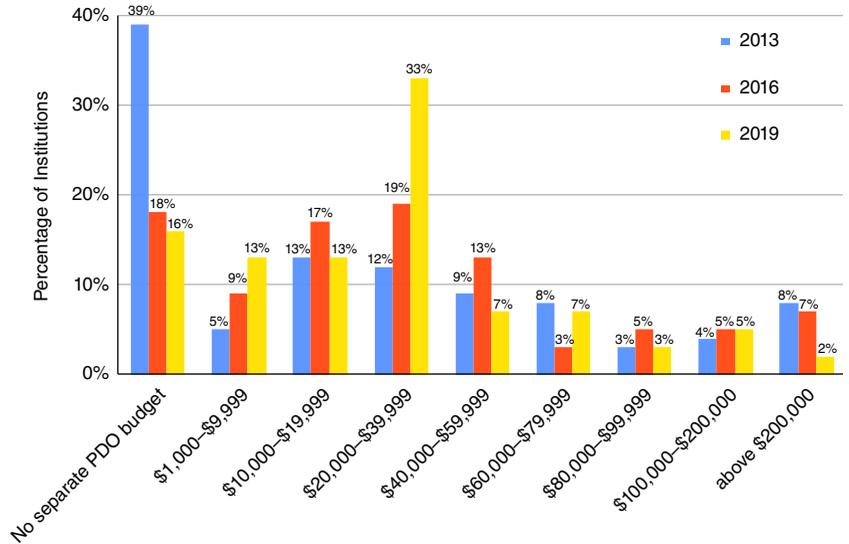
What year did your postdoc office (PDO) begin?



**In what ways do you partner with and/or share resources with other offices?**



**PDO Annual Operating Budget (excluding personnel salaries)**



time point, there has been a continuous increase in the number of dedicated postdoc offices at member institutions, from 167 in 2013 to 199 in 2019, mirroring the known growth from fewer than 25 PDOs in 2003 when the NPA was founded, to 202 in early 2021. The greatest growth in this space occurred between 2006 and 2010, following a period in which the NIH budget was doubled, and has continued over the years to near-universal adoption among institutions that support postdocs. This trend is welcome, as we have seen a positive link between establishing a formal postdoc office and improved postdoc policies and programs within an institution.

The newly added questions within the 2019 survey that examine postdoc office structure indicate that 83 percent of PDOs are responsible for

all postdocs at their institutions, with only a fraction of institutions having either discipline-specific or multiple PDOs. The survey clarified that PDOs overwhelmingly initiate within the medical science area of their institutions, with 100 percent of respondents indicating they represent postdocs in the medical sciences and 89 percent in biosciences, and these data also reflect where the majority of postdocs are found within institutions. Similar to prior survey findings, the majority of PDOs report to and are funded by a graduate school, provost, or research affairs division. Overall, the data reveal that different structures are applied at different institutions and that no one standard exists that fits all institution types.

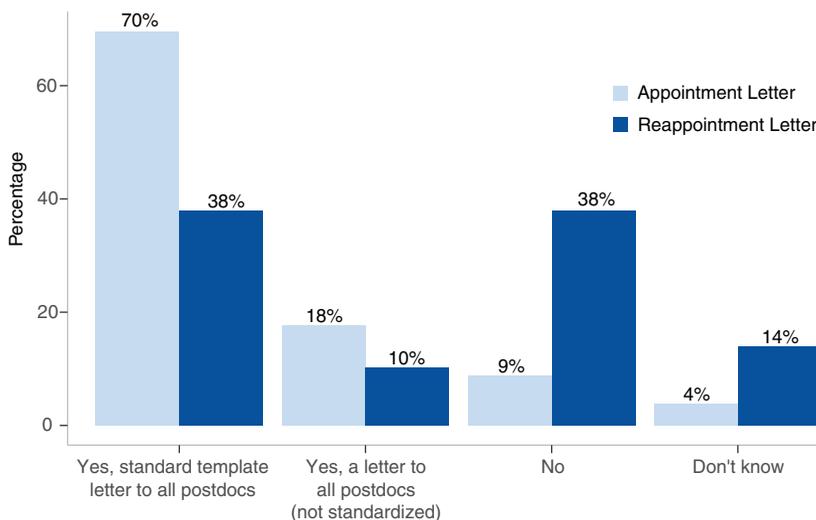
The impact of the PDO can only be as strong as the number of employ-

ees who support it. Unfortunately, this area has seen little growth; the mode remains 1 full-time equivalent (FTE) staff per PDO, indicating that the majority of PDO offices who responded to the current survey are an office of 1 FTE. It is encouraging that the average FTE per PDO rose from 1.24 FTEs in 2016 to 1.84 FTEs in 2019, but this increase primarily occurred in offices that already had more than 1 FTE. With an average of roughly 450 postdocs per institution, it is a significant challenge for a single individual to serve all postdocs, as well as faculty and other administrators who require support and data. It is important to note that there are many one-person PDOs across the country that currently manage many more postdocs than this average.

It is encouraging to see a trend of PDOs receiving budgets, but the average budget (excluding personnel salaries) remains in the same range of \$20,000 to \$40,000 found in 2016, and the top quartile of budgets shows no growth. The most positive trend observed in the data is that the number of PDOs with no annual operating budget (excluding personnel salaries) has decreased from 39 percent in 2013 to 16 percent in 2019.

Because of these conditions, the success of the PDO often comes through partnerships with other departments within the institution or with other offices at nearby institutions. Shared resources across these partnerships represent a creative solution for achieving impactful

**Is there a standard appointment letter or reappointment letter for postdocs?**



## A defined appointment process brings structure to the onboarding process, and can lead to the creation and enforcement of related policies, such as consistent classification and streamlined, succinct postdoc titles.

training for postdocs, as well as efficiency for the institution: 35 percent of respondents indicated they share budget dollars with other offices at their institution, 70 percent share materials, and 87 percent conduct programs that are open to postdocs.

### Postdoc Onboarding and Appointment

The appointment process for onboarding postdocs provides crucial information about the training environment and institutional policies, and establishes expectations critical to a successful postdoc experience at an institution. Providing contact information for the PDO at this step ensures postdocs know before they arrive whom they can contact for various needs outside their research area. Beyond the fact that a defined appointment process brings structure to the onboarding process, it can also lead to the creation and enforcement of related policies, such as consistent classification and streamlined, succinct postdoc titles that enable accurate counting of the number of postdocs at a given institution. This standardization translates to a better understanding of the number of postdocs nationwide when surveyed for this type of data. The use of consistent titles is of greater importance than it may appear at first glance. The ability to more accurately count and measure not only the number of postdocs in an institution and across institutions, but also their demographic and specialization data, can profoundly affect the ability to convey both postdoc needs and impact.

