NATIONAL POSTDOCTORAL ASSOCIATION

Pressing Forward in Supporting Postdocs

2023 National Postdoctoral Association Institutional Policy Report

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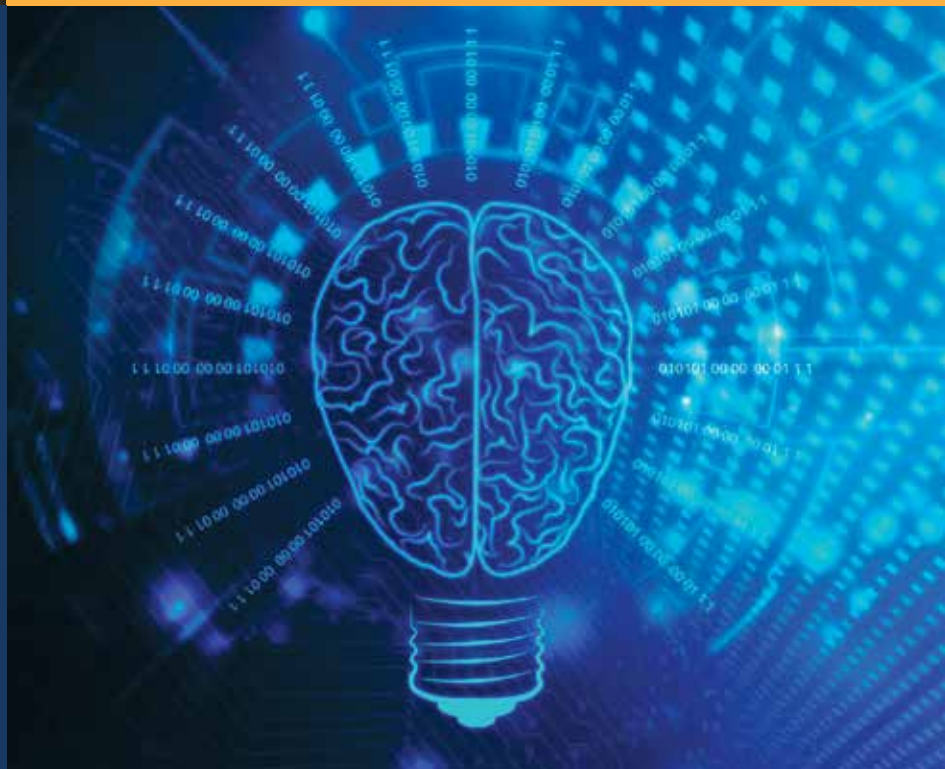

SIGMA XI
THE SCIENTIFIC RESEARCH HONOR SOCIETY

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About the NPA

The National Postdoctoral Association is the national voice of the postdoctoral community. In 2023, it is celebrating its 20th anniversary as the national membership entity dedicated to improving the postdoctoral experience and promoting successful careers for postdocs. This work is done by creating a culture of inclusive connection through the approach of advocacy, tools development, and tireless dedication to improving diversity, equity, and inclusion.

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2023 NPA Institutional Policy Report

Executive Summary

The National Postdoctoral Association (NPA) has built a strong longitudinal dataset spanning more than a decade to assess policies and programs offered across the country from a growing number of postdoctoral offices.[1] The NPA Institutional Policy Surveys are conducted every three years; this fourth iteration captures responses from approximately 120 institutions representing more than 50 percent of the 72,000 postdoctoral scholars ("postdocs") at NPA member institutions. Analysis of this unique dataset informs NPA's policy and program recommendations to improve the postdoctoral experience for all participants.

Awareness of the impact and importance of postdocs on the research community and society at large has increased significantly. However, lingering COVID-19 pandemic effects, macroeconomic factors, and perennial challenges in the postdoc position inhibit recruitment of graduate students into postdoc positions.[2] Concerns in the press over a postdoc "shortage" miss the core problems facing the research community, which is pressed to examine the entire academic training and progression pathway.[3]

Industry has become an increasingly attractive option. Biopharma companies have expanded their postdoc training programs and these competitive positions offer an accelerated path to permanent roles. Recognizing the value of doctoral and postdoctoral training, employers throughout the private sector (including investment banking, consulting, and technology companies) are aggressively recruiting candidates with new doctorates, agnostic of the candidate's subject-matter expertise.

Given these myriad factors and expanding career options, significant and meaningful change is needed in academia to hire and retain the best and brightest of postdocs. Long-standing issues seem suddenly primed for action.

The National Postdoctoral Association (NPA) is recommending significant improvements in both public and institutional policy:

- Pay postdocs a **competitive wage** with comprehensive benefits
- Provide **proper institutional support** for postdoc offices and associations
- **Collect data** on postdoc demographics and outcomes
- Provide a postdoc handbook **transparently outlining institutional policies**

2023 Key Recommendations

Institutions should provide postdocs consistent benefits regardless of their source of funding, or risk losing highly trained scientists to positions that provide these benefits to postdocs and their families.

Pay Postdocs a Living Wage with Comprehensive Benefits

Part of creating a sustainable postdoctoral environment includes paying postdocs a living wage—reflecting inflation, geographic location, and household size—with consistent benefits. Institutions must recognize that postdocs have spent many years developing their expertise which often leaves them economically drained. As postdocs, they are often making decisions about family and caring for children and elders, as well as thinking ahead about their financial status. The cost to their long-term financial status is heavy.[4] Institutions should provide postdocs consistent benefits regardless of their source of funding, or risk losing highly trained scientists to positions that provide these benefits to postdocs and their families. Any cost to the postdocs for benefits should be made clear upfront and be comparable to rates commonly seen in non-postdoc positions.

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Provide Proper Institutional Support for Postdoc Offices and Associations

Established postdoc offices (PDOs) and postdoc associations (PDAs), ubiquitous but not universal in the United States, support individual postdocs and postdoctoral programs in the critical program areas of professional development, career training, and institutional policy, which protect postdoc needs. They uniquely create and sustain a welcoming setting for all postdocs. Institutions with dedicated staff are better situated to provide an inclusive, enriching environment that can articulate and meet the needs of postdocs, which are different from students, faculty, and staff.

