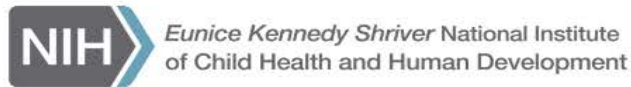


# Update on Research Career Development and New Investigators

**Dennis A. Twombly, Ph.D.**  
NICHD Training Director  
Deputy Director  
Office of Extramural Policy





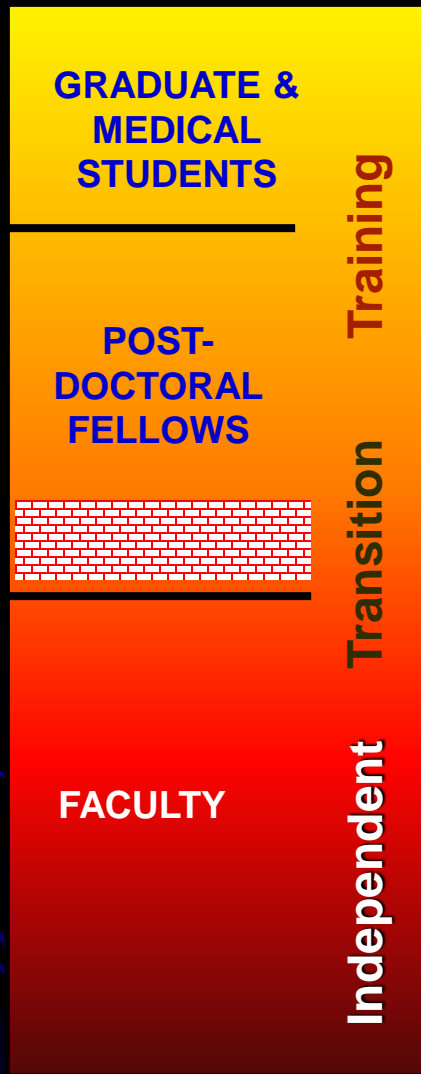
- **Overall Objective: Conduct broad review of NICHD's formal training programs**
  - **Funding Mechanisms used by NICHD**
    - Individual NRSA Fellowships (F30, Diversity-F31, Parent F31, F32)
    - Institutional Training Grants (T32)
    - Individual Career Development Awards (K01, K08, K23, K24, K25, K99-R00)
    - Institutional Career Development Awards (K12 programs)
    - T15 / R25 Education Grants
  
- **Key Indices:**
  - **Funding Commitments, Numbers of Awards, Success Rates**
  - **Outcomes of former fellows/trainees (positions, applications, awards)**
  
- **Presentation to Council and approval of recommendations (Sept 2015) – Report under Archives on Council web site.**