The 2019 data showed 94 percent of institutions have a uniform appointment process, and 70 percent issue a standardized letter to incoming postdocs that includes important de-

tails such as date of appointment and description of their project. A smooth, comprehensive onboarding process for new postdocs increases certainty, helps minimize misunderstandings, and maximizes productivity.

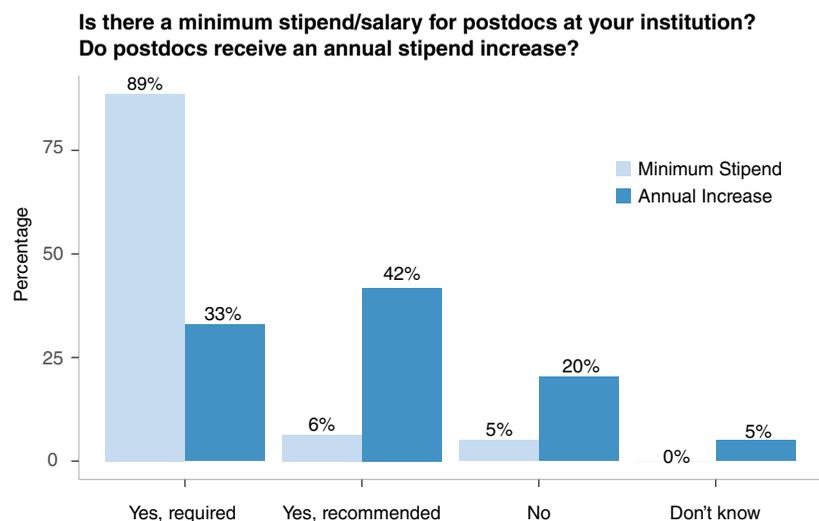
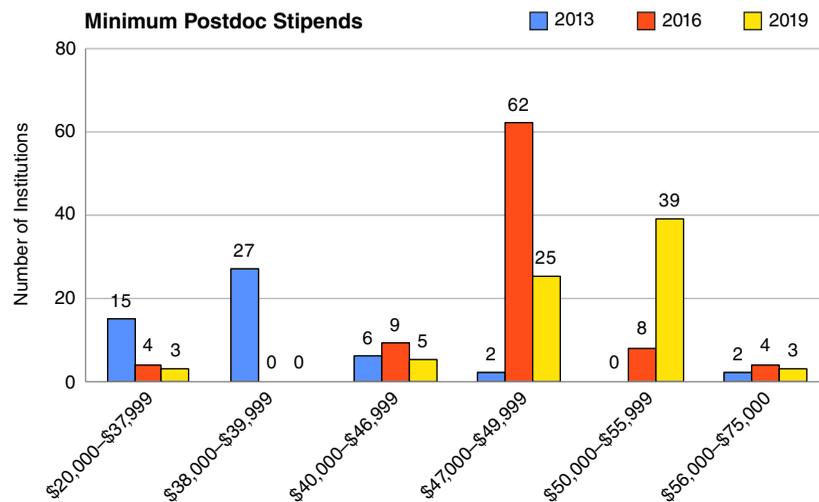
Because the typical postdoc training experience lasts between two and five years, the reappointment process is an important component of a postdoc's experience. In 2019, questions were added to the Institutional Policy Survey inquiring if institutions have a standardized reappointment process. Although nearly all reported having a formal initial appointment process, only 39 percent maintain a formal reappointment process.

Another critical component of PDO success is to know when new postdocs are arriving at their institution, allowing the PDO to begin outreach to the postdocs immediately. A new 2019 survey question found that 85 percent of PDOs are either a part

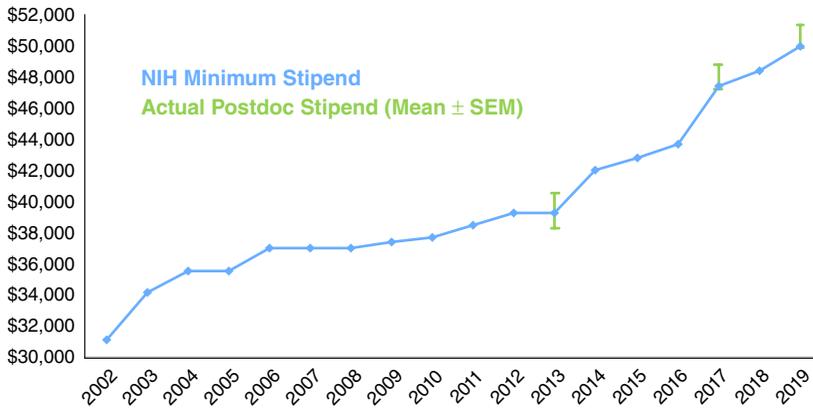
of the new postdoc approval process or can retrieve the records of incoming postdocs from an institutional system. Because previous survey data showed postdoc offices were providing an orientation for postdocs at a very high rate (a trend that continued in 2019 at 90 percent), the 2019 survey added additional questions to better understand the types of orientations offered. The data reveal that only a third of institutions consider postdoc-specific orientation mandatory, and 74 percent of these orientations are conducted by the postdoc office. Other orientations are typically provided by the institution's human resources office; being inherently more general in nature, these orientations may lack specific information important to postdocs.

### Compensation and Term Limits

One of the hallmarks of NPA's advocacy efforts is to increase postdoc



**NIH NRSA Stipend Scale History**

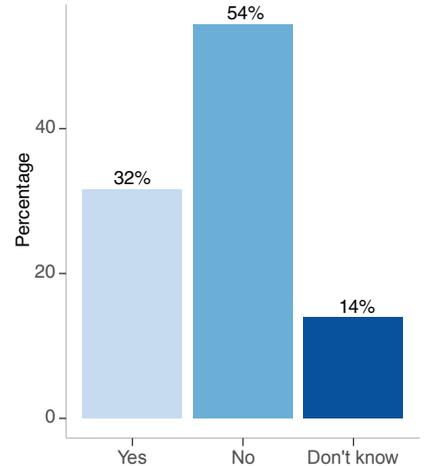


compensation to levels appropriate to experience and education. Over the past 16 years, the amount of the Ruth L. Kirschstein National Research Service Award (NRSA) issued by the NIH, which has provided certain minimum postdoc stipend levels, has increased by 60 percent. This stipend scale is widely used as the standard for minimum postdoc compensation policies at institutions, and increases are evident in the postdoc stipend data over the course of the three Institutional Policy Surveys. In 2019, 50 percent of institutions set a required minimum compensation level for postdocs at the NRSA minimum level or higher. Notably, 29 percent of institutions

are still compensating postdocs at the 2017 NRSA level, a year when there was a substantial increase in postdoc compensation because of the proposed Fair Labor Standards Act revisions. Even though this revision was ultimately not passed into law, the revisions pushed many institutions to promise a proposed higher stipend level of \$47,476. This cohort of entities therefore lags current recommendations.