Collect Data on Postdoc Demographics and Outcomes

Institutions have been slower to analyze the career paths of postdocs than of graduate students. The overlap between the populations is considerable, but the postdoc experience is tied to the institution at which the postdoc is completed, and following postdoctoral scholars as a population is critical to understanding the necessary and sufficient components of postdoctoral training. With the appropriate survey instruments and attention, institutions can better understand the variety of career paths their postdocs transition into, allow greater transparency for potential postdocs and confidence in their decision to pursue a postdoc, and incentivize mentor relationships. Tracking enables a more comprehensive understanding of the needs of postdocs in examining potential future paths and the support they need along the way. From a national perspective, knowing postdoc outcomes can provide decision-makers, including policymakers, with a better understanding and valuation of the contributions postdocs make to the U.S. research enterprise.

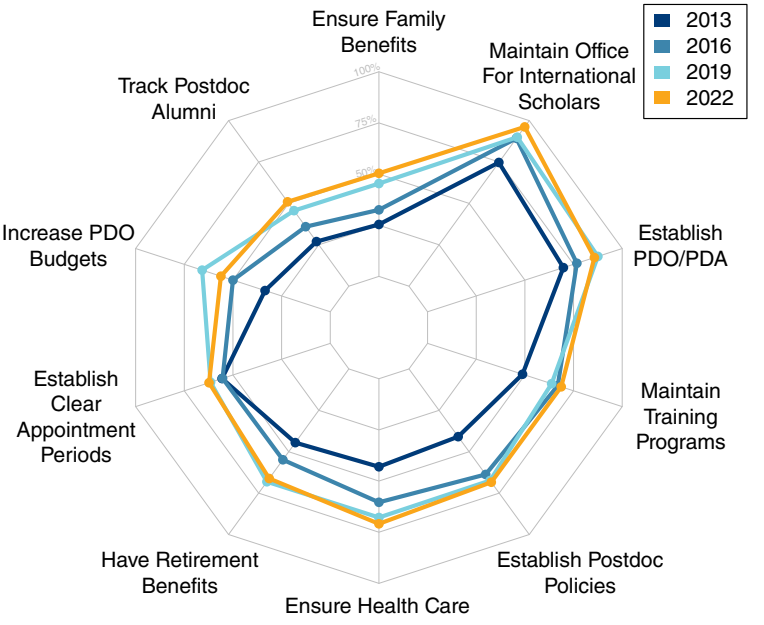
Provide a Postdoc Handbook

Postdoc handbooks provide a grounding tool for postdocs, allowing them to begin to understand the structure, practices, policies, and rules of the institution and the postdoc position when provided with an appointment letter. Nonetheless, a large number of institutions lag in implementing this important and straightforward asset. Greater familiarity with rules and transparency of process are critical to avoiding misunderstandings between postdocs, principal investigators, and institutions. The NPA will examine methods of sharing best practices to increase compliance with this recommendation.

Implementing Recommendations

We continue to monitor the key recommendations from the initial report in 2014 to track progress, which is reflected in the radar chart (*see figure at right*). The survey data provide greater awareness of these findings in its fourth iteration. The NPA's *Recommendations for Postdoctoral Policies and Practices* (RPPP)[5], last updated in 2015 and currently being revised, is the backbone of evaluation for the 2022 survey underlying this report. With compliance growing for many of the recommendations—such as establishing a PDO and PDA, establishing postdoc policies, and maintaining training programs—we highlight institutions exemplifying best practices and areas needing improvement.

Historical Trends and Opportunities for Growth of NPA Recommendations



Livable postdoc compensation. Current events reflect the pressing need to address cost-of-living and compensation. Most notably, the first-ever postdoc strike occurred within the University of California system in late 2022, and articles on postdoc compensation are exploding from academic circles into mainstream press. Both the National Institutes of Health (NIH) and the National Academies of Science, Engineering, and Medicine (NASEM) are considering the current postdoc position, and the actions of the NIH Advisory Committee to the Director Working Group on postdoctoral affairs provides an opportunity to make bold improvements in this area. The NPA Institutional Policy Survey showed again that postdoc pay continues to remain tied to the NIH National Research Service Award (NRSA) stipend scale, although the standard error of the mean this time is slightly below the minimum (*see figure below*).

Continuous increases in the stipend scale do not account for the vast geographic cost-of-living differences felt by postdocs.[6] An analysis by region of the survey data showed no consistent differences in stipend between high and low cost-of-living areas. The largest salary disparity is between private and public institutions, with the latter paying lower amounts (*see figure at top of page 4*).

Some institutions are already increasing postdoc pay by larger margins than the NRSA. In addition, the NPA has recommended to the NIH that it implement a

