

# Career Development Opportunities: The Government Can Help!

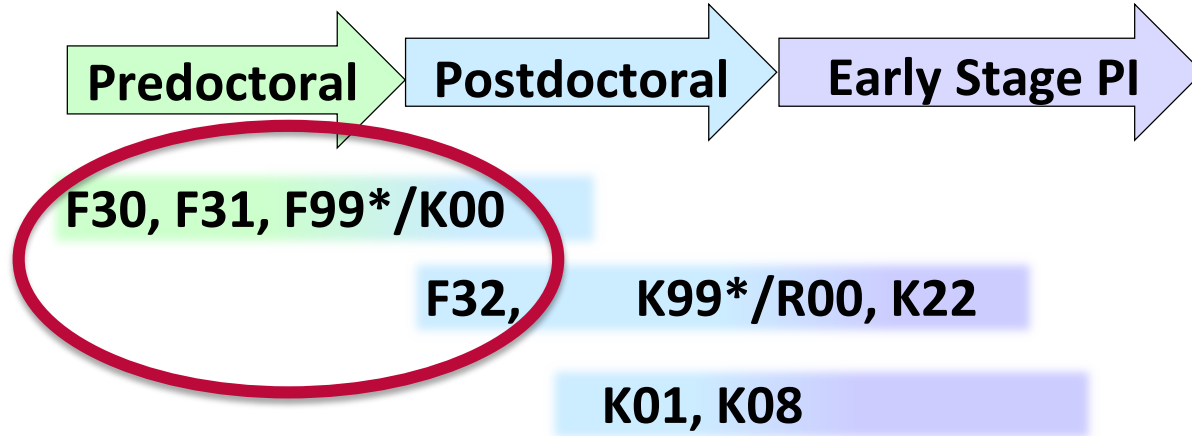
*Susan Perkins, Acting Chief, Cancer Training Branch  
Acting Deputy Director, Center for Cancer Training*

# Today's presentation

- Overview of NCI individual training grants
  - Fellowships
  - Career Development Awards
- NIH Early Stage Investigator (ESI) policy
- Tools and tips for applicants



# NCI Grant Funding for Trainees



**Institutional Awards: R25, K12, T32**

**Many  
Entry  
Points**



\*Open to Applicants with U.S. Visas

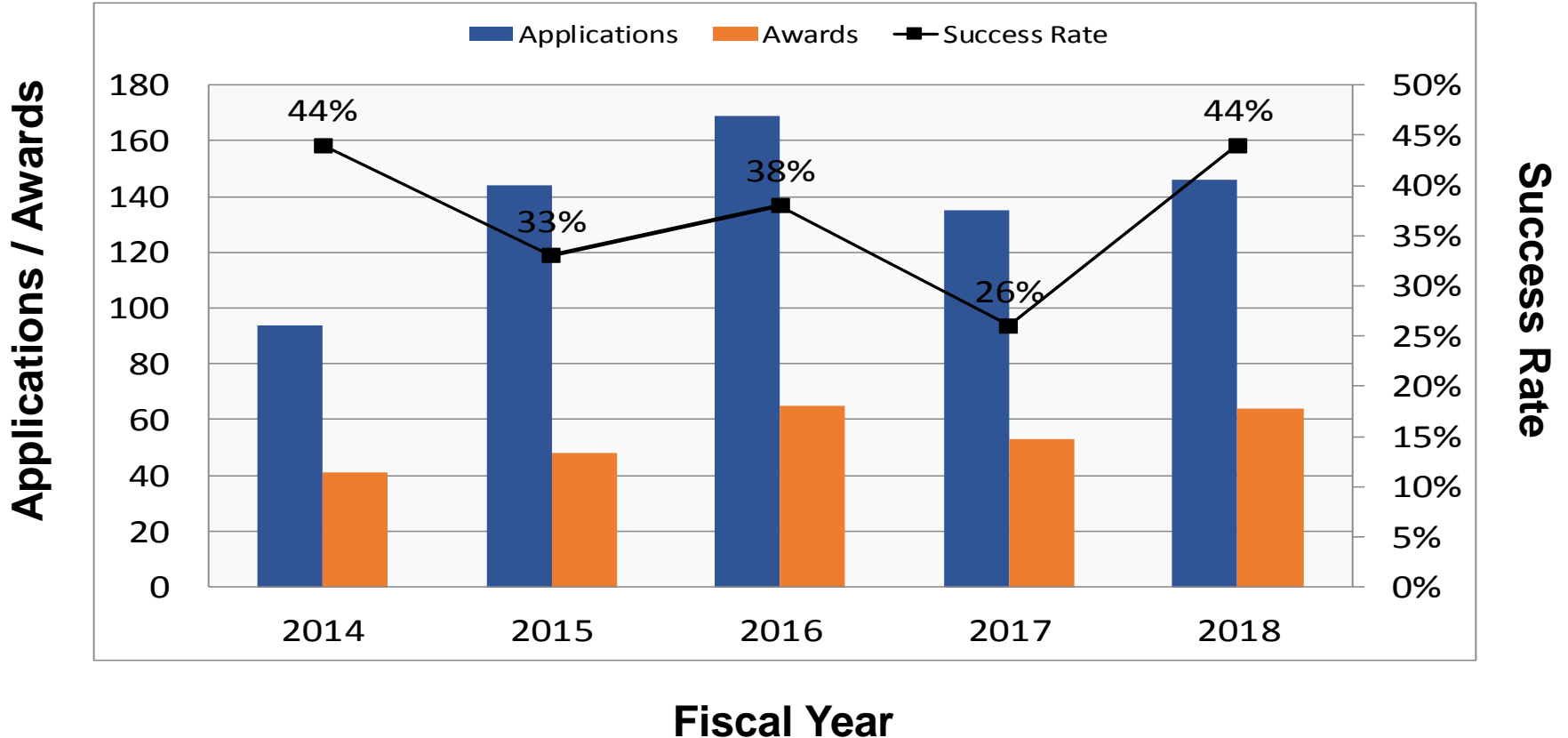
# NRSA Fellowships (Fs)

- The Ruth L. Kirschstein National Research Service Award (NRSA) is a Congressionally mandated program
- For individuals who are committed to a career in research
  - U.S. citizenship or permanent residency (green card) required
- Provide research training support for:
  - Predoctoral trainees enrolled in a PhD (**F31**) or formal dual doctoral degree program (**F30**)
  - Postdoctoral fellows who have the potential to become productive, independent investigators (**F32**)

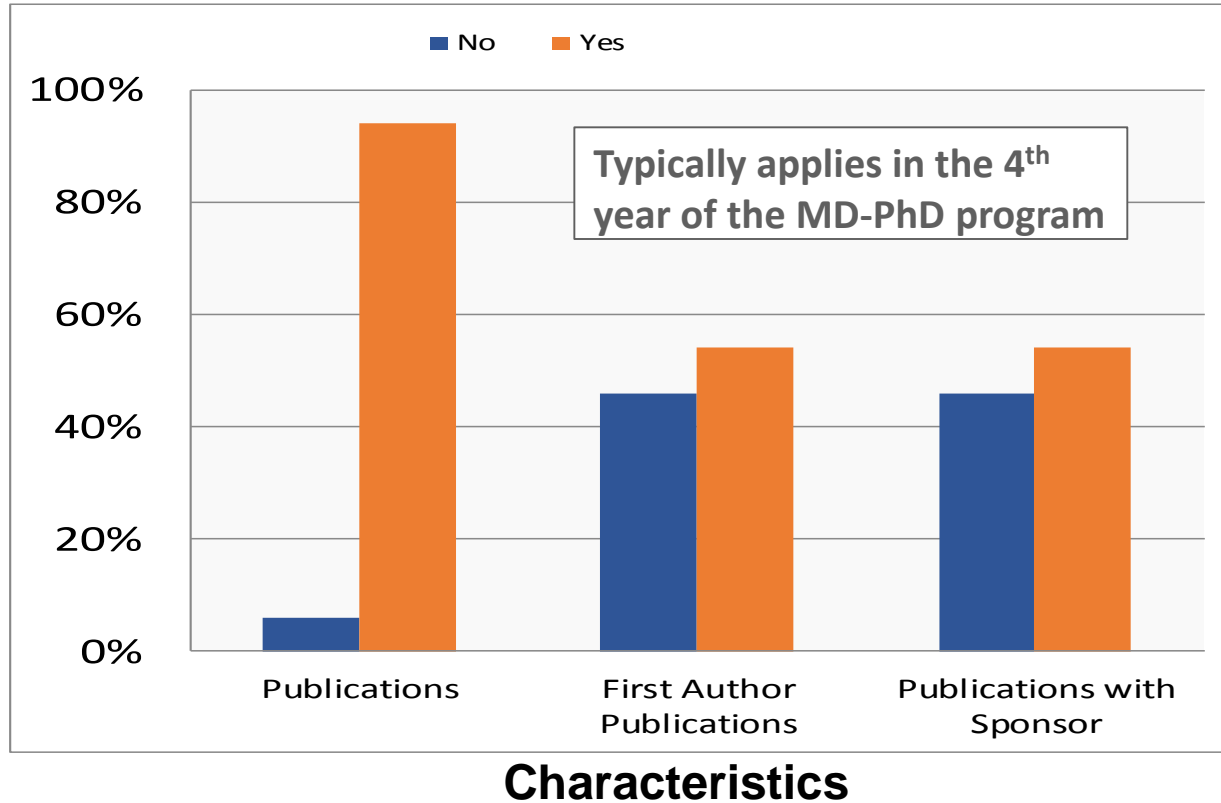
# NRSA Fellowships provide

- Stipend (full-time effort required)
  - Predocs (F30 or F31): \$24,816 per year for up to 5 or 6 years
  - Postdocs (F32): \$50,004—\$61,308 per year for up to 3 years
    - Stipend level depends on number of years of postdoctoral experience
- Partial tuition and fees
  - 60%, up to \$16,000 (in a degree program) or \$4500 (postdocs)
- Funds for training-related expenses (mostly health insurance, travel)
  - \$4200 for a predoc trainee; \$10,850 for a postdoc trainee