Although a minimum stipend policy is crucial, another important component to ensure that fair compensation continues is a policy to provide annual increases. Changes from 2016 to 2019 show movement in the direction of recommended

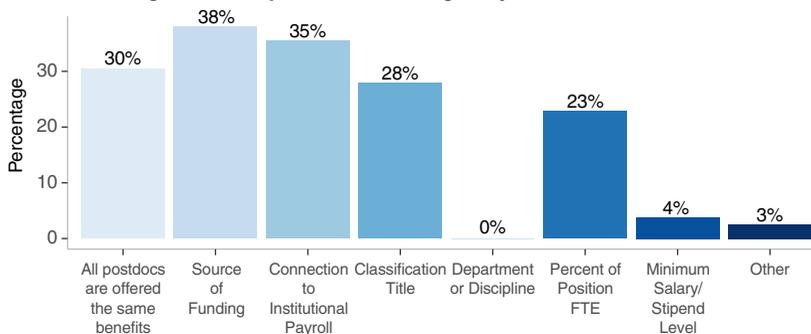
**Does your institution count prior years of experience as a postdoc towards the term limit?**



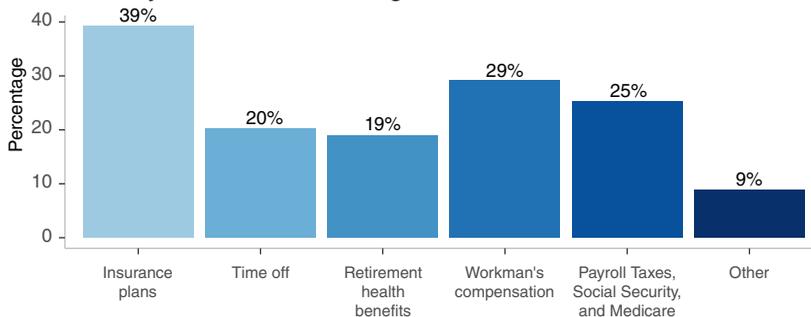
policies. The data show in 2016 that annual increases were required among 36 percent of surveyed institutions and recommended among 43 percent; in 2019, the data changed to 43 percent required and 33 percent recommended.

Along with compensation policies, it is important to set term limits to the postdoc appointment period. The postdoc is a defined period of enhanced research training; thus, it should be a stepping-stone and not a permanent landing for a career. Eighty-nine percent of institutions do set a term limit for postdocs and, of that group, 54 percent count prior years of postdoc experience toward the term limit. This point is very important for ensuring individuals do not spend 10 years or more going from one postdoc appointment to another. The majority of institutions have a policy limiting the maximum length of time as a postdoc to five years. Many institutions do allow a one-year extension for extenuating circumstances, such as parental leave or time lost because of the COVID-19 pandemic.

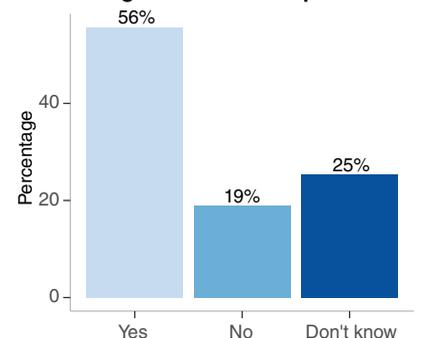
**If the same benefits are not offered to all postdocs, which of the following criteria impacts benefits eligibility?**



**What does the fringe benefit rate cover or what is the pool of money collected from the fringe rate cover?**

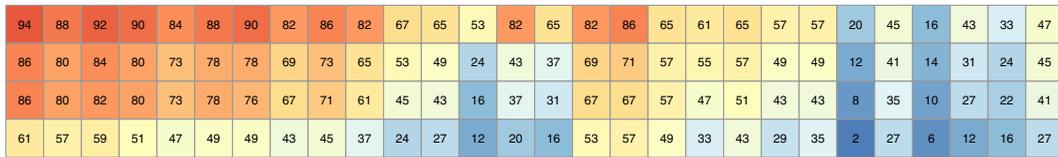


**Has your institution established a fringe benefit rate for postdocs?**

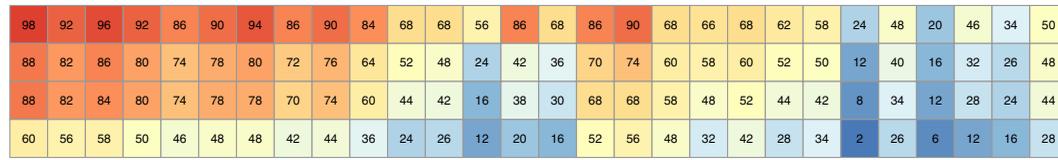


### Benefits: Postdoc Type

2016



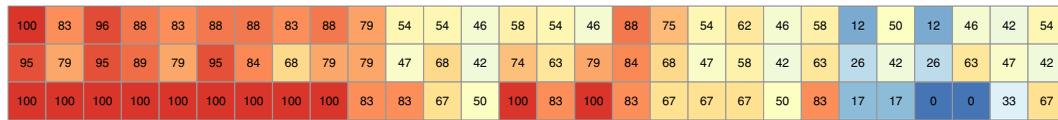
2019



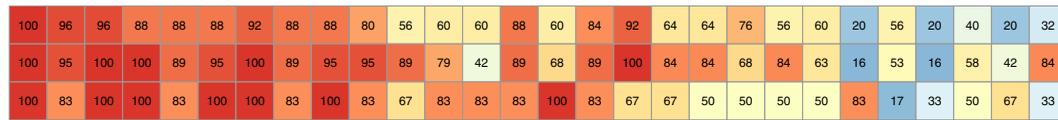
Single Health Ins.  
Two-Person Health Ins.  
Family Health Ins.  
Single Dental Ins.  
Two-Person Dental Ins.  
Family Dental Ins.  
Single Vision Ins.  
Two-Person Vision Ins.  
Family Vision Ins.  
Life Ins.  
Short-term Disability  
Long-term Disability  
Matched Retirement  
Tax-Deferred Retirement  
Flex-Spending Acct.  
Employee Asst. Program  
Paid Time Off  
Unpaid Time Off  
Paid Maternity  
Unpaid Maternity  
Paid Paternity  
Unpaid Paternity Leave  
Adoption Assistance  
On-site Child Care  
Subsidized Child Care  
Tuition Assistance  
Transportation Assistance  
Discounted Athletic Membership

### Benefits: Institution Type

2016



2019



Single Health Ins.  
Two-Person Health Ins.  
Family Health Ins.  
Single Dental Ins.  
Two-Person Dental Ins.  
Family Dental Ins.  
Single Vision Ins.  
Two-Person Vision Ins.  
Family Vision Ins.  
Life Ins.  
Short-term Disability  
Long-term Disability  
Matched Retirement  
Tax-Deferred Retirement  
Flex-Spending Acct.  
Employee Asst. Program  
Paid Time Off  
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Paid Maternity  
Unpaid Maternity  
Paid Paternity  
Unpaid Paternity Leave  
Adoption Assistance  
On-site Child Care  
Subsidized Child Care  
Tuition Assistance  
Transportation Assistance  
Discounted Athletic Membership

Policy is only effective and beneficial to postdocs if it is implemented and enforced. The 2019 survey added a new question to help better understand who enforces postdoc policy. As was expected, 66 percent of respondents said PDOs do actively enforce postdoc policy. For instance, the head of the PDO often mediates situations between postdocs and their supervisors.