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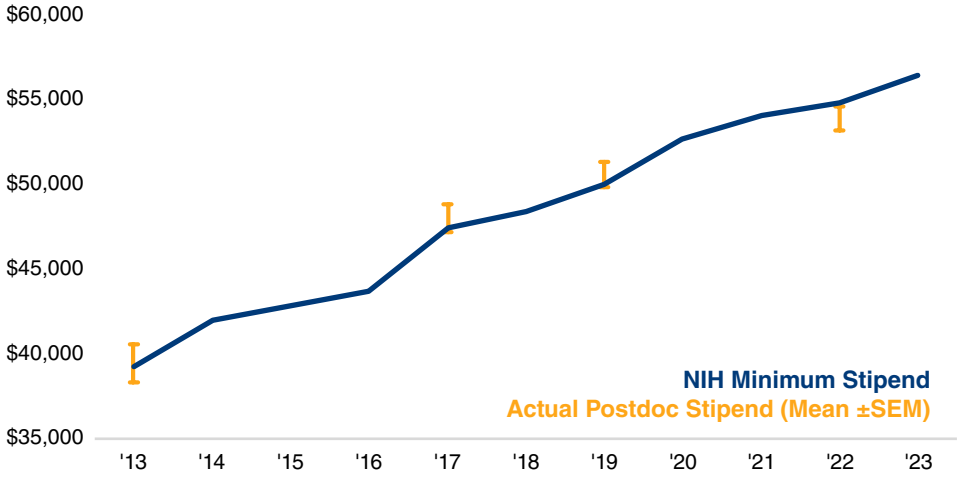
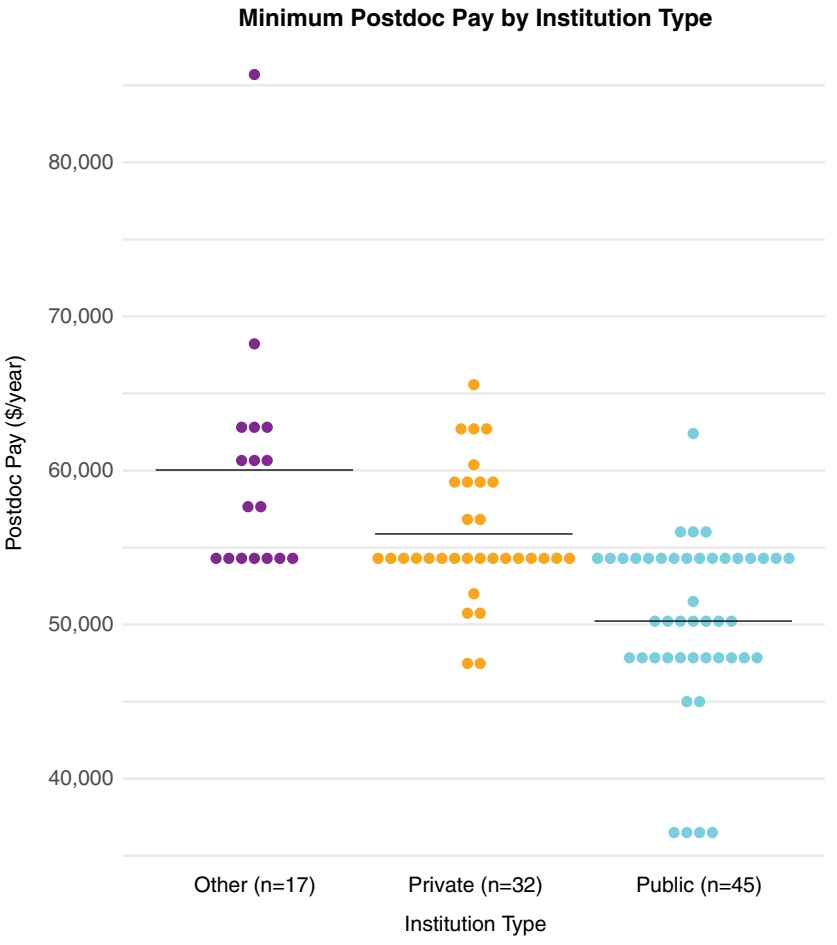
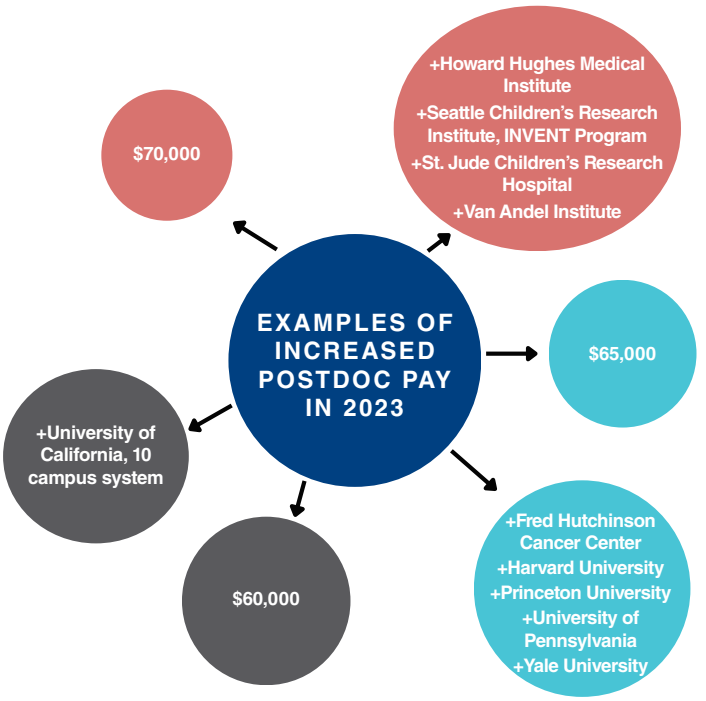
NIH NRSA Stipend Scale History



NPA encourages the promotion of pay for all postdocs to levels that provide a living wage adjusted annually for inflation, location, tenure, and merit



dynamic range for its stipends for postdoc fellows and trainees under NRSA based on the general service (GS) payment system for federal workers, which accounts for annual inflation adjustments and locality pay. The NPA recommended in early 2023 that federal levels for postdocs on stipend should follow the GS federal pay schedule for these very reasons. By tying stipends to GS-10, for example, with locality pay, the national NIH minimum award in 2023 would jump from $56,484 to $62,898. ("Rest of U.S." is the appropriate table for locations outside of official locality pay areas.) Higher minimum federal awards, however, would apply to those working in defined GS locality pay areas, with minimum postdoc stipends of $70,754 in Boston and $77,827 in San Francisco in 2023. "Year 0" postdocs would receive stipends equivalent to GS-10 "Step 1," with annual increases equal to the next GS Step. Minimum pay levels would change alongside annual adjustments to the GS pay scale, with inflation and locality considerations included in the system. In this example, by 2024, a large segment of NIH-funded postdocs would see game-changing minimum compensation increases to $70,000 or more. Importantly, the NPA noted that it might recommend a higher GS pay level in the future, tracking dynamic market conditions and postdoc economics. These considerations, including recent rises in minimum postdoc salaries by some leading institutions to $70,000, could come



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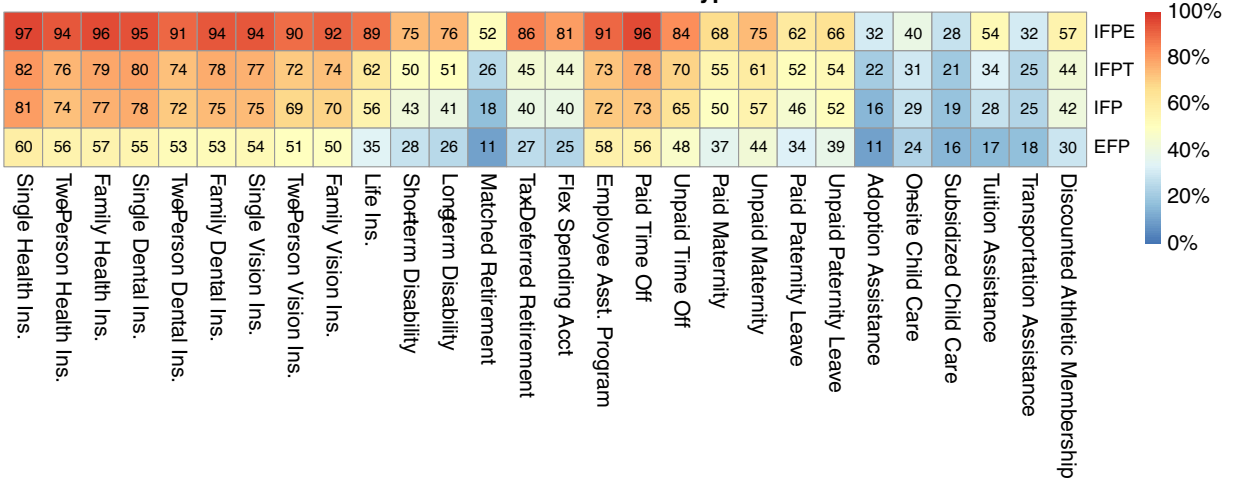
Access to benefits still depends on the individual postdoc's funding source and great disparities remain.