# Research Training and Career Development

## Fellowships & Career Awards

## Research Grants

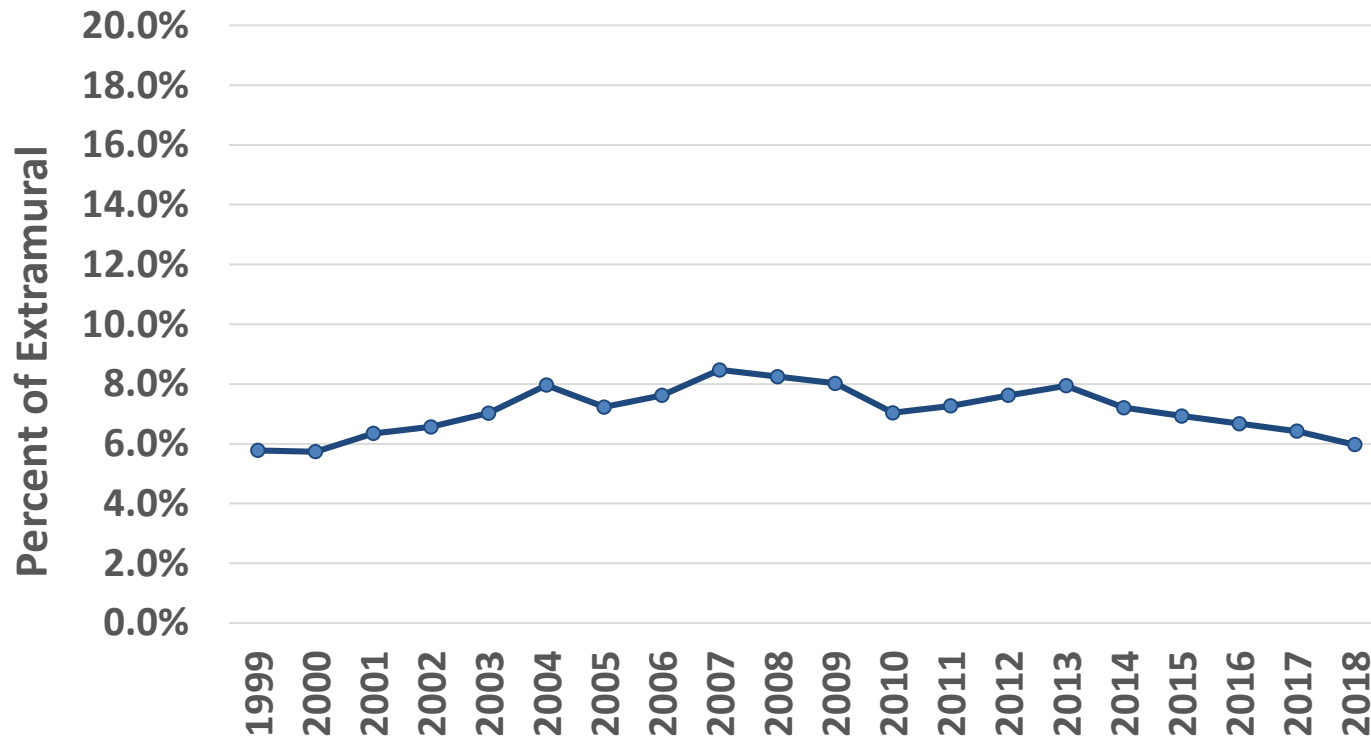
- R03 Small Grant
- R21 Exploratory-Developmental Grant
- R01 Research Project Grant



- ← T32 Institutional Training Grants (Predoctoral slots)
- ← F30 Pre-doctoral Fellowships (MD/PhD Programs)
- ← F31 Pre-doctoral Fellowships (Parent F31)
- ← F31 Diversity Pre-doctoral Fellowships
  
- ← T32 Institutional Training Grant (Post-doctoral slots)
- ← F32 Individual Post-doctoral Fellowships
- ← Intramural Research Training Awards (IRTA)
  
- ← K99-R00 Pathway to Independence Award
  
- ← K12 Institutional Career Development Award
  
- ← K01 Mentored Research Scientist Development Award
- ← K08 Mentored Clinical Scientist Development Award
- ← K23 Mentored Patient-Oriented K Award
- ← K25 Mentored Quantitative K Award