#### Equal Benefits for All Postdocs

The NPA Recommended Policies and Practices states: “Provide a comprehensive, fair, and equitable benefits package to postdocs, comparable to that which is received by standard employees whether national or international at the same institution.” Basic insurance plans are offered to

the vast majority of postdocs, which is a positive sign. Looking at benefits offered by institution type, we see the greatest increases—roughly 15 percent—between 2016 and 2019 in vision, life, short-term disability, and long-term disability insurances at private institutions. For both public and private institutions there are marginal increases among the other insurance benefits. For the important topic of family leave, we see positive gains in paternal leaves, both paid and unpaid, as well as an increase in general paid time off.

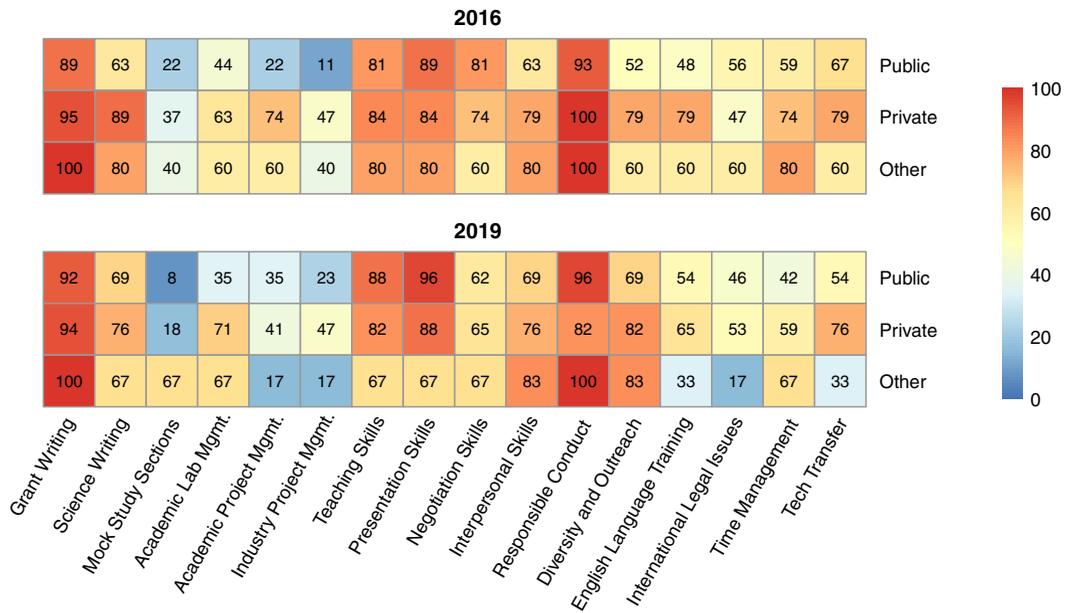
Although benefits are improving overall for postdocs, data segmented by postdoc classification shows gains in subsectors that are much smaller, to the point of being insignificant (*see Methodology for defini-*

*tions of different postdoc classifications*). For instance, external postdocs saw virtually no increase in any benefit category, significantly trailing their peers. For individually funded postdocs, the 2019 data showed a

**Although benefits are improving overall for postdocs, data segmented by postdoc classification shows gains in subsectors that are much smaller.**

marginal increase of 2–5 percentage points in all benefit categories over three years. The comparison data between 2016 and 2019 was done

### Developmental Programs: Institution Type



with a subset of the institutions that answered both surveys.

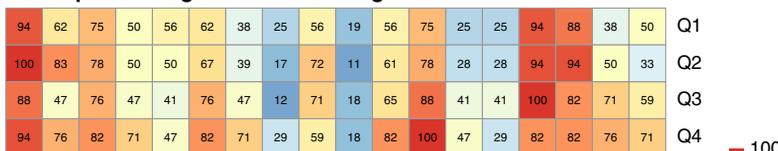
A fringe benefit rate can cover a range of categories, such as health benefits and paid time off. Postdocs can either have the same fringe benefit rate as other employees at the institution, or the fringe benefit rate can cover just insurance benefits. Fifty-five percent of institutions have established a fringe

benefit rate for postdocs that averages between 22–25 percent. When institutions establish this pool of money, it can allow for all postdocs to have access to more benefits regardless of funding source. However, this access depends on whether the fringe benefit rate applies to all postdocs and/or the pool of money is accessible to all postdoc classifications.

### Importance of Training Programs

Professional development and career services are two areas paramount to postdocs' future successes. The NPA recommends that institutions offer programs that allow postdocs to explore the multiple career paths available to them, and to improve on the important professional skills essential to help them achieve their

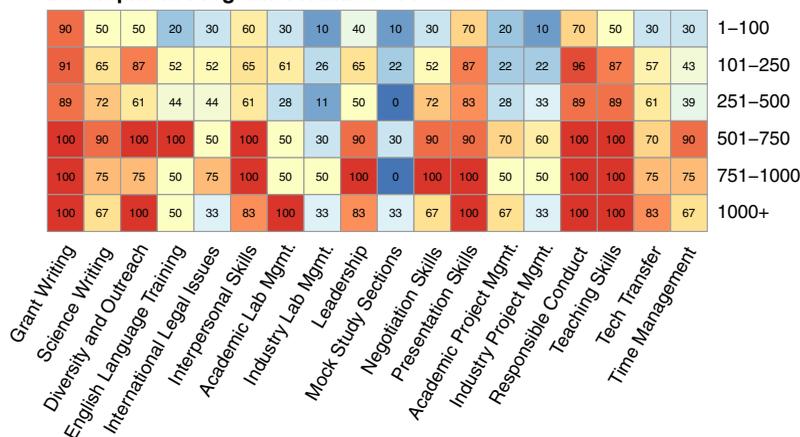
### Development Programs: NIH Funding



### Development Programs: Number of PDO Staff



### Development Programs: Number of Postdocs

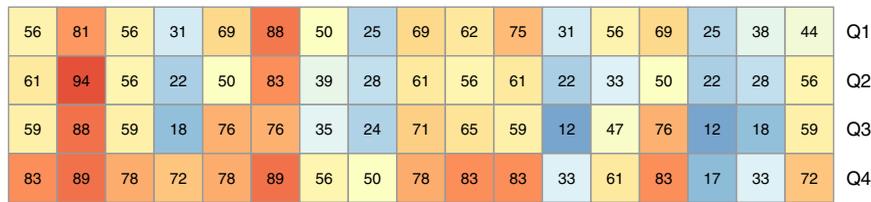


**The data in 2016 and 2019 show that the more PDO staff at an institution, the more programs and services available to postdocs. This data point is critical for institutions that desire to advocate for more PDO staff.**