into play when the NPA releases its revised RPPP for all institutions hosting postdocs, expected in early 2024.

Comprehensive Benefits. A comprehensive benefits package for all postdocs, including affordable insurance premium costs, is a critical part of a compensation package. Plans should provide the same benefits given to faculty and staff, at a similar cost, and should be available to all postdocs regardless of their funding source. In addition to health-related benefits, postdocs should receive adequate time off to support their balance of professional and personal lives. Linking postdoc benefits to the funding source is an inequitable practice and is unacceptable to the NPA. The benefits heat map shows that access to benefits still depends on the individual postdoc's funding source and that great disparities remain. Postdoc type definitions can be found in the methodology section. The NPA emphasizes that fixing this situation is imperative.

In April 2023, NIH released a groundbreaking notice that updated language about postdocs on training grant funding.[8] Even though postdocs are called trainees, they remain eligible for employee benefits. The key statement in the notice is: "While stipends are not provided as a condition of employment, this policy is not intended to discourage or otherwise prevent recipient institutions from hiring NRSA trainees and fellows as employees or providing them with benefits consistent with what the institution provides others at similar career stages." We are optimistic that this notice will help rectify the health benefits disparity shown in the heat map below by the time the next survey is conducted.

Benefits to Each Postdoc Type



Examples of institutions that have developed strategies to provide equitable benefits to all postdocs

- The University of California system
- The State University of New York (SUNY)
- Texas institutions including Baylor College of Medicine, University of Texas MD Anderson Cancer Center, UT Health-Houston, UT-Medical Branch, UT-Southwestern, and UT-San Antonio

How are equal benefits established? The University of California was one of the first systems to begin an equitable benefits plan for all postdocs in the early 2000s. They have an established benefits group based on the size of their combined postdoc population, which enabled an insurance broker to negotiate and manage the benefits plan for all postdocs. This program was established before the UC system postdocs unionized and has remained a robust and affordable plan ever since.

The SUNY system hired NPA as a consultant to collect data on peer institutions and help conduct on-site listening sessions at their two largest research university campuses. The end result was a new system where all postdocs had access to the same benefits options, regardless of funding source. This project took about nine months to complete and another year to fully implement across the state. More details can be found in the NPA *POSTDOCket* article from April 2019 [9], along with a Stony Brook Research memo[10] to campus.

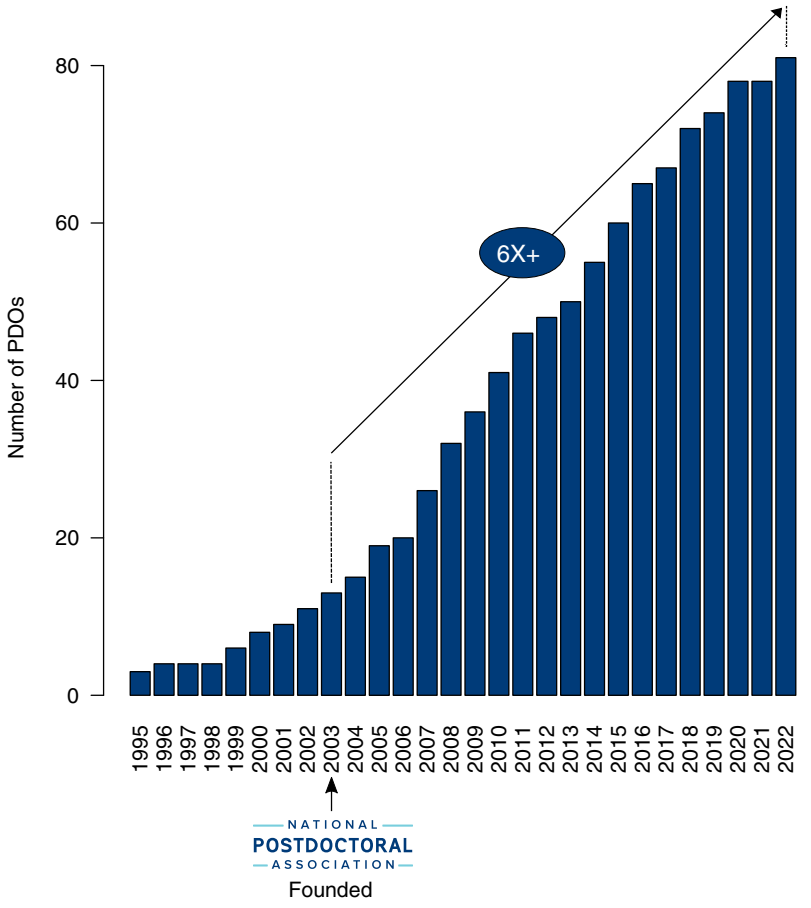
At Baylor College of Medicine, MD Anderson Cancer Center, UTHealth-Houston and UT-Medical Branch, NRSA and T32 fellows receive the same benefits as other postdocs. There is no change in a postdoc's status with a change in funding source. Any grant funds awarded to the institution (regardless of whether the principal investigator (PI) is a faculty member or a postdoc) are handled the same way by the grants administration office. Faculty mentors and departments are responsible for covering costs that are not allowable on the grant.

Support for Postdoc Offices and Associations. The first step in creating a strong, supportive framework for postdocs, and the first recommendation in the current RPPP, is that institutions establish a postdoc office with sufficient administrative staff and budget, along with a postdoc association run by the institution's postdocs.