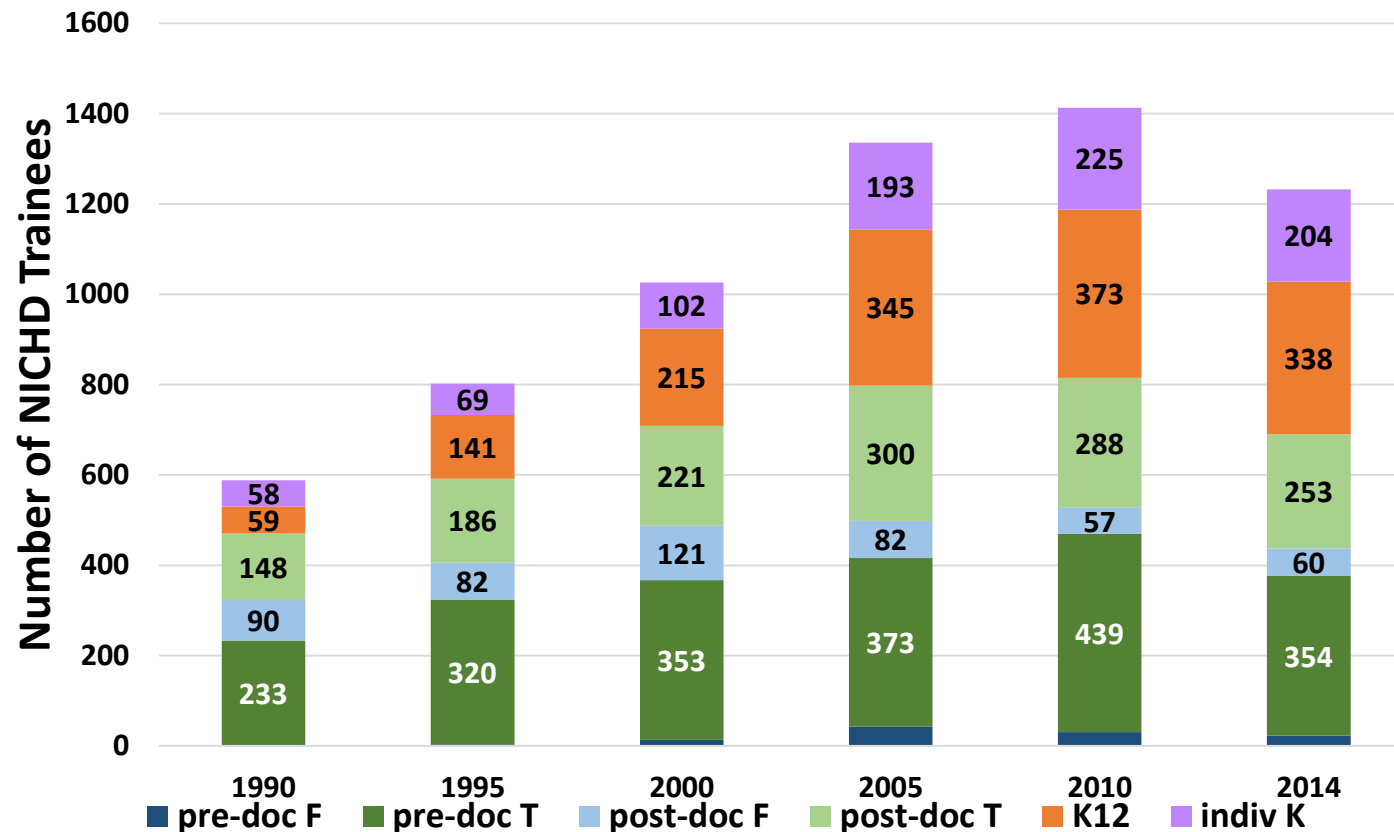
# NICHD Training Budget History (% of Extramural)



NICHD expenditures on training as a percentage of the annual NICHD Extramural Budget [\* 2018 subject to revision]