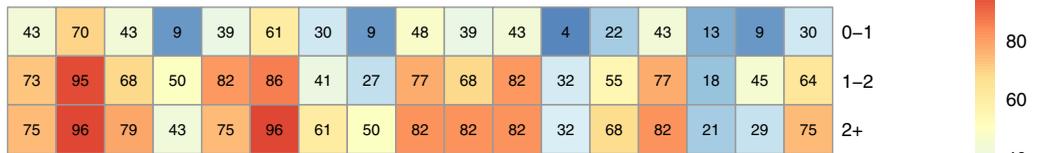
desired career goals. When averaged across all institutions, there is a very small decline in the total number of programs offered, and this decrease warrants attention by institutions.

For professional development programs, results are mixed when looking at institution type and programmatic offerings in 2019 compared to 2016. There were increases in diversity and outreach programs, but a decline in academic project management and workshops on negotiation skills and time management. When looking at NIH funding, the highest-funded

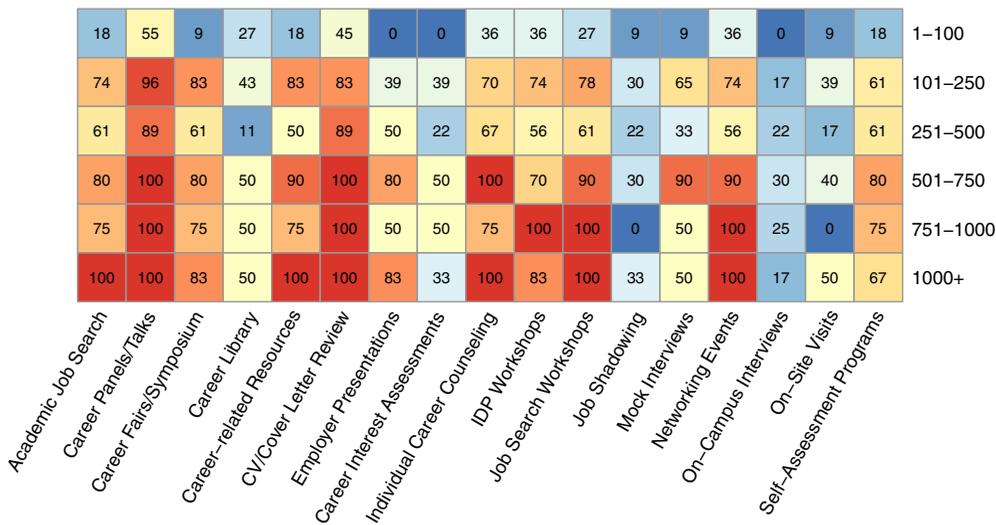
### Career Services: NIH Funding



### Career Services: PDO Staff



### Career Services: Number of Postdocs



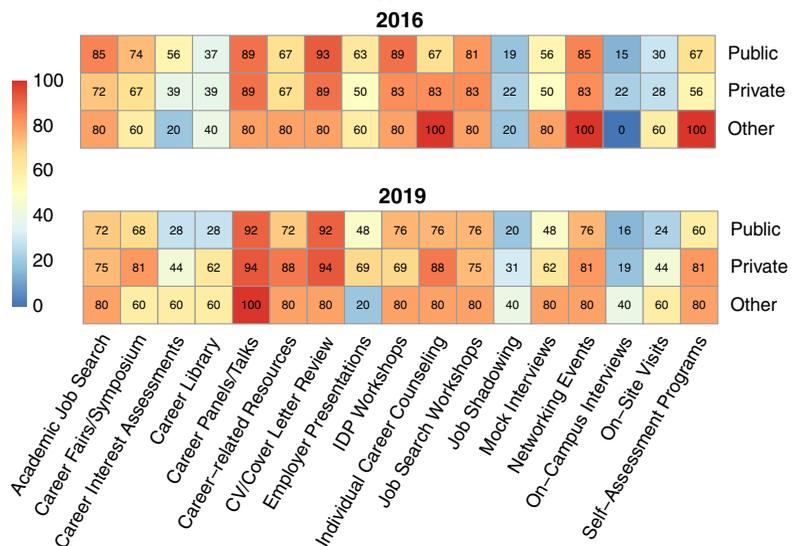
institutions (Q4) continue to offer the largest number of development programs and career services.