There are now six times the number of PDOs as there were when NPA was founded in 2003 (*see figure on opposite page*). This is tremendous progress in providing a supportive environment for postdocs at many institutions. A good postdoc office is well funded and empowered to support postdocs across all facets. In general, PDOs reside in graduate schools or research affairs departments within their institutions. The most common name for the office contains the words "postdoctoral affairs office," as illustrated in the word cloud (*see figure below*).

There is also steady growth in PDAs at responding institutions, from 79 percent in 2013 to 85 percent in 2022. PDAs provide a seat at the table for postdocs to voice their concerns, and to develop programs as a group and/or in conjunction with the PDO to meet the needs of their peers. Leadership within PDAs are important opportunities to develop skills and networks, although they are variably attractive because of the time commitment.

Just as postdoc policies may apply only to a subset of postdocs at an institution, PDOs and PDAs may only represent a portion of postdocs, depending on pay, discipline, campus, etc. 86 percent



86 percent of postdoc offices report that they represent all postdocs at their institution.

of PDOs report that they represent all postdocs at their institution. Given the variety of functions the PDO can play, appropriate staffing seems critical. However, our data shows that 52 percent of PDOs report not having a single full-time employee (FTE).

Data show that it is important to have at least one employee fully dedicated to postdoc affairs at each institution. Staffing the PDO with individuals who are dedicated only part-time to postdocs, even if their total in FTE is greater than one, causes a loss to the office and to postdocs. A lack of proper staffing severely limits the ability of the office to implement policies and to promote and represent the work that postdocs are contributing to the institution, such as professional development programs that are detailed later in this report. The pandemic appears to have had a minimal impact on PDO personnel: The survey data showed most offices (69 percent) reported "no change" to the staff at their office. Of those that reported a change, only seven percent of respondents stated that the position was cut, and upwards of 23 percent stated that the staff member retired and the position was filled.

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Positive Growth of Postdoc Offices

We did see some institutions that have successfully grown the staff or their PDOs from the previous iteration of this survey. Georgia Institute of Technology's PDO, which represents 375 postdocs, grew from 0.5 FTE to 1.5 FTEs since the 2019 survey. This positive growth happened because of years of building relationships across the university to emphasize and highlight the importance of postdocs' contributions to the university. The winning argument successfully showed that additional staff are necessary to continue to attract the best and brightest, create the policies to best represent postdocs, and provide the programming they need during their postdoc.

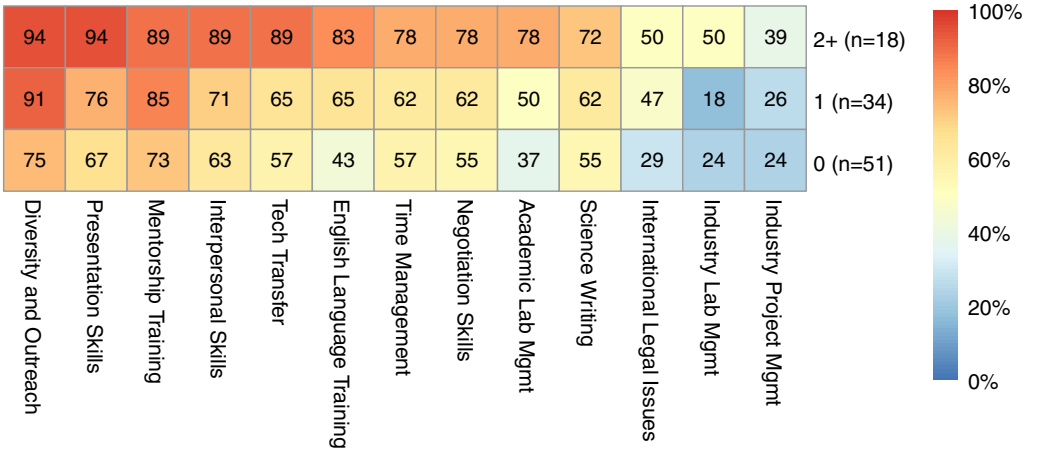
At Yale University, the PDO, which represents 1,300 postdocs, grew from 3.2 to 5.0 FTEs. This growth was due to a university-wide effort led by the Vice Provost for Research Office to focus and reflect on how to better represent current postdocs and continue to attract high-quality candidates. The process showed several areas where they were lacking in strong policies. In order to create, implement, and continue to enforce those policies, the university determined that there was a need to expand their PDO staff by slightly more than 1 FTE.

The postdoc office is the lifeblood of connectivity between institution and postdoc and the locus for critical areas of professional development and career exploration.

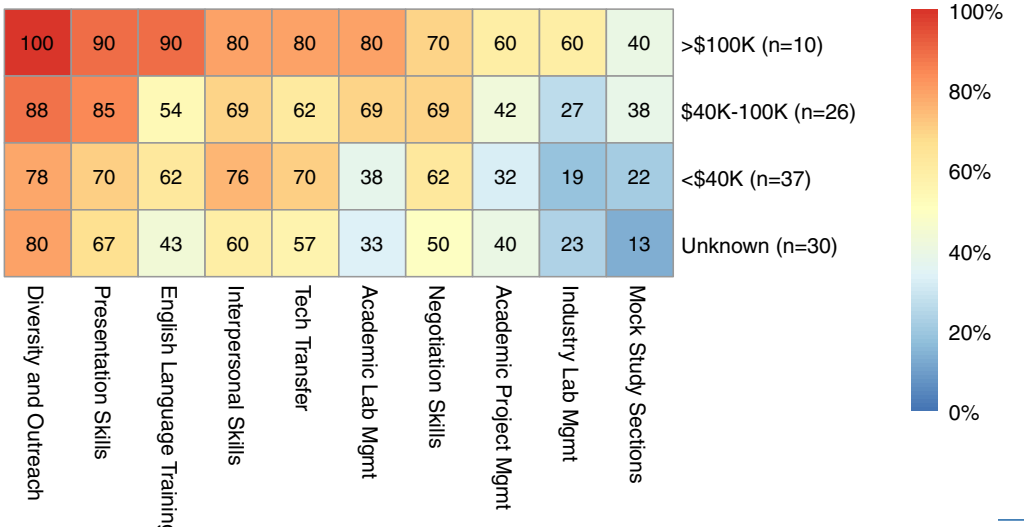
Fund PDO operating budgets. PDO operating budgets underwent a critical decline from 2019 to 2022. COVID pandemic impacts may explain some of this decline, nonetheless, 30 percent of respondents reported smaller budgets at postdoc offices, compared with larger budgets that were reported by only 11 percent of respondents. The remaining respondents reported no change. The PDO is the lifeblood of connectivity between institution and postdoc and the locus for critical areas of professional development and career exploration. The trend did not correlate with the size, type, or status of the institution. Course correction is needed in this area to properly fund, and staff, PDOs for the future of postdocs and the research enterprise.