# F30 Applications, Awards, and Success Rates

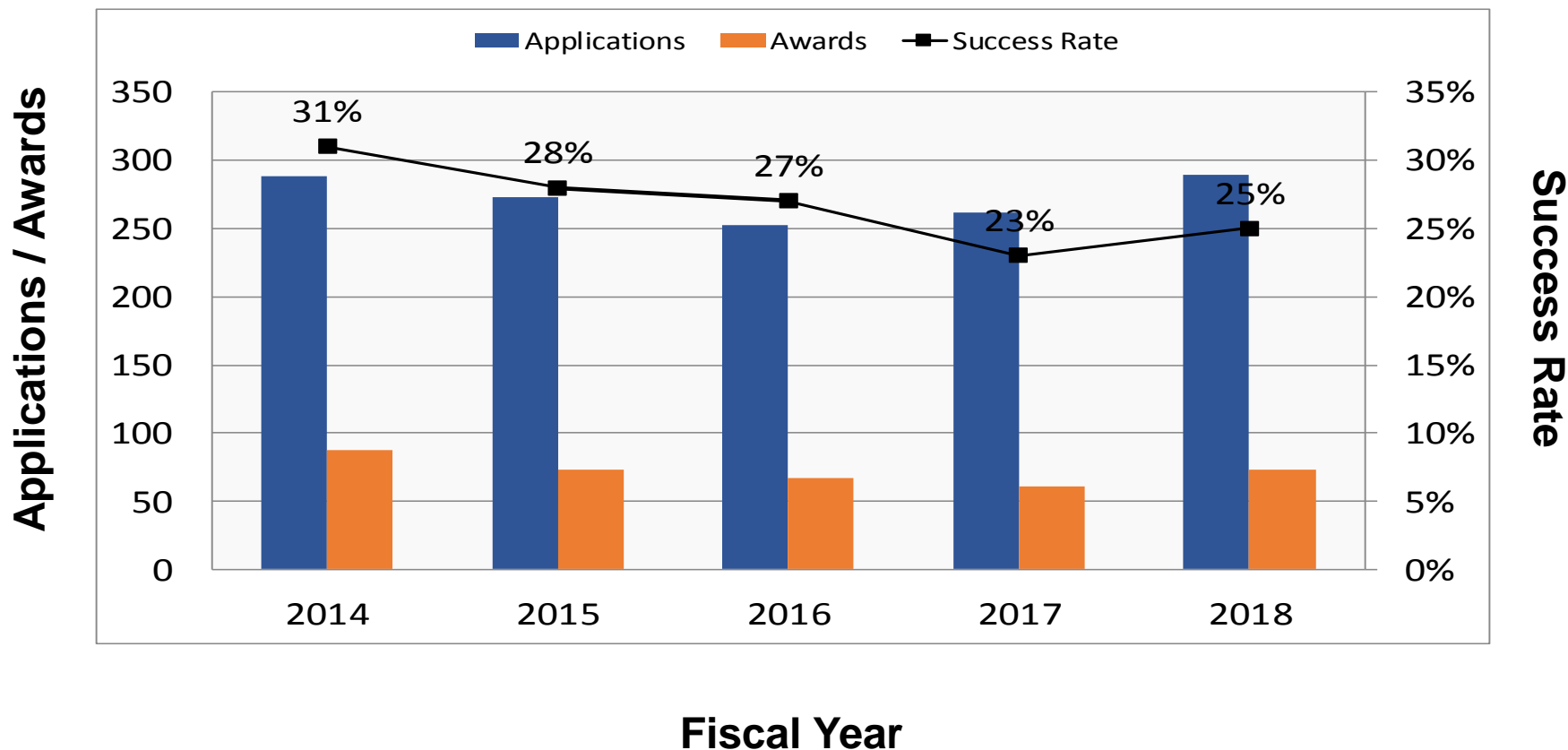


# F30 Awardee Profile

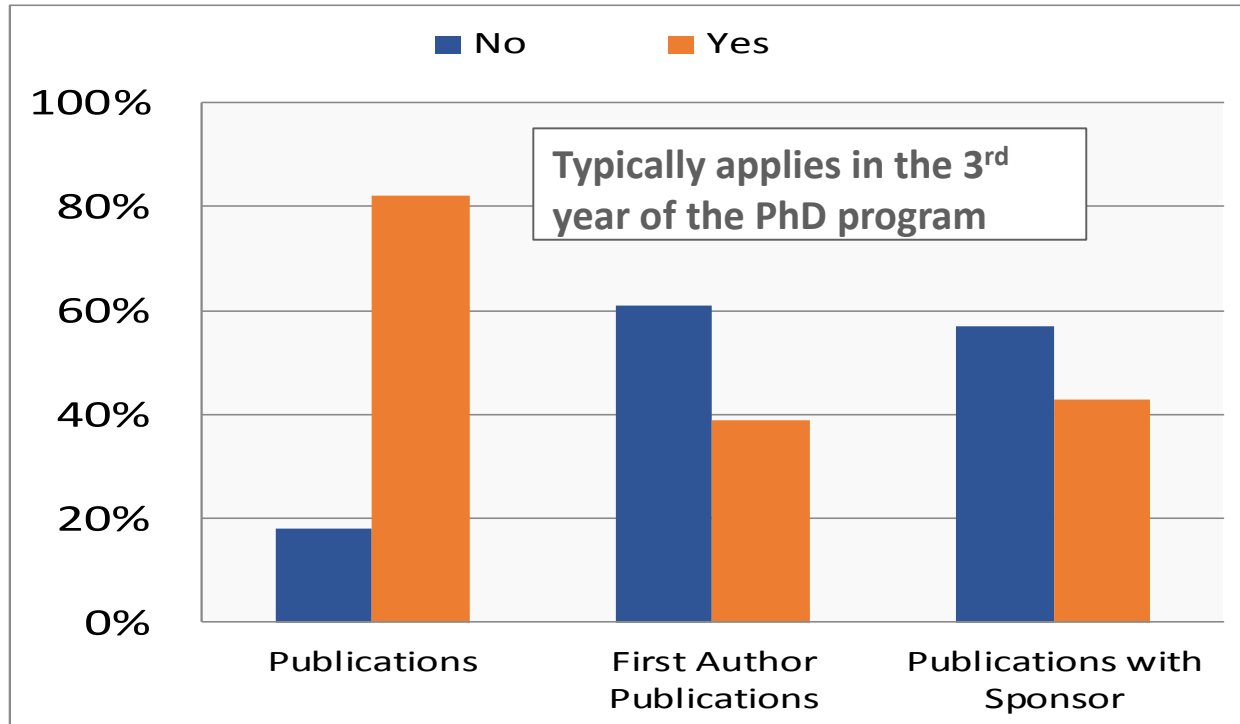




# F31 Applications, Awards, and Success Rates

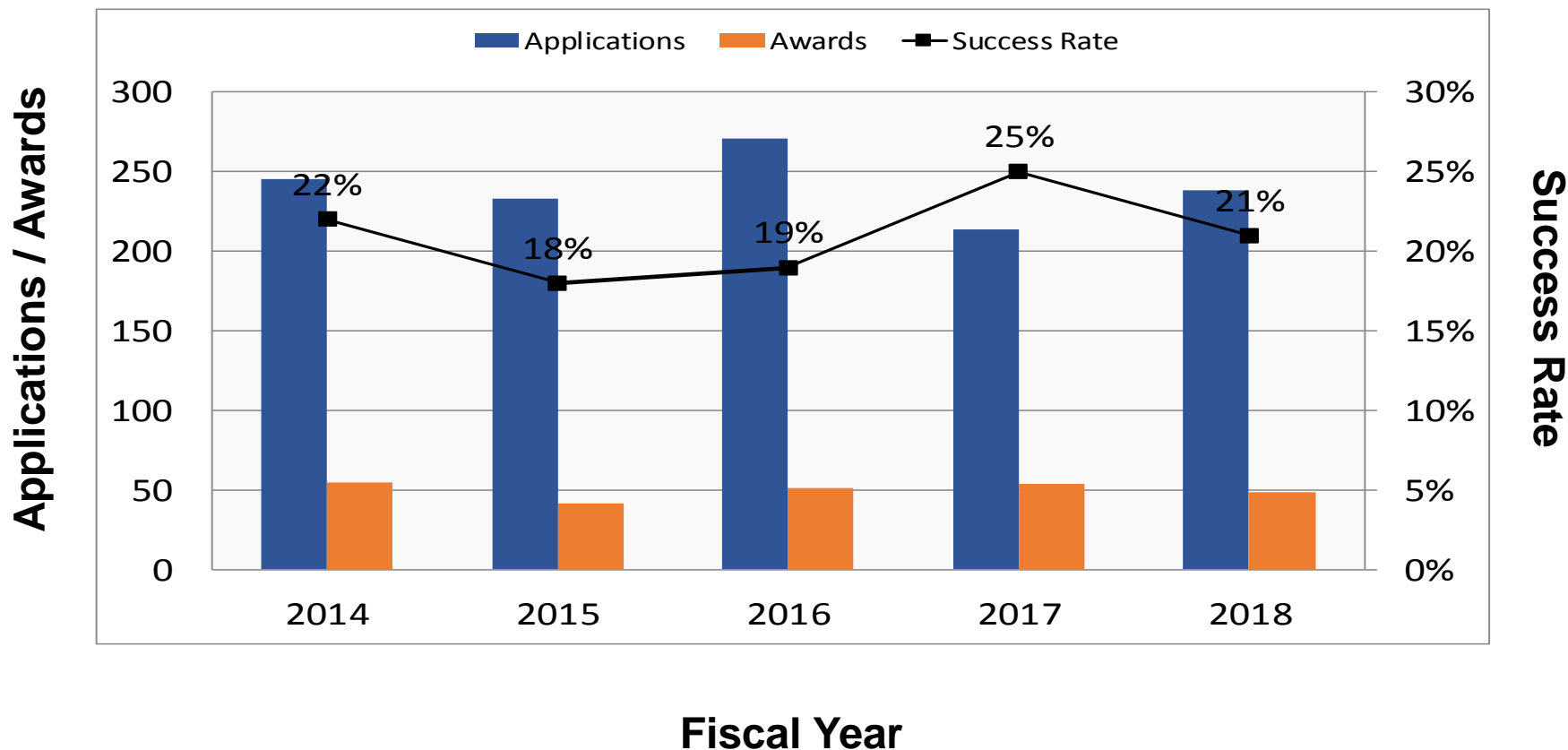


# F31 Awardee Profile

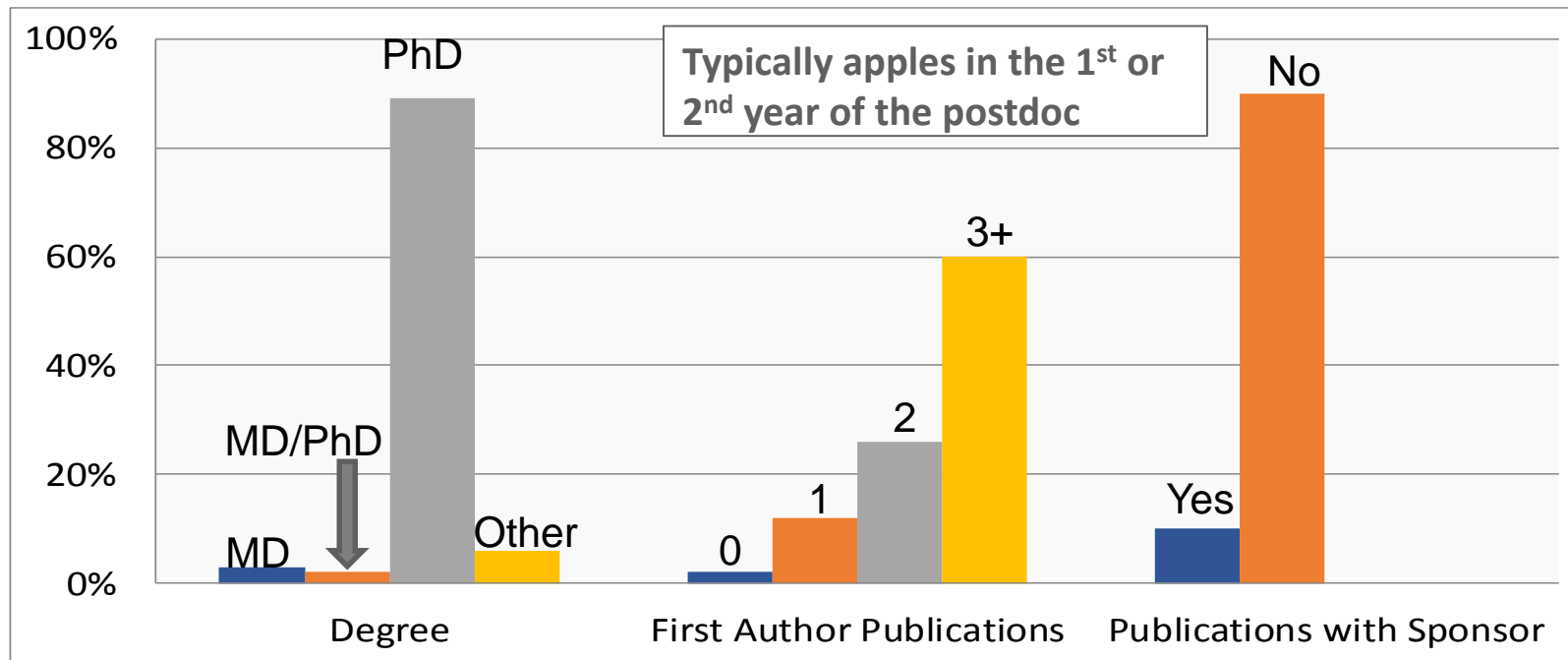


## Characteristics

# F32 Applications, Awards, and Success Rates

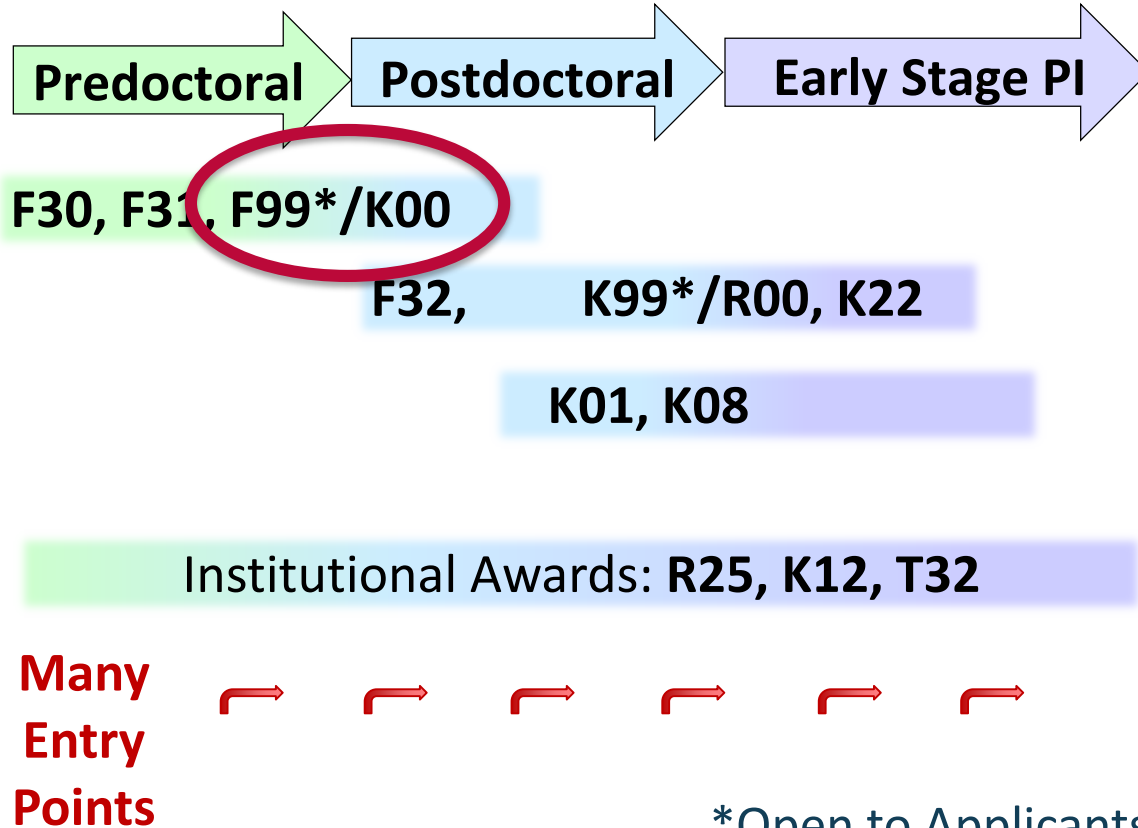


# F32 Awardee Profile



## Characteristics

# NCI Grant Funding for Trainees



\*Open to Applicants with U.S. Visas

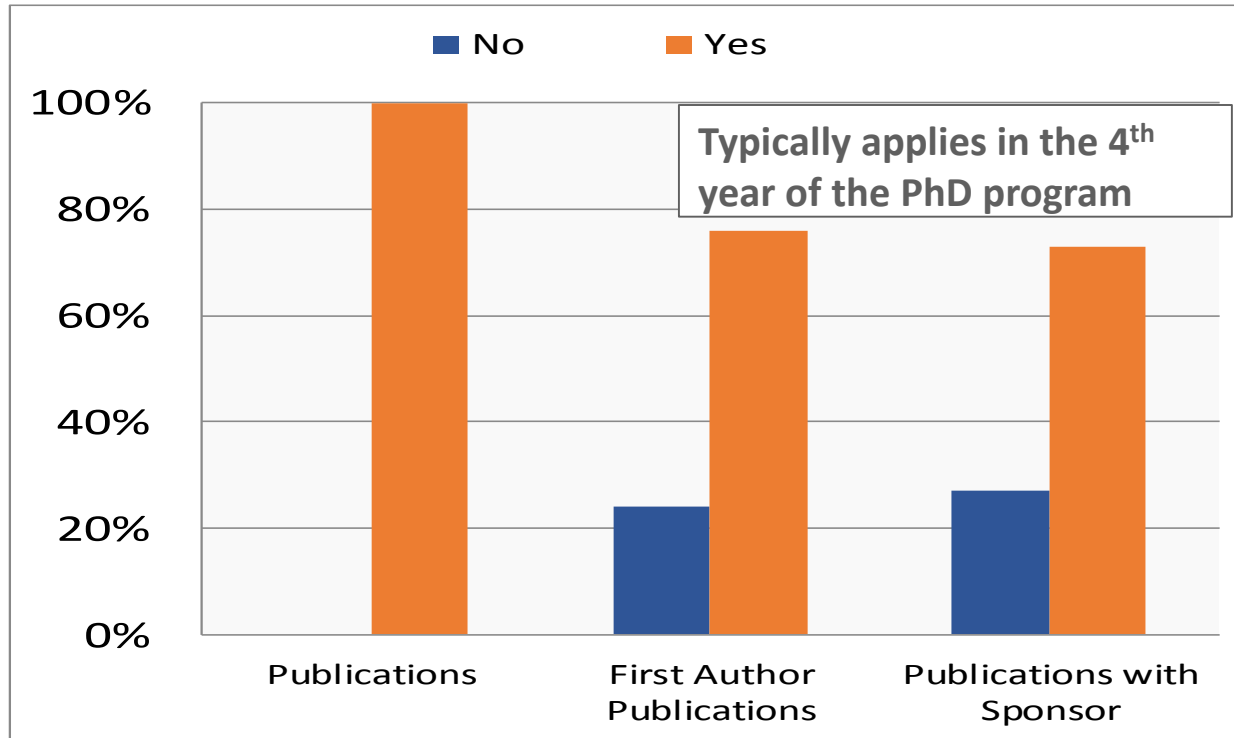
# F99/K00 NCI Predoc to Postdoc Fellow Transition Award

- Objective: To encourage outstanding late-stage graduate students to pursue careers in cancer research as independent investigators by facilitating their transition to cancer research postdoctoral appointments
- New!
  - Pilot program, now starting its fifth year

# F99/K00 NCI Predoc to Postdoc Fellow Transition Award

- For outstanding research doctoral candidates in the 3<sup>rd</sup> or 4<sup>th</sup> year
  - Not NRSA; graduate students on student visas are eligible
  - Non-clinical PhD or other research degree program
  - Only 1 nominee per institution
- Dual-phase funding
  - **F99** phase = 1-2 years; similar to F31
    - Fellow completes dissertation research, secures a postdoctoral fellowship
  - Transitions to **K00** phase (mentored K award) = 4 years