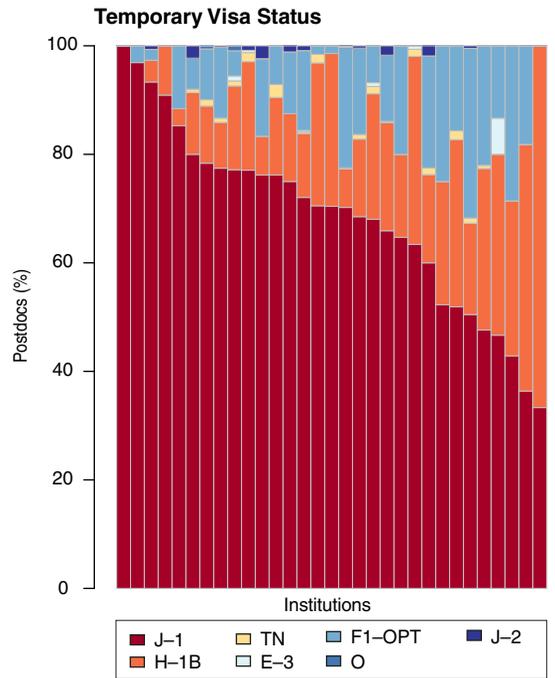
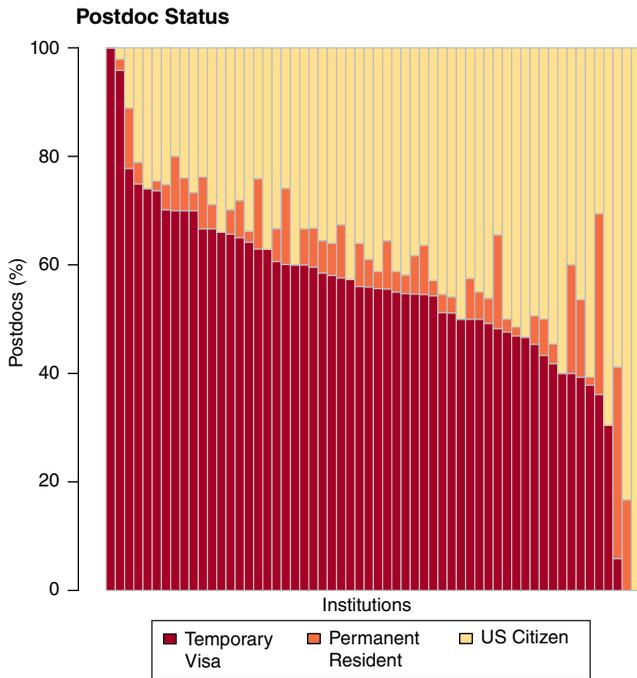
Importantly, data in 2016 and 2019 show that the more PDO staff at an institution, the more programs and services are available to its postdocs. We saw in 2016 as well that having dedicated staff allowed for this increase. This data point is critical for institutions that desire to advocate for more PDO staff. For career services, overall we saw an increase in the number of programs offered by institutions, regardless of type, in 2019 versus 2016. There were a few exceptions, such as networking events that decreased slightly, which are critical components of a robust program. When looking at the comparison with NIH funding, PDO staff, and the number of postdocs at an institution, we saw the same results as we did with the professional development programs. More grant money, staff, and a higher number of postdocs generally equate to a greater number of programs.

The important topic of mental health and wellness prompted a new question for the 2019 survey, asking institutions if they provide programs on this topic. Eighty-eight percent of institutions responded

that they do offer mental health and wellness programs to their postdocs. Given the long hours postdocs often work and the isolation caused by the COVID-19 pandemic, this area has increased in importance.

### Career Services: Institution Type





### Postdoc Demographics

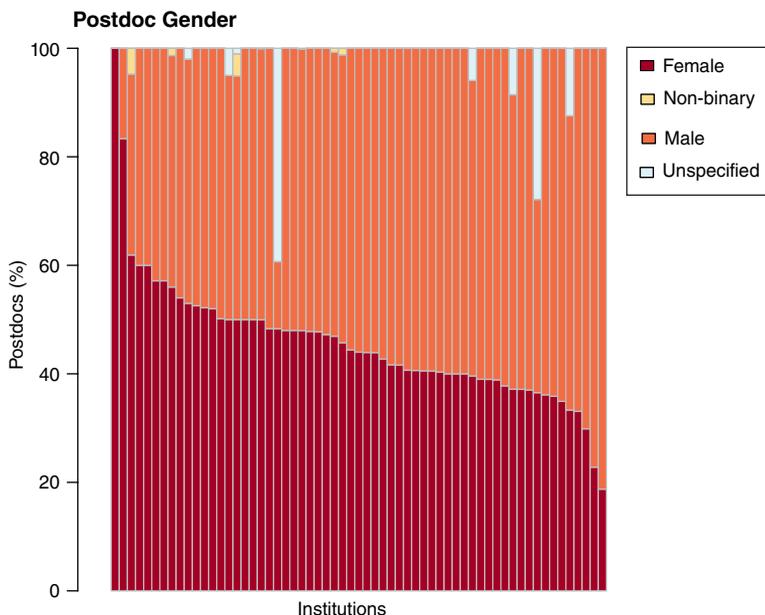
The range of research fields is as diverse as the people who fill postdoc positions. The current demographics data are similar to the 2016 survey data. International, visa-holding postdocs continue to represent more than half of the postdocs (57 percent) in the United States. The U.S. research enterprise is dependent on this talent from all around the world, further demonstrating the importance of this sector of our community and the need to provide services to them. Ninety percent of surveyed institutions provide services for inter-

national postdocs. International postdocs mainly utilize the J-1 scholar program, with the H-1-B visa and F-1 OPT used a lesser amount.

Across genders, the past three years saw only a minor increase in female representation among postdocs, from 43 percent to 44 percent. Meanwhile, separate research by the Council of Graduate Schools shows women earned 53 percent of doctorate degrees in 2019, a level that has increased significantly and consistently, 4.4 percent year-over-year, over the past decade since 2009 (however, this research may not

include research on graduate degrees earned outside of the United States). The 2019 NPA survey also added a gender option for those who identify as nonbinary. Although some institutions may not collect these data, those that do showed nonbinary individuals represented 0.2 percent of the overall postdoc population.

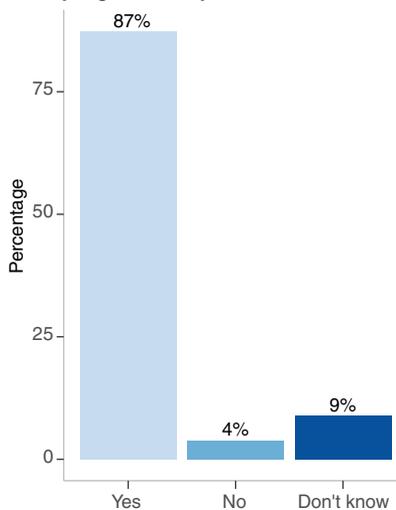
Gaining a better understanding about whether postdocs identify with underrepresented groups, have disabilities, and/or are from disadvantaged backgrounds, raises awareness among the greater postdoc and PDO population, allowing both academic



**The U.S. research enterprise is dependent on international talent from all over the world, further demonstrating the importance of this sector of our community and the need to provide services to them.**

institutions and the NPA to improve programs and practices to make the postdoc experience as equitable and inclusive as possible. As in past years, 65 percent of institutions do collect data on underrepresented

**Does your institution provide mental health and wellness programs for postdocs?**

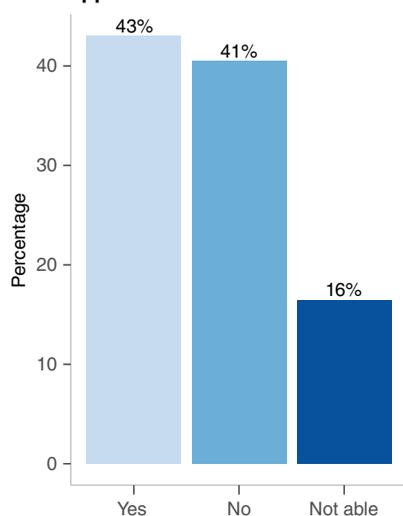


groups, but only 14 percent collect data on postdocs with a disability, and even fewer (4 percent) collect data on postdocs from disadvantaged backgrounds. The data from 2019 was very similar to 2016. The sample sizes are too small to have statistical significance.