Create training programs. Postdoctoral training requires significant professional development along with research progress. PDOs, together with their campus partners, can bridge this gap by providing focused programs for postdocs. Expanded staffing and operating budgets show a positive trend with increased programming. Career panels and grant writing support are offered at many institutions, but the heat maps (*below and on the opposite page*) show robust programming in critical areas such as lab management and negotiation skills are only available in those PDOs with at least one full-time employee dedicated to postdoc affairs (1 on the Y axis of the heat maps). For those PDOs with zero full-time employees (0 on the Y axis), programs including international support and project management are rare, and there is a clear gap in other programming as well. These PDOs may have one or two employees that have 50 percent of their time dedicated to postdoc affairs, but there is not one full-time employee. Conversely, rich programming in professional development is much more common in those PDOs with at least two or more full-time employees (2+ on the Y axis).

Select Developmental Programs to No. of Full-Time PDO Staff



Select Developmental Programs to Annual PDO Budget

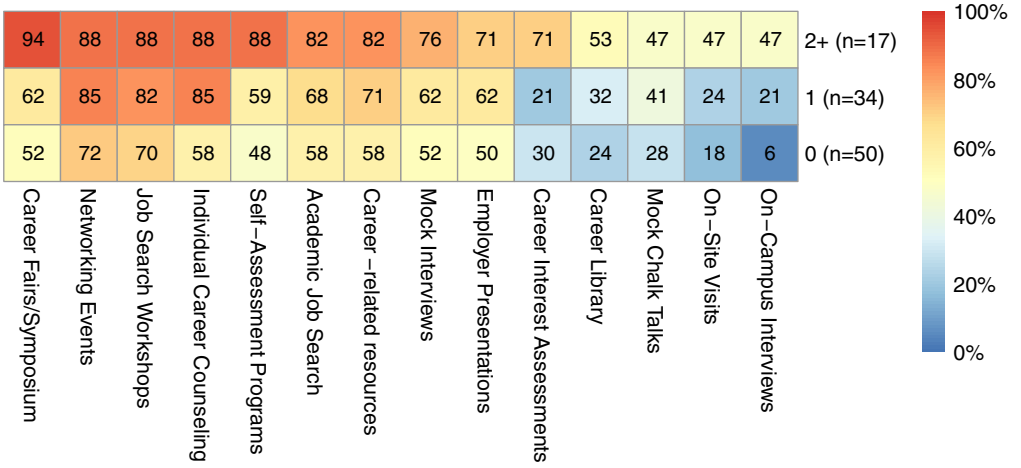


Tracking enables a more comprehensive understanding of the needs of postdocs in examining potential future paths and the support they need along the way.

Know who your postdocs are and where they go. NPA has multiple recommendations to improve postdoctoral training, and the survey series shows real improvement in many areas. However, consistent change can only be measured with data corresponding to where postdocs come from, how long they stay, what they do, and where they go when they leave. Robust data collection at all institutions is required to understand whether the changes we see are creating meaningful effects on postdoctoral training at the national level. Institutional capacity to identify and track postdocs during their appointment and after they leave is highly variable. Twelve percent of PDOs do not have access to complete rosters of postdocs at their institutions. Others may know that a postdoc is coming before the postdoc arrives, or only a few weeks later. Without clear communication avenues for all postdocs, institutions cannot properly collect data on the demographics of their postdoc population, conduct surveys, or track where postdocs go next. The use of surveys currently varies widely across institutions.

Roughly 51 percent of institutions responding to the survey conduct some level of tracking of former postdocs through surveys or LinkedIn groups. This incomplete data set leaves open large questions about the quality of post-

Select Career Services to No. of Full-Time PDO Staff



50%
CONDUCT
EXIT SURVEYS

50%
CONDUCT
SATISFACTION SURVEYS
→ 40%
CONDUCT ON AN
ANNUAL BASIS

40%
CONDUCT A
PROGRAM REVIEW
30%
CONDUCT ON AN
ANNUAL BASIS

53%
CONDUCT SURVEY OF
CAREER PLANS
40%
CONDUCT ON AN
ANNUAL BASIS

9.6%
ARE
CONDUCTING
ALL OF THE
ABOVE

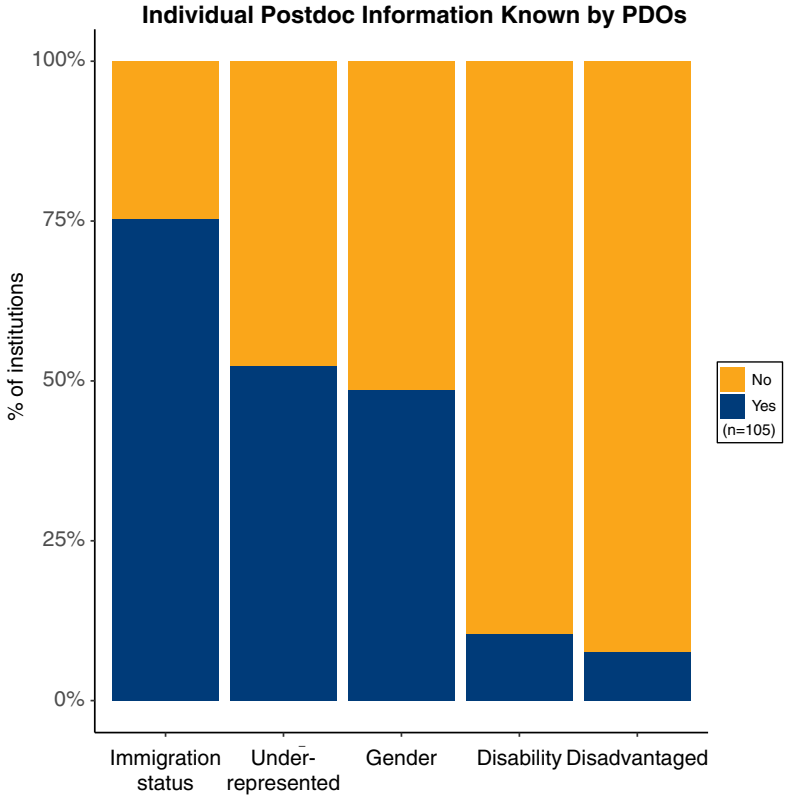
14% ARE NOT
PERFORMING
ANY KIND OF
ASSESSMENT

doctoral training relative to the needs of the future workforce. Some successful efforts include institutions that track former postdocs via Flight Tracker,[11] which is a part of REDCap.[12] A national coalition, Next Generation Life Science[13] has also had success in encouraging institutions to post their data.