    - Higher salary than F32 stipend + \$3,000 for research expenses

# F99 Awardee Profile



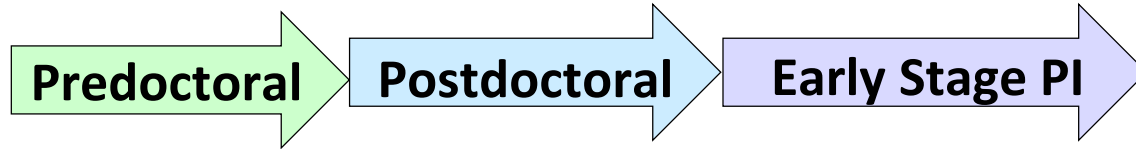
## Characteristics



# Fellowship applications: Factors to consider

- Fs do not fund the research project; therefore, NCI requires that the sponsor have research funding (R01 or equivalent)
- NCI requires a clear cancer focus in the research training
- Timing of submission
  - F30: typically in year 4 of a dual-degree program
  - F31: typically in year 3 of a PhD program; F99/K00 in year 3 or 4
  - F32: 1<sup>st</sup> (30%) or 2<sup>nd</sup> (60%) year of postdoctoral fellowship
- NCI expects the applicant to have intellectual input in the project
- NCI encourages Fellowship applications

# NCI Grant Funding for Trainees



F30, F31, F99\*/K00

F32,

K99\*/R00, K22

K01, K08

Institutional Awards: R25, K12, T32

**Many  
Entry  
Points**



\*Open to Applicants with U.S. Visas

# Individual Career Development Awards (Ks)

- Overall goal:
  - ...to help ensure that a diverse pool of highly trained scientists is available in appropriate scientific disciplines to address the Nation's biomedical, behavioral, and clinical research needs
- K award programs are:
  - ...designed to foster the transition of new investigators to research independence

# Individual Career Development Awards (Ks) provide

- “Protected time” for research and research training for 3-5 years
  - Salary and fringe benefits