**Tracking Postdoc Outcomes**

Postdoc career progression is an area of data collection that is slowly gaining traction. Two 2019 survey questions asked about tracking postdocs after they leave their positions, with the data showing an increase of 20 percent in institutions tracking this information. In 2016, the survey asked those institutions not yet tracking postdoc careers whether

**Does your institution conduct an exit survey or exit interview with postdocs when their appointments end?**



they planned to do so in the next 12 months; 33 percent said they were likely to begin doing so in the next year. Indeed, the 2019 survey response shows that many institutions did as planned, with 48 percent now tracking postdoc career outcomes versus 28 percent that stated they did so in the 2016 survey. Institutional career tracking can generate data that can then be shared nationally in surveys such as this one, or with other interested parties such as the National Science Foundation’s National Center for Science and Engineering Statistics and the Coalition for Next Generation Life Sciences. Locally, these data can be used for postdoc recruitment.

Exit surveys are an important part of the postdoc pathway to ascertain both their career trajectory and feedback on the postdoc’s experience at the institution. Topics include future employment, demographic information, and satisfaction with the postdoc program. There has been no change in the use of exit surveys between the NPA 2016 and 2019 surveys, with 44 percent of institutions continuing to conduct exit surveys for postdocs. New questions in the 2019 survey show that only 5 percent of institutions maintain mandatory exit surveys or exit interviews. Interestingly, PDOs seem to be disengaged from the exit survey process, as data show that very few know when the exit process is conducted or if it is mandatory. However, many PDOs proactively collect data on planned career pathways while postdocs are still at their institutions. Sixty-one percent of PDOs survey postdocs about their future career plans, and 47 percent collect these data on an annual basis. The data are mostly collected through self-administered surveys, whereas a small percentage of institutions conduct interviews.

**Recommendations**

Institutions should accelerate the productive and effective actions the community took between 2016 and 2019, which resulted in the favorable findings from the current survey. Similarly, they should take into serious consideration areas that are not showing improvement and/or

are deteriorating. The NPA Recommended Policies and Practices were created to assist institutions in identifying areas for improvement within their own organizations and can be consulted as a resource when assessing current programs and policies.

This 2019 survey reveals several areas that should elicit the attention of senior leadership at institutions serving postdocs. The NPA is prepared and eager to work with institutions to continue developing best practices and to tackle challenges that arise in addressing these issues. As institutions review the results of this survey, the NPA encourages them to consider the recommendations below to gain the full benefit of this nationwide data collection effort. The aggregate data from the survey ques-

**Postdoc offices are the lifeblood of the postdoc community and the most closely tied to the overall postdoc experience.**

tions will be available on the NPA website for its members. Subsequent reports that will conduct a more in-depth analysis on various sections of this survey are planned.

Given the results from the 2019 Institutional Policy Survey, the NPA proposes the following list of central recommendations.

**Budgets for PDOs**

Increase funding and staffing for postdoc offices. PDOs are the lifeblood of the postdoc community and are most closely tied to the overall postdoc experience. Yet, despite some improvement in staffing, these offices are woefully under-resourced and unable to provide the critical attention postdocs need in all areas outside their niche research expertise and in addition to guidance from their supervisors. Examine current funding and staffing levels to ensure positive progress can continue to meet or exceed the standards outlined in the NPA Recommended Policies and Practices.

**Postdoc Onboarding**

Create and provide a postdoc-specific onboarding process with appointment policies that help set expectations for

postdocs as soon as they arrive at institutions and lay the foundation for their success. Institution-wide onboarding by human resource offices is important for accommodating all members of the university community, but postdocs have special requirements and needs that require attention. Special consideration should be given to international postdocs.

### Postdoc Compensation

Create a mandatory minimum stipend/salary for postdocs that matches the NIH NRSA recommendation each fiscal year. Only half of the institutions surveyed met this standard of \$50,004 in 2019 (which increased to \$52,704 in 2020 after the survey was completed). This benchmark is a nonpartisan, carefully calculated figure, designed to meet the needs of postdocs and their families.

Despite nearly all institutions having some form of minimum stipend, only one-third require annual increases. During their postdoc fellowship, many postdocs consequently struggle with financial planning.

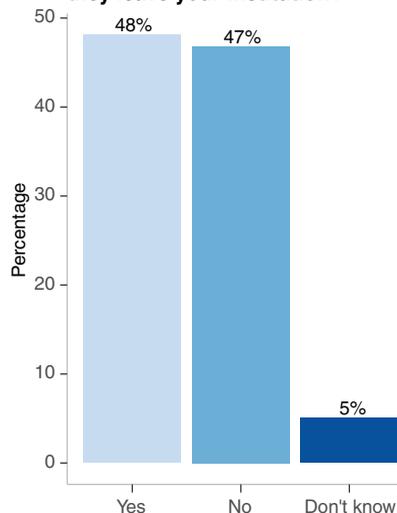
### Equal Benefits

Ensure equal benefit plans for all postdocs regardless of funding source, along with fair leave policies for family and medical leave. Examine your postdoc program to determine any differences that exist among various categories of postdocs in terms of benefits conferred. The NPA continues to build resources and can assist in formulating institution plans to remedy identified inequities.

### Training

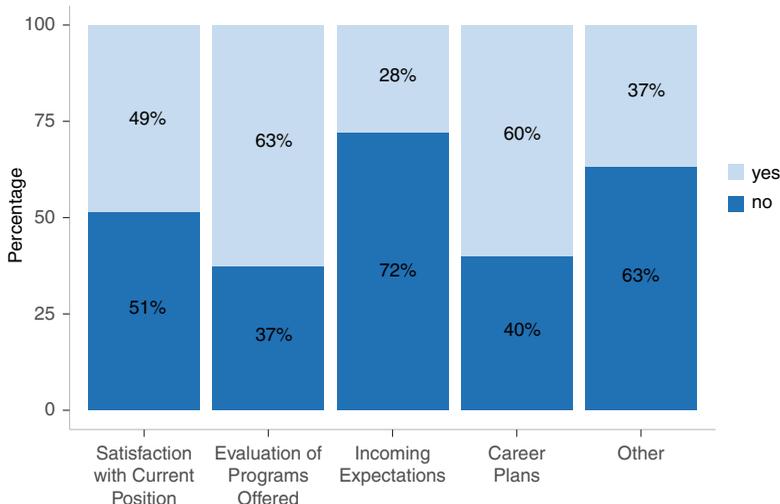
Offer carefully orchestrated training programs for postdocs to help them