## Individuals\*\* Supported by Career Stage and Mechanism (1990-2014)

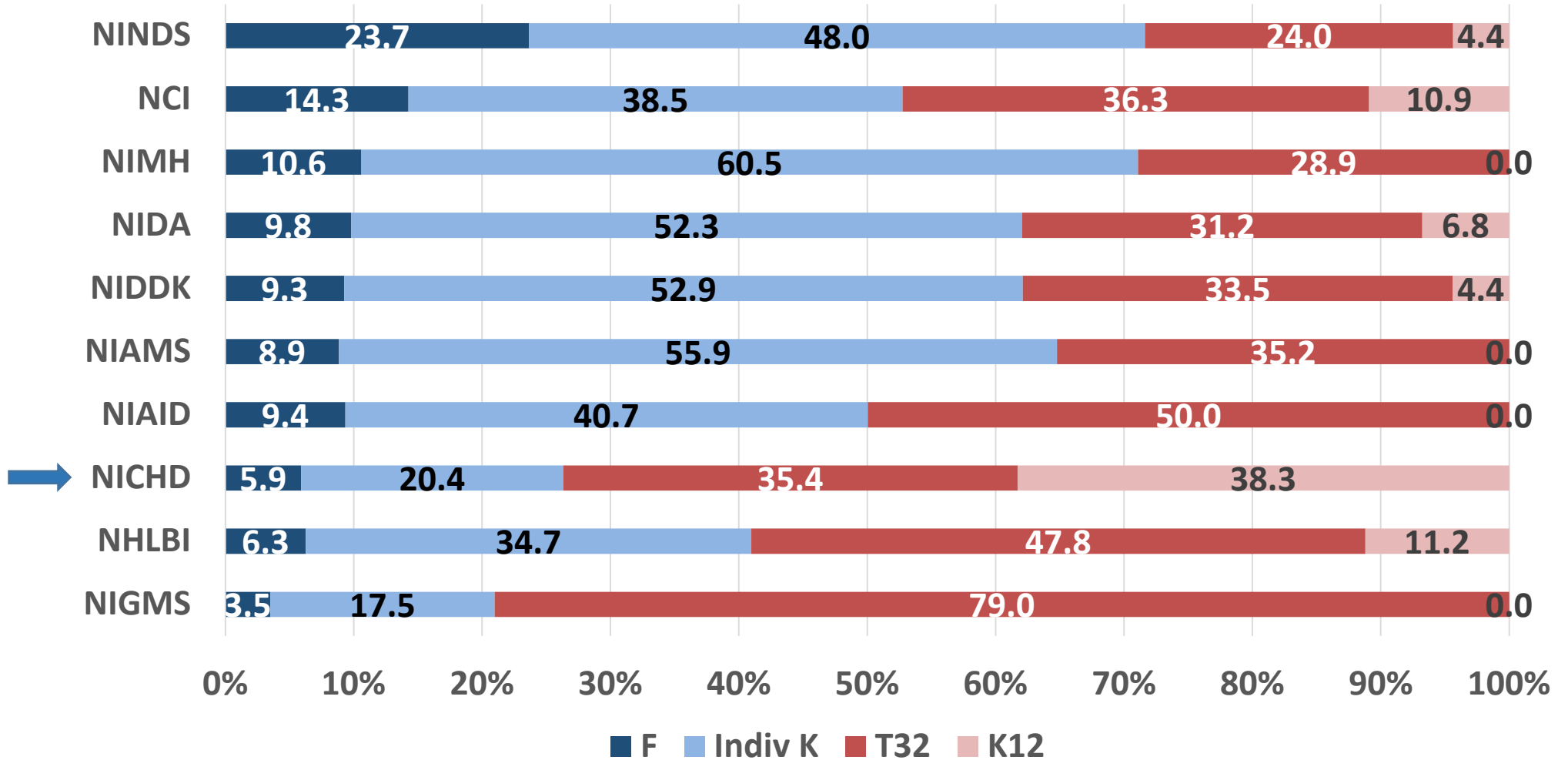


\*\* Note: Data are numbers of individuals who have been supported by these training programs. For T32 or K12 programs, this number may be higher or lower than the number of “slots” actually awarded.