    - Minimum of 75% professional effort required
- Funds for research development support (\$30,000-\$50,000/year)
  - Research expenses, including technical personnel
  - Statistical services, computer time, etc.
  - Tuition & fees
  - Travel to scientific meetings, workshops, field sites

# Mentored Clinical Scientist Research Career Development Award (K08)

- Objective: to provide salary and research support for a sustained period of “protected time” (3-5 years) to support didactic study and/or mentored research for individuals with clinical doctoral degrees

# NCI K08 eligibility requirements

- U.S. citizenship or permanent residency required at the time of award
- Clinical/professional doctoral degree
  - MD, DO, DDS, DMD, PharmD, OD, DC, ND, DVM, etc.
  - PhD in clinical psychology, nursing, clinical genetics, etc.
- The candidate may be in a postdoctoral, staff, or faculty (non-tenured) position (intramural fellows are not eligible)
- Candidate must identify a mentor and/or mentoring team
- NCI requires the candidate to have an active clinical license to practice in the United States

# NCI K08 provides

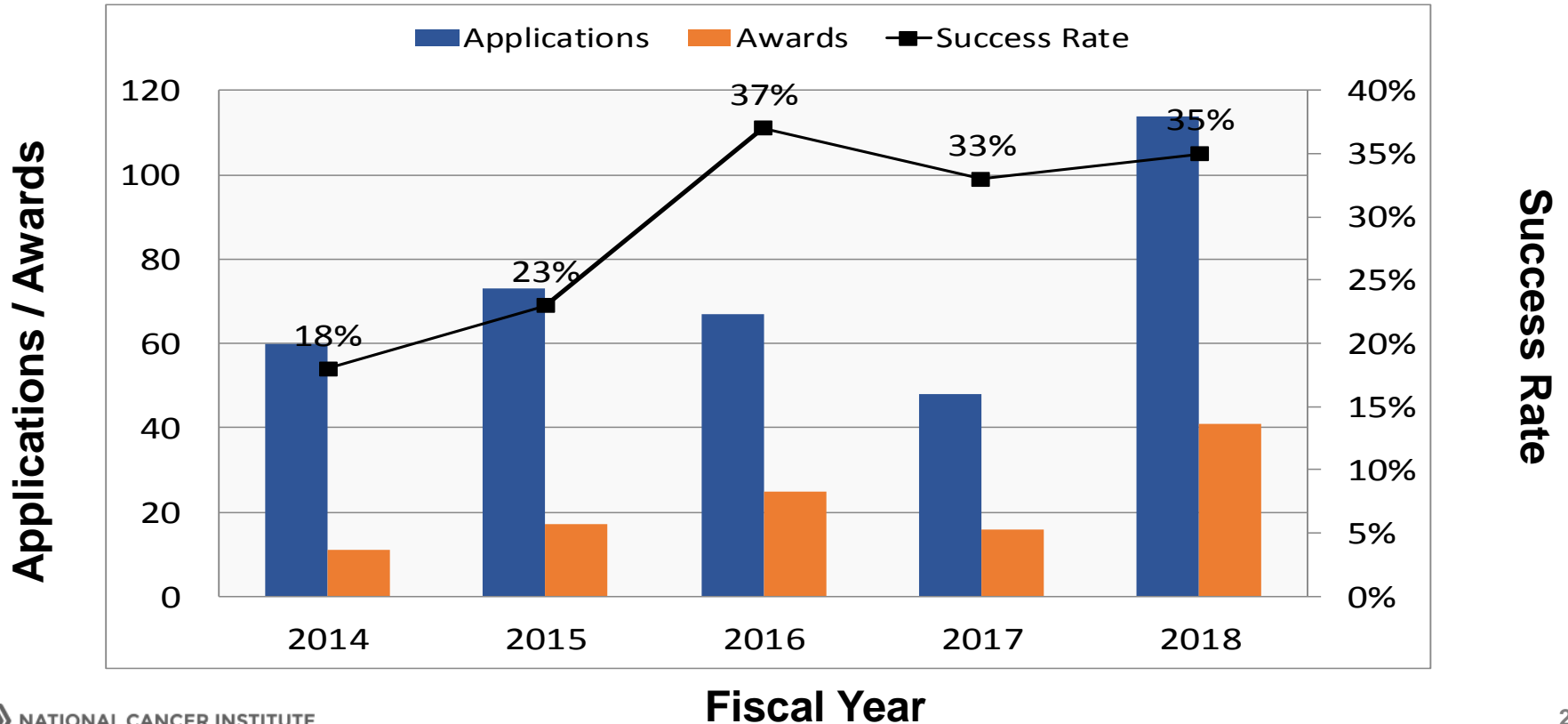
- “Protected time” for research and research training for 3-5 years
  - Salary + fringe benefits
    - Legislative salary cap = \$192,300
    - Minimum of 75% professional effort required
  - Funds for research development support (\$50,000/year)