### Does your institution track postdocs' career outcomes after they leave your institution?

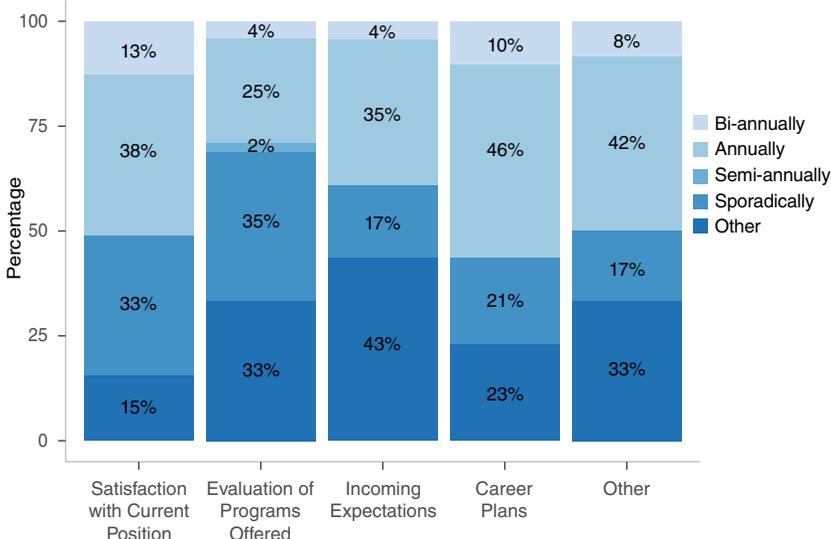


maximize their postdoc experience at your institution and attain their preferred career goals. Ultimately, this training will help postdocs continue to make valuable contributions to the research community at the highest level. The widespread adoption of virtual programming in 2020–2021, necessitated by the COVID-19 pandemic, may lead to opportunities for smaller institutions to share programming with one another even after the pandemic is over. It is worth noting that the 2020 National Postdoctoral Appreciation Week virtual events that took place at specific institutions served as an exemplar for this type of collaborative effort, coordinating virtual events open to all postdocs nationwide. This type of collaboration can be extremely beneficial for one-person PDOs.

### Which of the following topics does your institution collect data on?



### How often are data collected?



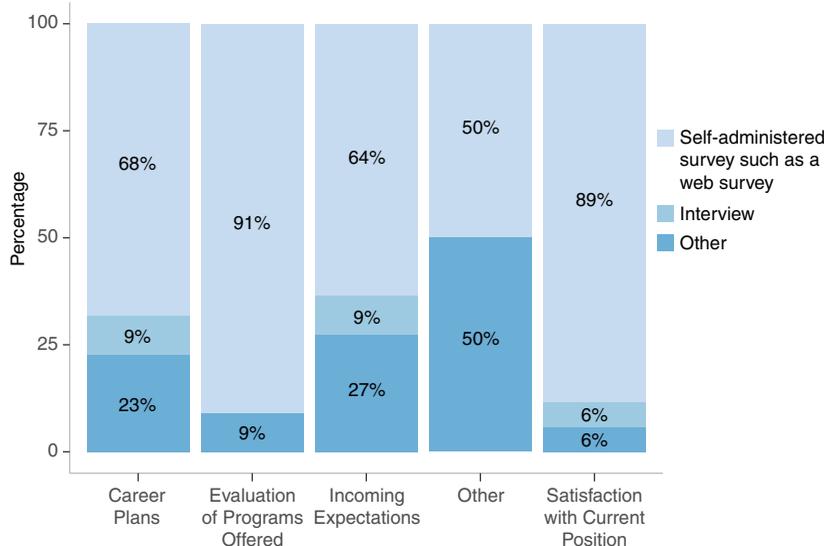
### Building a Diverse Postdoc Population

Work to remedy the gender gap among postdocs, which is currently out of sync with female majorities in undergraduate and graduate enrollment and awarded degrees in the United States. Develop means to open doors to a more diverse population of postdocs, especially among traditionally underrepresented groups in the United States. Track demographic data extensively and implement best practices in equity and inclusion for current postdocs.

### Career Tracking

Build or improve implementation of career-tracking practices for postdocs, which will help your institution better understand the needs and

### How are data collected?



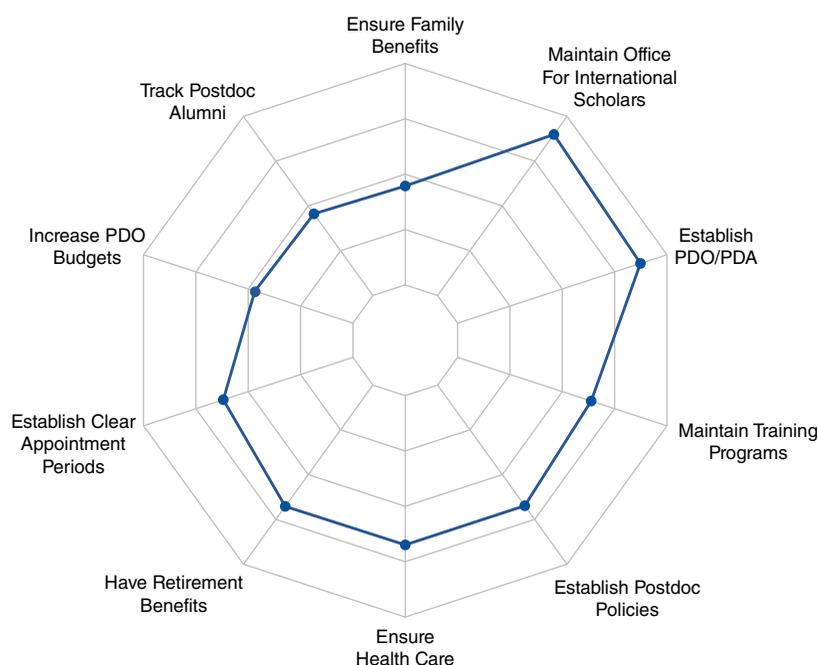
desires of current postdocs; increase your engagement with potential employers; and develop robust relationships with postdocs that last after they leave the institution.

### Growing Support

Although institutions remain with significant opportunity to advance the postdoc experience, this report demonstrates that there is cause to celebrate the successes that have already been achieved, and optimism that further change is possible. The NPA stands ready to assist institutions as they implement these changes. Looking forward, the NPA fully recognizes

that the current COVID-19 pandemic, which began in the United States in 2020 and is ongoing at the time of this report, is having a significant impact on academic institutions. The NPA plans to capture and analyze post-COVID data in the next 12–18 months to determine its impact on the progress of best-practices adoption with the upcoming 2022 NPA Institutional Policy Survey. It will be crucial to document how changes in the administrative and training environment impact all postdocs, with special attention to any differential changes seen across the many layers of diversity and inclusion.

### NPA Recommendations: Opportunities for Growth



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