# Relative Proportion of Funds Committed to Individual and Institutional Training and Career Development Programs by NIH Institute (FY2014)



➔ *NICHD commits far greater proportion of funds to institutional programs vs individual F and K awards*





## Training Review Implementation Plan

- **Maintain overall training commitments (approx. 6%)**
- **Realign NICHD's training programs consistent with:**
  - NICHD Training Review (2015)
  - NIH Biomedical Workforce (BMW) recommendations
  - NIH Physician-scientist Workforce (PSW) recommendations



## Training Review Recommendations



### NRSA Programs

- ICs must support all Fellowship mechanisms: **F30, F31-Parent**, F31-Diversity, F32 Postdoc
- Increase success rates for individual fellowships (had fallen to 10% for F31 and F32)
- Increase relative proportion of individual fellowships vs institutional training grants (T32)

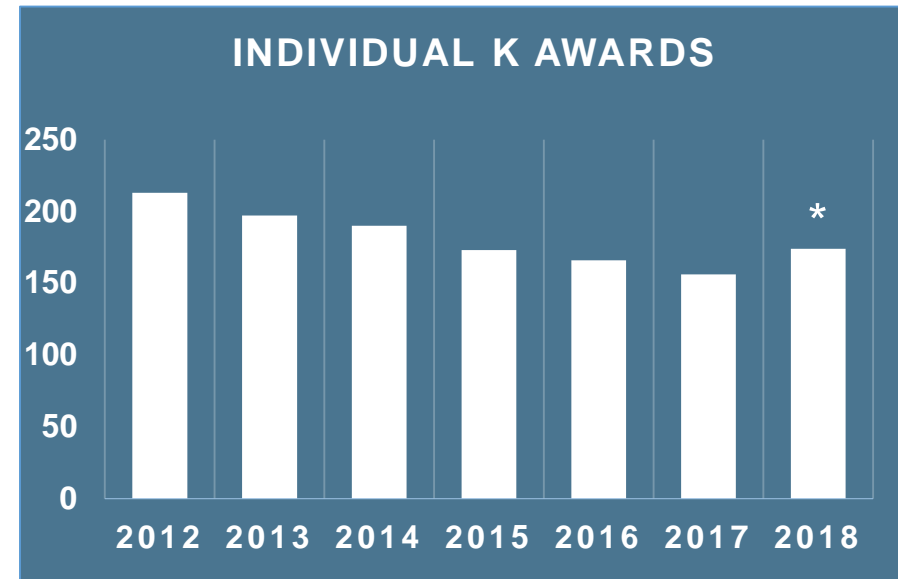
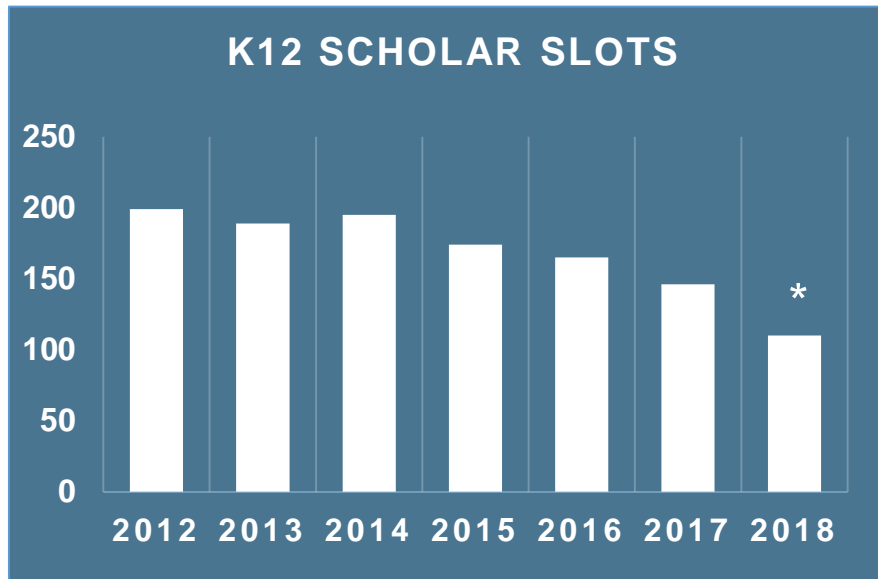
### Career Development Awards