# What about the K23??

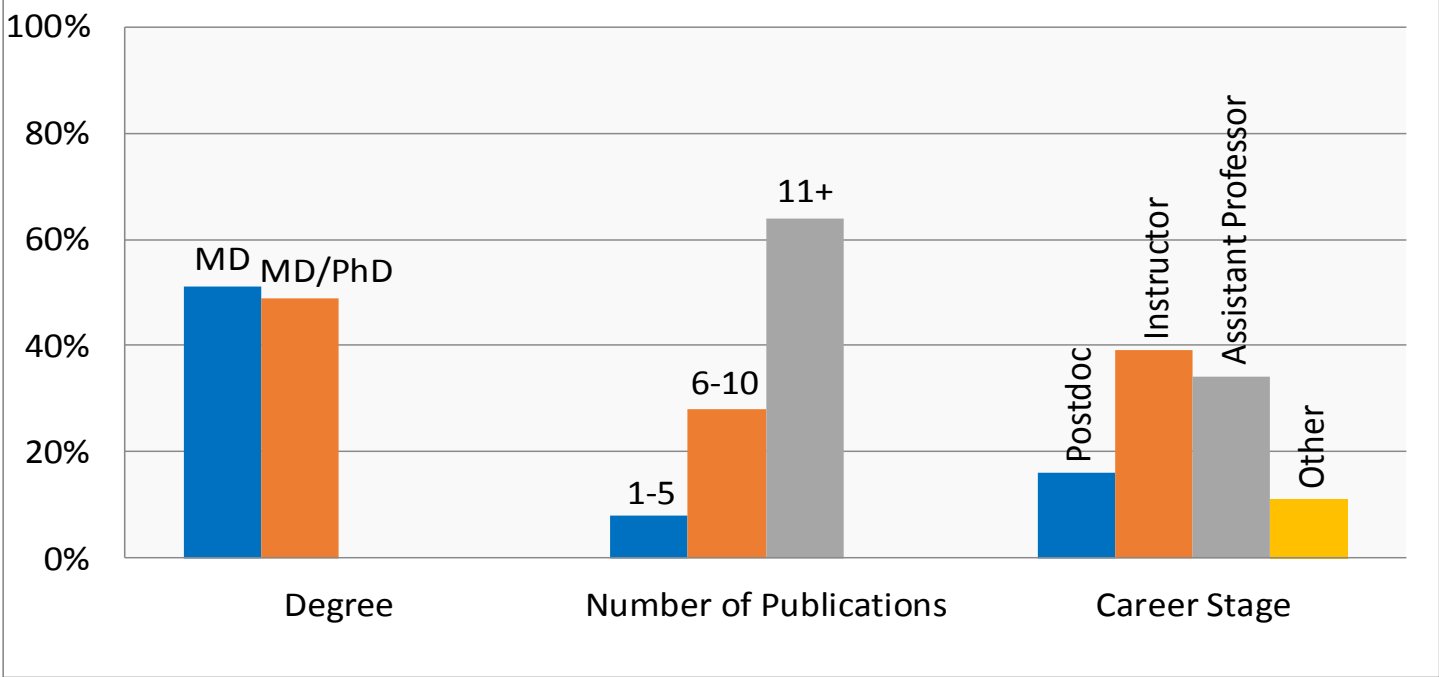
- NIH supports two mentored K awards for clinical scientists
  - K08: Basic and translational research
  - K23: Patient-oriented research
- NCI now supports training in all areas of cancer research through the K08...
- ...and no longer participates in the K23
  - [NOT-CA-17-042](#), [NOT-CA-17-043](#)



# K08 Applications, Awards, and Success Rates



# K08 Awardee Profile



# The Pathway to Independence Award (K99/R00)

- Objective: To facilitate early transition from a postdoctoral position to a stable independent research position
- Eligible candidates: U.S. citizens, permanent residents, and foreign nationals
  - Can have **no more than 4 years** of postdoctoral research experience
  - Must be in a mentored postdoctoral training position
  - Clinicians in a clinical faculty position that denotes independence in clinical responsibilities but not in research may also be eligible

# NCI “Early K99/R00”

- NCI Pathway to Independence Award for Outstanding **Early Stage** Postdoctoral Researchers (K99/R00)
- Eligible candidates: Postdoctoral fellows with **less than 2 years** of postdoctoral research experience who do not require an extended period of mentored postdoctoral training to achieve independence, especially those in **data science** or **cancer control**
- An institution may nominate up to 3 candidates, one each in data science, cancer control science, and other sciences
- New!
  - Pilot program, in its first year, with approval to continue 4 more years

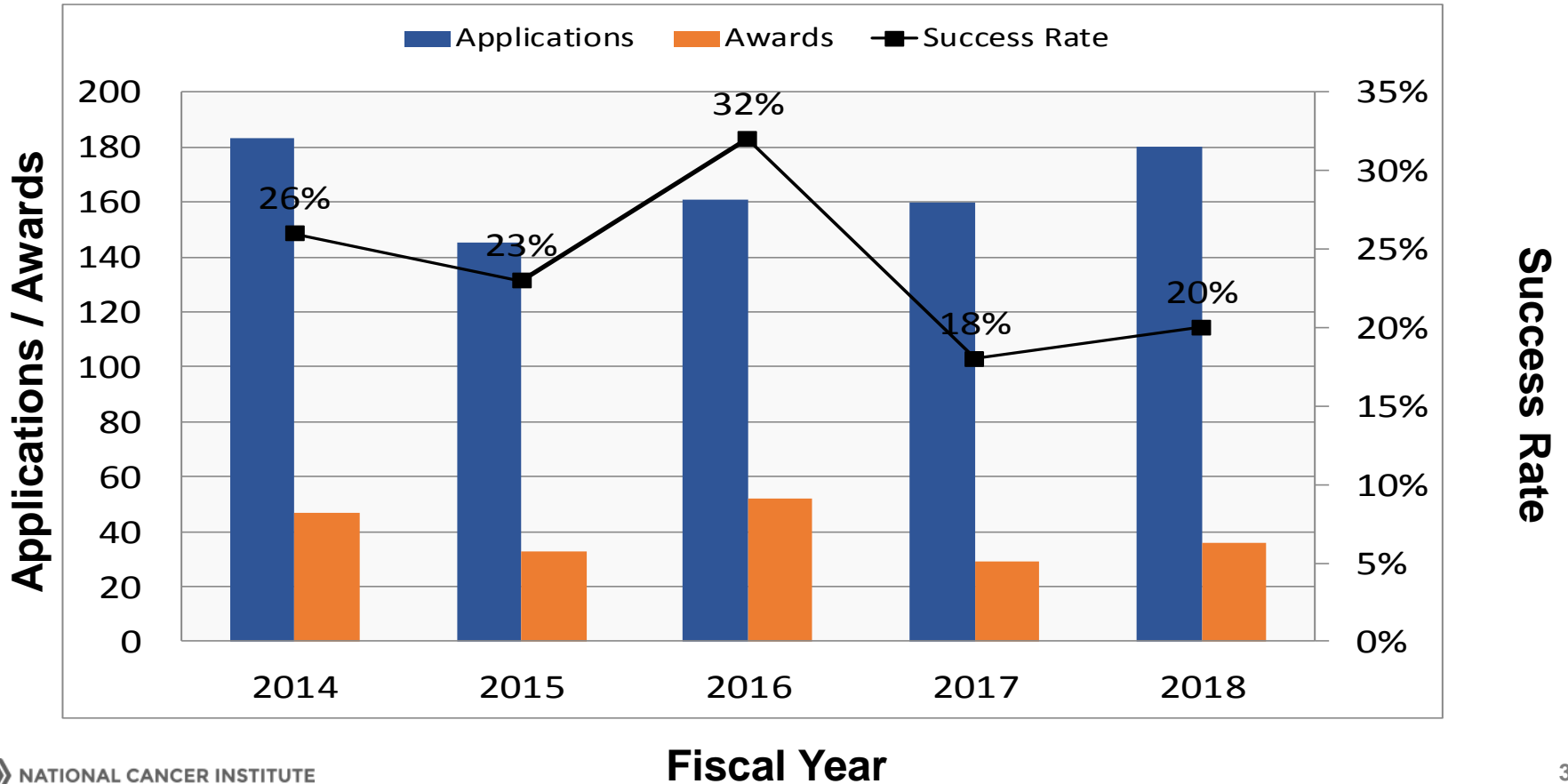
# K99/R00 Awards

- **K99** (mentored) phase, 1 year (minimum) – 2 years
  - Salary up to \$100,000/year + fringe benefits
  - Research development support up to \$30,000/year (for tuition and fees, research expenses, statistical services, travel, etc.)
- Candidate must identify a mentor and/or mentoring team
- For candidates with temporary U.S. visas, the candidate's visa status must allow him or her to remain in the U.S. long enough to complete the K99 phase of the award
- During the K99 phase, the PI finishes postdoctoral research projects and applies for tenure-track assistant professor positions