Postdoc data may be managed by multiple entities within one institution, but it is the PDO that has the greatest interest in ensuring accurate data, surveying its postdocs, and in using data to drive initiatives that support postdocs. Adequate resourcing at the PDO level helps them to collect data that supports robust postdoctoral training across an institution and can speak to the tremendous impact that postdocs have on the research and training ecosystem.

From the larger survey, it was quickly apparent that PDOs only have access to certain types of demographic data on their postdocs. Immigration status is the most widely known. The aggregate number of postdocs that are visa holders from this survey is 58 percent, with the remaining postdocs being U.S. citizens and permanent residents. Less than half of PDOs know the gender and race/ethnicity of their postdocs. Being unaware of key demographics of one's population, such as those postdocs with a disability, does not allow a PDO to fully understand and

Postdoc handbooks provide a grounding tool for postdocs, allowing them to begin to understand the structure, practices, policies, and rules of the institution and the postdoc position when provided with an appointment letter.

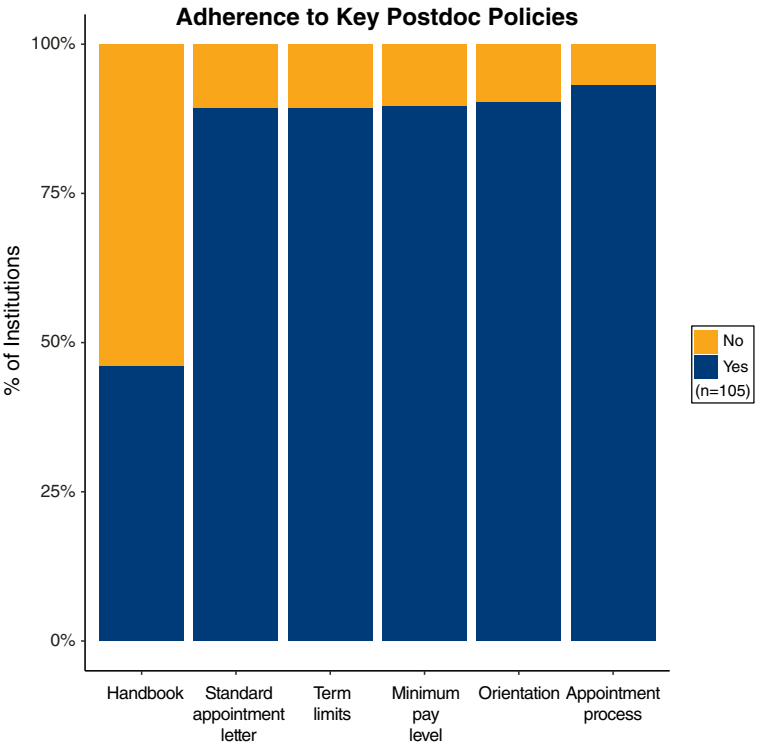


serve the needs of their entire population. If this information is collected within an institution, then the PDO should be given access to it. If that is not the case, resources should be allocated to allow the PDO to develop and maintain a database tracking the important aspects of their population along with the appointment, reappointment, and exiting of each postdoc.

Setting key postdoc policies. Creating policy to cover the uniqueness of a postdoc position, or incorporating postdocs into existing institutional policy, is critical. A postdoc handbook is an important component to house the creation of policy and provides one place for postdocs to reference everything they need to know from the beginning to the end of their appointment. This area is lacking, according to the latest survey data. In all other areas shown in this figure, roughly nine out of ten institutions responding are meeting the current policy recommendations.

Postdocs are increasingly looking at key policies while choosing their new position; therefore a required minimum salary and term limits to the postdoc position will show a commitment by the institution to their current and prospective postdocs. The next important step and recommended practice is to have a standardized appointment process so all postdocs receive the same information when they start. This letter allows all postdocs to be introduced to the postdoc office, along with other pertinent information.

Because new postdocs start throughout the year and rarely come in as a cohort, it is imperative that institutions conduct frequent new postdoc orientations. While we see high compliance with some form of orientation being offered to new postdocs, the numbers decrease when asked if they offer a postdoc-only orientation. Given the uniqueness of the postdoc position, it is important to provide postdocs with their own orientation close to the time of their start date.



Diversity, Equity, Inclusion and Belonging

In addition to the Institutional Policy Survey, a supplemental questionnaire addressing diversity, equity, inclusion, and belonging (DEIB) was administered. DEIB issues are being considered with increasing importance to institutions, a trend the NPA encourages through its own action and guidance. Still, more work needs to be done. Of the 221 institutions that were sent the DEIB survey, 41 responded.

All institutional respondents reported some type of DEIB initiatives including diversity/bias training (85 percent), diversity inclusion discussion groups (58 percent) diversity fellowships and stipends (44 percent), and several others. When asked how many different DEIB programs or activities the institution had, 34 percent reported they had five or more, and 12 percent stated that they didn't know. These efforts tend to be geared toward several sectors of the academic or research institution. For example, only 10 percent stated the activities were only aimed at current postdocs whereas 37 percent of respondents stated that their activities were geared toward an assortment of institutional members such as PIs, faculty, and others who use such programs to assist postdocs.

Funding for DEIB programs and activities can come from a combination of administrators. Close to half of the respondents reported getting funding from a provost, president, or chancellor or from an academic dean. Out of all these efforts, 46 percent of institutions were aware of an evaluation process for DEIB activities and programs.

When asked how many different DEIB programs or activities the institution had, 34 percent reported they had five or more, and 12 percent stated that they didn't know. This extended DEIB survey identified significant areas needing improvement by institutions.