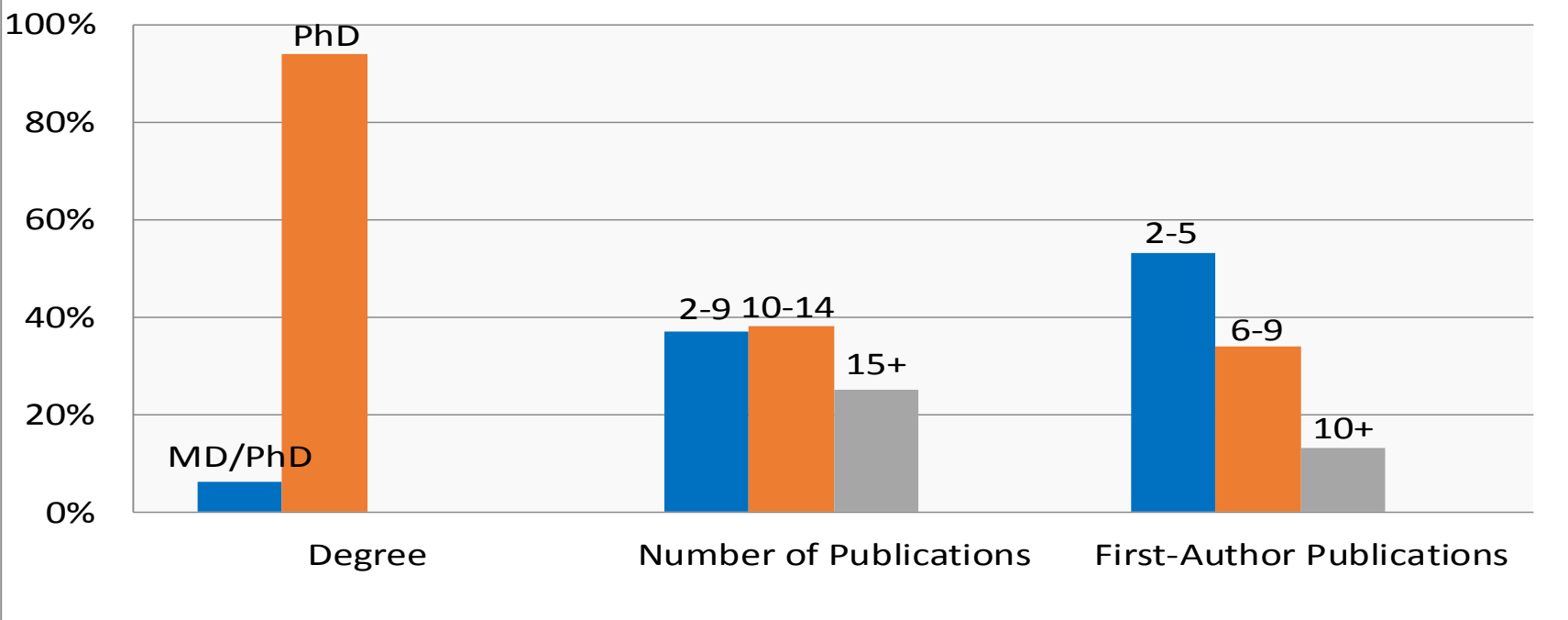
## K99/R00 Awards (continued)

- **R00** (independent) phase, up to 3 years at a U.S. institution
  - Award provides up to \$249,000/year for salary and research support
    - Pays full negotiated indirect cost rate
  - Transition to the R00 phase occurs only after an independent tenure-track full-time position (or equivalent) is offered and accepted
    - The transition application must be approved by NCI
      - The start-up package must be equivalent to the typical offer
      - The PI must be able to devote a minimum of 75% effort to research
    - The R00 phase is expected to be continuous in time with the K99 phase

# K99 Applications, Awards, and Success Rates



# K99 Awardee Profile





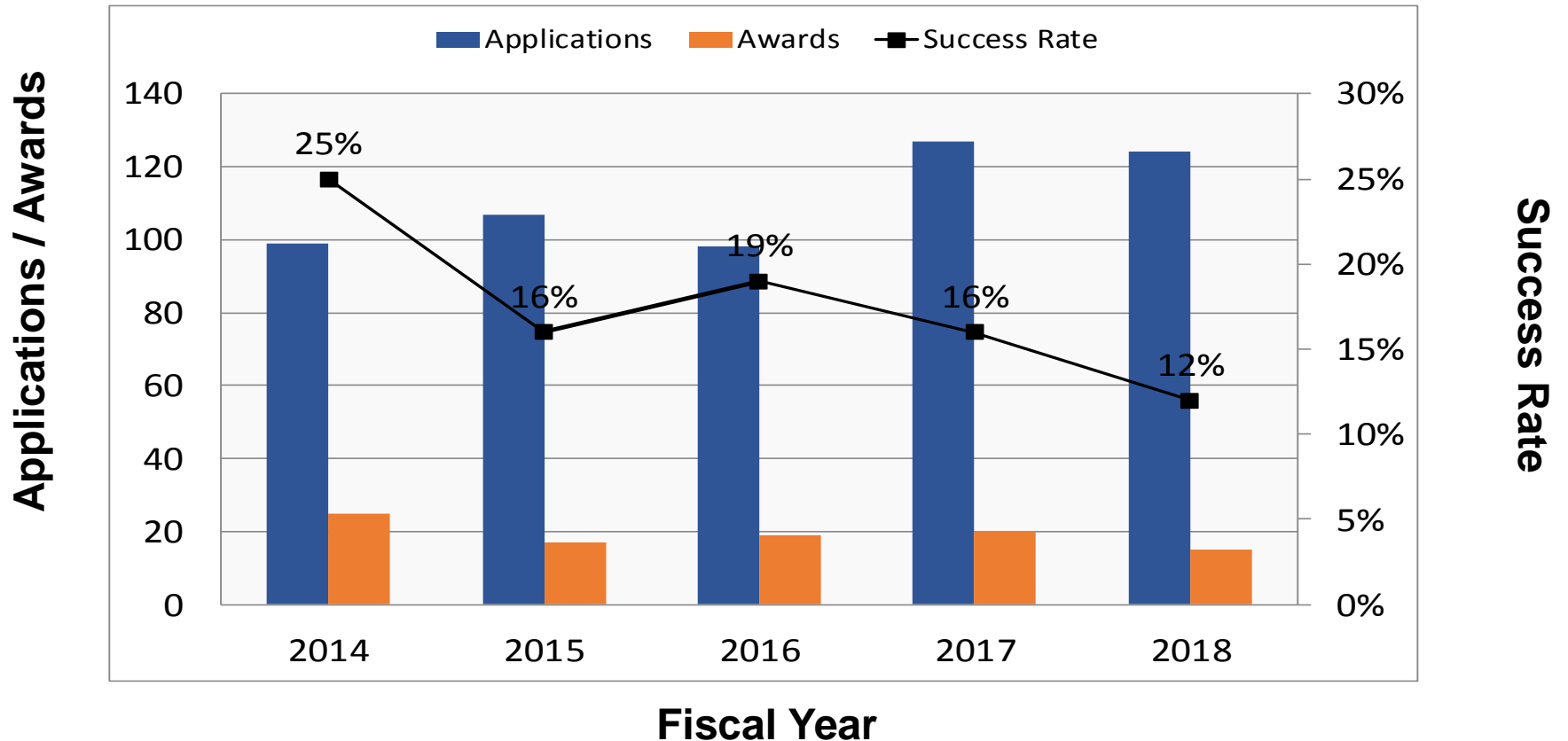
# NCI Transition Career Development Award (K22)

- Objective: To facilitate the transition of investigators from the mentored to the independent stage by providing “protected time” to develop and receive support for their initial cancer research programs
- Eligible candidates: Postdoctoral research and clinical fellows
  - U.S. citizenship or permanent residency required at the time of award
  - At least 2 years of postdoctoral training in cancer research
  - No more than a total of 8 years of non-independent postdoctoral research experience

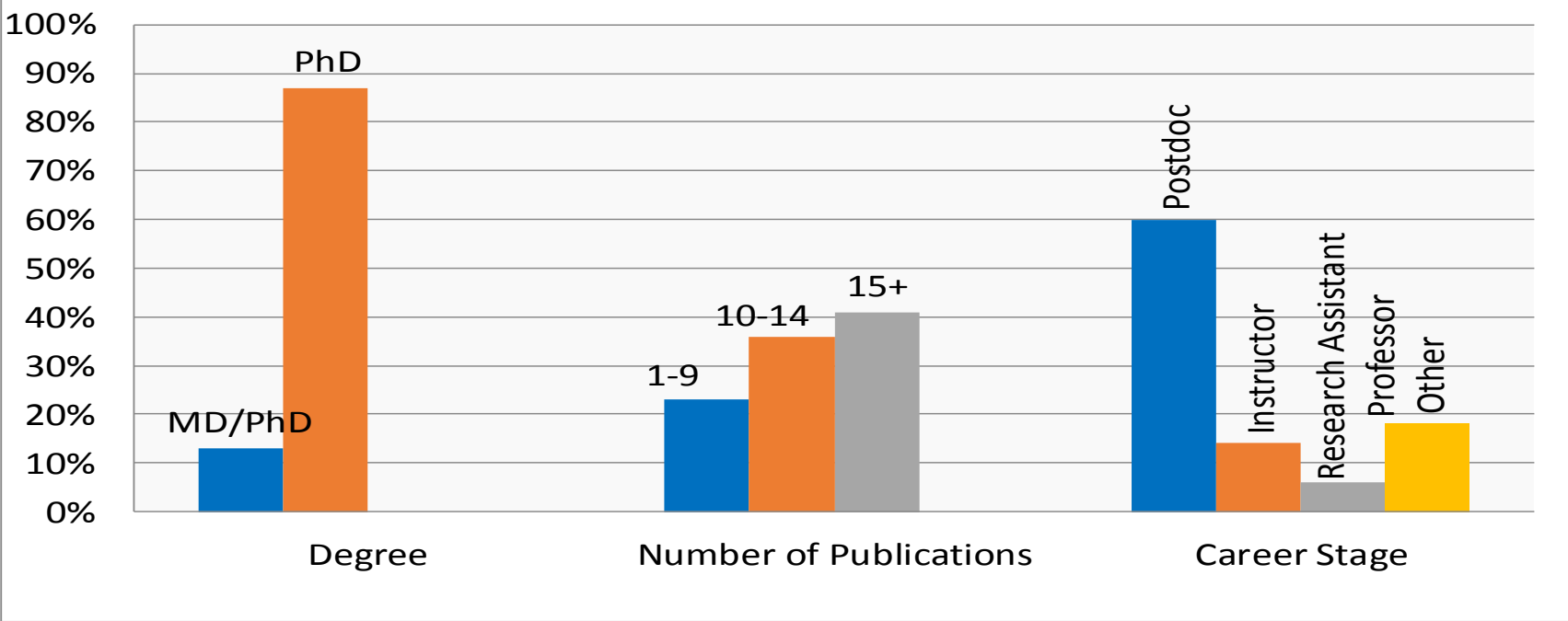
## NCI Transition Career Development Award (K22) (cont.)

- Candidate must be in a non-independent (mentored) position, but the award is for an independent position
- If selected, the applicant has 12 months to find a tenure-track position
- Awardee can *then* be supported for up to 3 years
  - Salary up to \$100,000/year + fringe benefits (minimum 75% effort)
  - Research support up to \$50,000/year
- Awardee must apply for an R01 research grant or equivalent prior to the end of the 2<sup>nd</sup> year of the K22 award

# K22 Applications, Awards, and Success Rates



# K22 Awardee Profile



# Training Awards to Promote Diversity

- Eligibility
  - Members of groups that have been shown to be underrepresented in biomedical research:
    - Blacks or African Americans, Hispanics or Latinos, American Indians or Alaska Natives, and Native Hawaiians and other Pacific Islanders
    - Individuals with disabilities
  - These individuals are also always eligible to apply for the equivalent non-diversity award program

# Individual NCI awards to promote diversity

- **F31** – NRSA for Individual Predoctoral Fellowships to Promote Diversity
- **K08** – Mentored Clinical Scientist Career Development Award to Promote Diversity
- **K22** – NCI Transition Career Development Award to Promote Diversity
- **K01** – NCI Mentored Research Scientist Development Award to Promote Diversity
- **R21** – NCI Exploratory Grant Award to Promote Workforce Diversity in Basic Research

*Administered by the NCI Diversity Training Branch: [crchd.cancer.gov](https://crchd.cancer.gov)*



# Early Stage Investigator (ESI) Policies

# NIH Early Stage Investigator (ESI) Policies

- <https://grants.nih.gov/policy/early-investigators/index.htm>
- A Program Director / Principal Investigator (PD/PI) who has completed their terminal research degree or end of post-graduate clinical training, whichever date is later, within the past 10 years and who has not previously competed successfully as PD/PI for a substantial NIH independent research award.
- ESI applications with meritorious scores will be prioritized for funding.
- NCI FY2019 Budget
  - R01 Payline = 8<sup>th</sup> percentile
  - ESI R01 Payline = 14<sup>th</sup> percentile



# NCI MERIT Award for ESIs (R37)

- NCI Method to Extend Research in Time (MERIT) Award for Early Stage Investigators (R37) ([NOT-CA-18-037](#))
- Objective: To give ESIs additional time to become more established before having to submit renewal applications
- Eligibility: ESIs who submitted an R01 application that received a score within the NCI payline
  - Administratively converted to an ESI MERIT (R37) award
  - Initial award of 3 to 5 years (as requested)
  - Extension of up to 2 additional years, based on an expedited NCI review of the accomplishments during the initial funding segment

# Tools for applicants

# NIH Weekly Table of Contents (TOC)/NIH Guide LISTSERV



### Weekly NIH Funding Opportunities and Notices

#### General Notices

- [Pre-Application Webinar for RFA-CA-19-042, Informatics Technology for Cancer Research Education Resource \(JE5 Clinical Trial Not Allowed\) \(NOT-CA-19-071\)](#)  
National Cancer Institute
- [Notice of Expiration of NOT-EY-19-011 "Notice of Special Interest: Alternatives to the Use of Human Fetal Tissues in Ocular Research" \(NOT-EY-19-029\)](#)  
National Eye Institute
- [Notice of Pre-Application Webinar for PAR-19-037: Initiative for Maximizing Student Development \(IMSD\) \(T32\) \(NOT-GM-19-060\)](#)  
National Institute of General Medical Sciences
- [Notice Announcing NICHDS Participation in PA-18-935 "Urgent Competitive Revision to Existing NIH Grants and Cooperative Agreements \(Urgent Supplement - Clinical Trial Optional\)" for Hurricanes Florence and Michael Research Response \(NOT-HD-19-031\)](#)  
*Eunice Kennedy Shriver* National Institute of Child Health and Human Development
- [Notice Announcing NICHDS Participation in PA-18-591 "Administrative Supplements to Existing NIH Grants and Cooperative Agreements \(Parent Admin Supp Clinical Trial Optional\)" for Hurricane Florence Research Response \(NOT-HD-19-032\)](#)  
*Eunice Kennedy Shriver* National Institute of Child Health and Human Development
- [Notice of Clarification: Additional Application Receipt Date for PA-17-247, Implementation and Evaluation of New Health Information Technology Strategies for Collecting and Using Patient-Reported Outcome Measures \(U18\) \(NOT-HS-19-021\)](#)  
Agency for Healthcare Research and Quality

#### Funding Opportunities

- [Consortium on the Neurobiology of Adolescent Drinking in Adulthood \(NADIA\) Research Projects \(Collaborative U01 - Clinical Trial Not Allowed\) \(RFA-AA-20-003\)](#)  
National Institute on Alcohol Abuse and Alcoholism  
Application Receipt Date(s): December 18, 2019, by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on these dates. No late applications will be accepted in response to this FOA
- [Consortium on the Neurobiology of Adolescent Drinking in Adulthood \(NADIA\) Administrative Resource \(Collaborative U24 - Clinical Trial Not Allowed\) \(RFA-AA-20-004\)](#)  
National Institute on Alcohol Abuse and Alcoholism  
Application Receipt Date(s): December 18, 2019, by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on these dates. No late applications will be accepted in response to this FOA
- [Consortium on the Neurobiology of Adolescent Drinking in Adulthood \(NADIA\) Research Resource \(Collaborative U24 - Clinical Trial Not Allowed\) \(RFA-AA-20-005\)](#)  
National Institute on Alcohol Abuse and Alcoholism  
Application Receipt Date(s): December 18, 2019, by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on these dates. No late applications will be accepted in response to this FOA
- [Low Cost Detection of Cognitive Decline in Clinical Settings \(R61/R33 Clinical Trial Required\) \(RFA-AG-20-050\)](#)  
National Institute on Aging  
Application Receipt Date(s): January 30, 2020 No late applications will be

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Current FY is 2018

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## RESEARCHER AND ORGANIZATION

Principal Investigator (PI) / Project Leader:  ,

(Last Name, First Name)

Use '%' for wildcard in PI names

[Enter several PI/Project Leader names OR PI Profile IDs](#)

Organization:  ?

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**MATCHMAKER**

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**Use Matchmaker to find similar projects and program officials**

Enter abstracts or other scientific text and Matchmaker will return lists of similar projects from RePORTER or program officials associated with those projects. These matches are based on the terms and concepts used in the submitted text. Up to 15,000 characters are permitted. Matchmaker summarizes the projects by the program official, institute or center, review panel, and activity code.