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Conclusion

At this inflection point in the postdoc community, it's hard to underestimate the challenges and potential of postdocs. As always, we celebrate the amazing work of postdocs, who are behind the research that benefits all corners of our society, from combating cancer and COVID-19, to engineering advances and city planning that improve the lives of everyone, to imperative climate research, as well as becoming the future educators and leaders of tomorrow's research enterprise.

All constituents must work together to implement meaningful changes that support and retain talent. This change can only be accomplished by increasing pay and benefits; ensuring strong institutional support of PDOs and PDAs; implementing meaningful policy and programs that are codified in a postdoc handbook; and collecting demographic and outcomes data to better understand and support the postdoc population. The NPA stands ready to assist its member organizations and individuals to promote these recommendations and improve the careers and lives of postdocs.

2022 NPA Institutional Policy Survey Respondents

Argonne National Laboratory
Baylor College of Medicine
Boston Children's Hospital
Boston College
Broad Institute of MIT and Harvard
Brown University
Case Western Reserve University
Children's Hospital Los Angeles
Children's Hospital of Philadelphia
Cincinnati Children's Hospital
Cleveland Clinic Lerner Research Institute
Cold Spring Harbor Laboratory
Columbia University
Cornell University
Dartmouth College
Drexel University
East Carolina University
Emory University School of Medicine
Florida Atlantic University
Fox Chase Cancer Center
Fred Hutchinson Cancer Center
Georgetown University
Georgia Institute of Technology
Harvard Medical School
Harvard University Faculty of Arts & Sciences
Icahn School of Medicine at Mount Sinai
Indiana University Bloomington
Indiana University School of Medicine
Iowa State University
Kansas State University
King Abdullah University of Science and Technology
Loyola University Chicago, Health Science Division
MaineHealth Institute for Research
Massachusetts Institute of Technology
McMaster University
Medical College of Wisconsin
Medical University of South Carolina
Michigan State University
National Cancer Institute
National Center for Atmospheric Research
National Institute of Environmental Health Sciences
National Institutes of Health Office of Intramural Training & Education
New York University Grossman School of Medicine
Northwestern University
Oak Ridge Institute for Science and Education
Oregon Health and Science University
Penn State College of Medicine
Princeton University
Purdue University
Salk Institute for Biological Studies
Sandia National Labs
Sanford Burnham Prebys Medical Discovery Institute
Scripps Research
Seattle Children's Research Institute
Stanford University
Stony Brook University
Stowers Institute for Medical Research
Temple University
Texas A&M University
The University of Chicago
The University of Texas at El Paso
Tulane University
UMass Chan Medical School
University of Arizona
University of California, Berkeley
University of California, Irvine
University of California, San Diego
University of Colorado Boulder
University of Colorado Denver|Anschutz Medical Campus
University of Connecticut
University of Florida
University of Georgia
University of Idaho
University of Illinois Chicago
University of Kentucky
University of Maryland
University of Maryland Baltimore
University of Michigan
University of Minnesota
University of Mississippi
University of Missouri Columbia
University of Nebraska–Lincoln
University of Notre Dame
University of Oklahoma Norman/Tulsa Campuses
University of Pennsylvania
University of Pittsburgh
University of Rochester School of Medicine and Dentistry
University Of South Florida
University of Texas Health - Houston
University of Texas Health San Antonio
University of Texas MD Anderson Cancer Center
University of Texas Medical Branch-Galveston
University of Texas Southwestern
University of Utah
University of Vermont
University of Washington
University of Wisconsin-Madison
Van Andel Institute
Vanderbilt University
Virginia Commonwealth University
Virginia Tech
Wake Forest University School of Medicine
Washington University in St. Louis
Woods Hole Oceanographic Institution
Yale University

Methodology

For the 2022 survey, NPA organizational members at 207 research institutions or universities across the United States were forwarded a unique link to a Qualtrics survey. The survey was most commonly completed by postdoc administrators or paid staff in the postdoc office (78 percent) as they are typically the most well informed about postdoc affairs. There were also submissions by administrators who were also faculty (12 percent), just faculty (6 percent), or postdocs themselves at institutions that only have a PDA (3 percent). The survey began in March 2022 and several reminders were sent until the survey was closed seven months later, in October 2022. Of the 207 member institutions sent the survey, 117 (57 percent) started and 105 (51 percent) completed it. This percentage was a respective 12 and 11 percent increase from the 2019 survey. The reporting affiliated institutions in this sample accounted for approximately 45,500 postdocs nationally, or about 65 percent of the total population of postdocs that the NPA Organizational Members represent. The survey data is as reported by the respondent from each institution.

When comparing the list of NPA Organizational Members that responded to this iteration of the survey versus those that did not, it is possible the responding members have a higher percentage of services for postdocs on their campus. Thus, there may be a bias toward institutions with higher policy compliance. Regardless, these responses still provide valuable data to help all institutions show that half of the country is accomplishing certain milestones in postdoc office development of critical programs and policies.

The comprehensive survey consisted of 106 total questions. Eight sections were designed to best understand the current status of postdoc affairs as well as assess how certain factors have changed over time. The survey sections are as follows:

- Demographics per the postdoc office and institution
- Specifics about a postdoc's appointment such as appointment process, inquiries regarding reviews, and exit survey/tracking processes
- Specific policies at each institution relevant to a postdoc's place within the institutional structure
- Overview of compensation and benefits
- Opportunities for professional development and career training
- Postdoc demographics
- An additional section was included in this survey to evaluate how the COVID-19 pandemic influenced the postdoc community. Given that many standard operating procedures at universities and research institutions were disturbed by the public health crisis, several questions were designed to assess the postdoc experience between March 2020 to March 2022.

Categories of Postdocs

To ensure consistency between surveys over the course of the past decade, the four categories for postdocs used in previous iterations of the survey were kept the same.

- *Institutionally Funded Postdoc Employees (IFPE)*: The classification(s) an institution typically uses for a postdoc who is funded on the grant of a principal investigator (for example, an NIH R01 grant) and who is an employee of the institution.
- *Institutionally Funded Postdoc Trainees (IFPT)*: The classification(s) an institution typically uses for a postdoc who is funded on a principal investigator's grant (for example, an NIH T32 grant) but who is not an employee of the institution.
- *Individually Funded Postdocs (IFP):* The classification(s) for a postdoc individually funded by a fellowship that is paid to the institution (NIH National Research Service Award) who is usually not an employee of the institution.
- *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) who is usually not an employee of the institution.

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