Enter your Text:

The research group investigates the neurobiology underlying drug abuse and related psychiatric disorders. The work is focused on the systematic study of the human brain of drug abusers and subjects with psychiatric disorders in relation to opioid neuropeptide, cannabinoid and dopamine neuronal systems. Drug abuse and, e.g., major depression are associated with alterations of mood, cognition, and motivation, thus, an important goal is to identify and map specific genes in the mesocorticolimbic system, which regulate emotional function. Techniques such as in situ hybridization, RT-PCR, DNA microarray, in vitro autoradiography, and general biochemical assays are used for the detailed analyses of genes, and respective protein products, in discrete mesocorticolimbic brain areas. Molecular, biochemical, and in vivo studies of the human brain are assessed in relation to individual genotype in order to identify neurobiological correlates of functional genetic polymorphisms linked to addiction and affective disorders. Epigenetic mechanisms, e.g., DNA methylation, are also evaluated in relation to the regulation of gene expression.

Terms will be weighted by frequency of appearance in the text above. The process is automated and confidential. The Matchmaker system does not track and store submitted text.

Characters left: 15000

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**SIMILAR PROGRAM OFFICIALS**

**View similar projects**

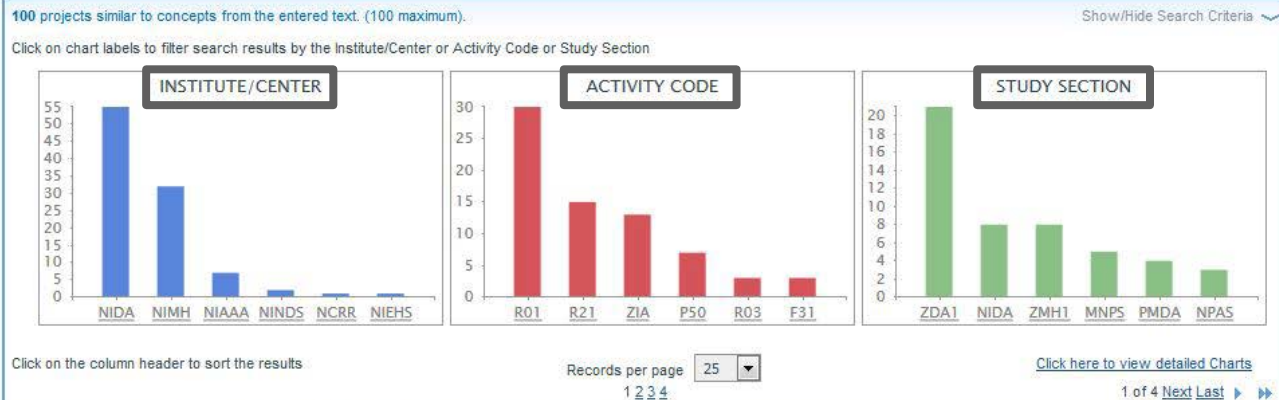
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**View program officials**

# Matchmaker Results

Matchmaker New Query

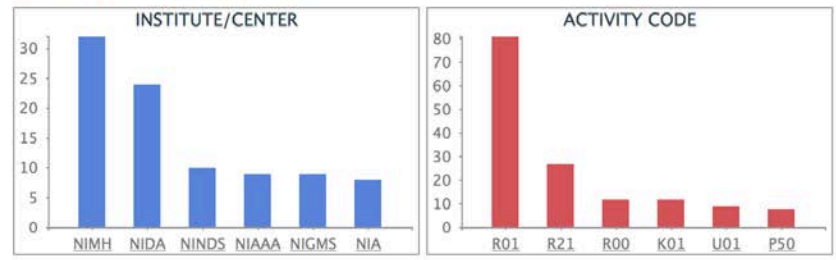
Export All Projects GO



Match Score	T Act	Project	Year	Sub #	Project Title	Contact PI / Project Leader	Organization	FY	Admin IC	Funding IC	FY Total Cost by IC	Similar Projects
711	4 R01	DA033660	05		MULTIGENERATIONAL EPIGENETIC EFFECTS OF CANNABIS EXPOSURE	HURD, YASMIN L	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	2016	NIDA	NIDA	\$496,464	
702	1 DP1	DA042078	01		ROLES FOR HISTONE MONOAMYLATION IN COCAINE-INDUCED TRANSCRIPTIONAL AND BEHAVIORAL PLASTICITY	MAZE, IAN	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	2016	NIDA	NIDA	\$508,500	
687	5 F31	DA031559	03		PRENATAL CANNABIS EXPOSURE AND EPIGENETIC MECHANISMS UNDERLYING VULNERABILITY TO	MORRIS, CLAUDIA VARGAS	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	2013	NIDA	NIDA	\$28,355	
687	5 R21	DA038973	02		CHARACTERIZING THE COCAINE-RESPONSIVE PEPTIDOME IN MAMMALIAN TELECEPHALON	BALDO, BRIAN A et al.	UNIVERSITY OF WISCONSIN-MADISON	2016	NIDA	NIDA	\$225,106	
686	5 P50	DA009253	20	5983	NEUROIMAGING & COGNITION FOR PREDICTING TOBACCO DEPENDENCE	MEYERHOFF, DIETER J	UNIVERSITY OF CALIFORNIA, SAN	2014	NIDA		\$647,820	

124 Program Official(s) from the matched projects. (500 maximum) [Show/Hide Search Criteria](#)

Click on chart labels to filter search results by the Institute/Center or Activity Code



Click on the column header to sort the results

Records per page 25 1 2 3 4 5

[Click here to view detailed Charts](#)

1 of 5 Next Last

Program Official	IC	Contact Information	Projects
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<a href="#">POLLOCK, JONATHAN D</a>	NIDA	<a href="#">Click to view PO email address</a>	23
<a href="#">ARGUELLO, ALEXANDER</a>			23
<a href="#">LIN, YU</a>			15
<a href="#">SIMMONS, JANINE M</a>			11
<a href="#">SATTERLEE, JOHN S</a>			11
<a href="#">PARIYADATH, VANU</a>			10
<a href="#">ROSSI, ANDREW</a>			9
<a href="#">SORENSEN, ROGER</a>			8
<a href="#">BABECKI, BETH</a>			8
<a href="#">MEINECKE, DOUGLAS L</a>			8
<a href="#">WU, DA-YU</a>			7
<a href="#">CHAVEZ, MARK</a>			7
<a href="#">FREUND, LISA S</a>			7
<a href="#">RIDDLE, ROBERT D</a>	NINDS	<a href="#">Click to view PO email address</a>	7

Click PO name to view projects

### Matchmaker Results

Program Official: POLLOCK, JONATHAN D  
[Click to view PO email address](#)

[Close Window](#)

Click on the column header to sort the results

Application Type: Act: Activity Code: Project: Admin IC: Serial No.: Year: Support Year/Supplement/Amendment

T	Act	Project	Year	Sub #	Project Title	Contact PI / Project Leader	Organization	FY	Admin IC	Funding IC	FY Total Cost by IC	Similar Projects
\$	R21	DA041822	02		TECHNOLOGY FOR IDENTIFICATION OF EPIPROTEOMES IN TISSUE SAMPLES	TACKETT, ALAN	UNIV OF ARKANSAS FOR MED SCIS	2017	NIDA	NIDA	\$186,250	
\$	P01	DA008227	26		MOLECULAR NEUROBIOLOGY OF DRUG ADDICTION	NESTLER, ERIC J.	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	2018	NIDA	NIDA	\$1,595,011	
\$	R21	DA039482	02		DROSOPHILA TO ELUCIDATE SEROTONIN'S ROLE IN STIMULANT DRUG ABUSE	NICHOLS, CHARLES D	LSU HEALTH SCIENCES CENTER	2017	NIDA	NIDA	\$182,500	
\$	P30	DA035756	05		MOLECULAR DEFINITION OF BRAIN CIRCUITS CONTROLLING ADDICTION	HEINTZ, NATHANIEL	ROCKEFELLER UNIVERSITY	2017	NIDA	NIDA	\$1,330,506	
1	R01	DA043980	01A1		(EPI)GENETIC RISK ARCHITECTURES IN OPIOID DEPENDENT BRAIN	SCACHERI, PETER CHRISTOPHER et al.	CASE WESTERN RESERVE UNIVERSITY	2017	NIDA	NIDA	\$1,094,363	

# Tips for applicants



# Tips

- Start early!
- Contact the Program Officer—early!
- Apply to the correct announcement
- Read the instructions
- Work closely with your sponsor or mentor as you develop the application
- Contact your reference letter writers—early!
- Revise, revise, revise—neatness counts
- Submit your application early!

# Take-Home Message

NCI supports a variety of training awards. The best program for you will depend on

- Your need for additional mentoring and/or training
- Your career trajectory and readiness for independence

Contact the Program Officer *early* to identify the right training award for you and to confirm your eligibility

Excited? Confused? Overwhelmed?

Contact us!

See our website for more information on these and other funding mechanisms, as well as our contact information

[cancer.gov/CCT](https://cancer.gov/CCT)

[perkinsu@mail.nih.gov](mailto:perkinsu@mail.nih.gov)

Questions?



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