- Increase K08 / K23 salary contribution from \$75,000 to \$100,000 (FY2017 and beyond)
- Increase success rates for individual career development awards
- Increase success rates for K99-R00 program as bridge to independence
- Increase relative proportion of individual K awards vs institutional K12 awards





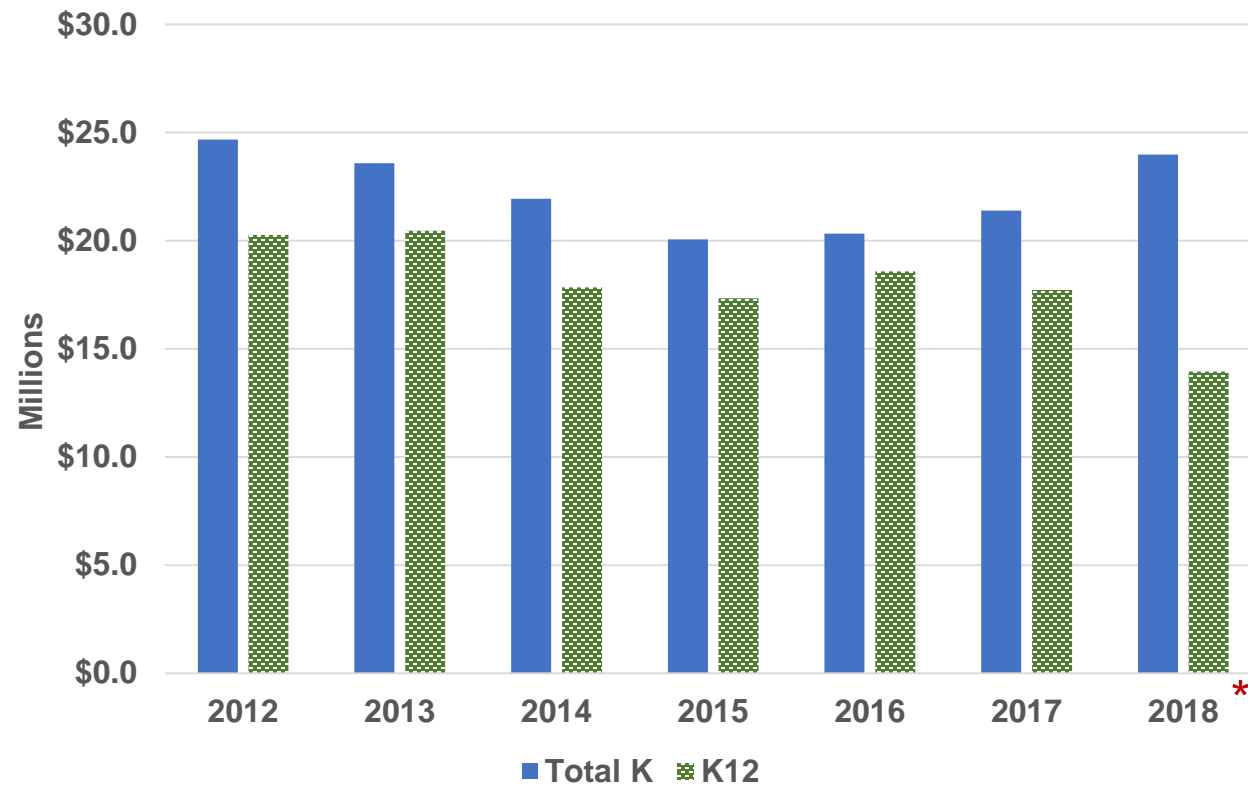
## K12 Slots vs Individual K awards



\* Note: FY2018 numbers not finalized



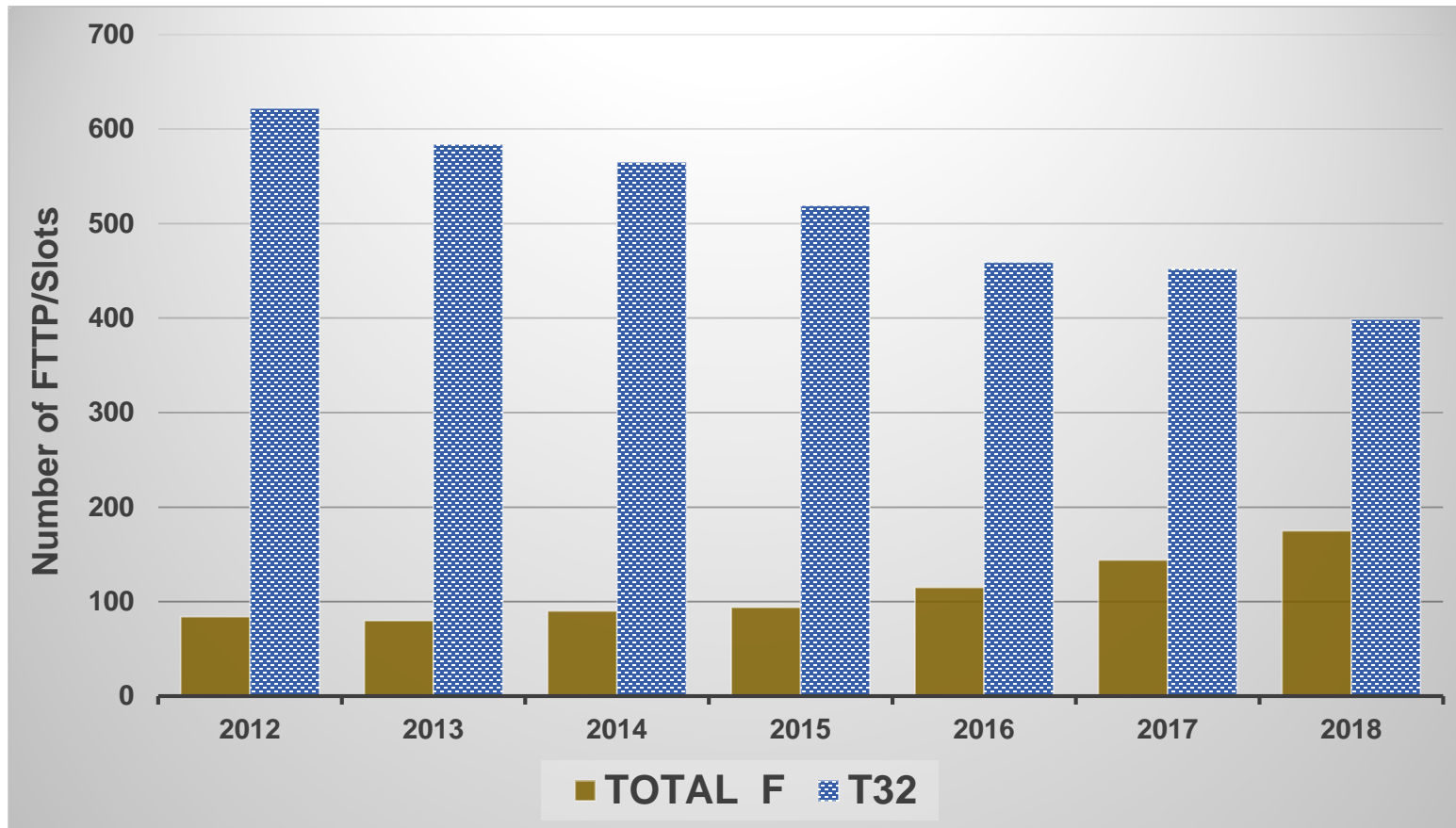
# Individual K and Institutional K12 Funding



\* Note: FY2018 numbers not finalized



## Individual Fellowships (F) and Institutional T32 Slots (Full Time Training Positions)





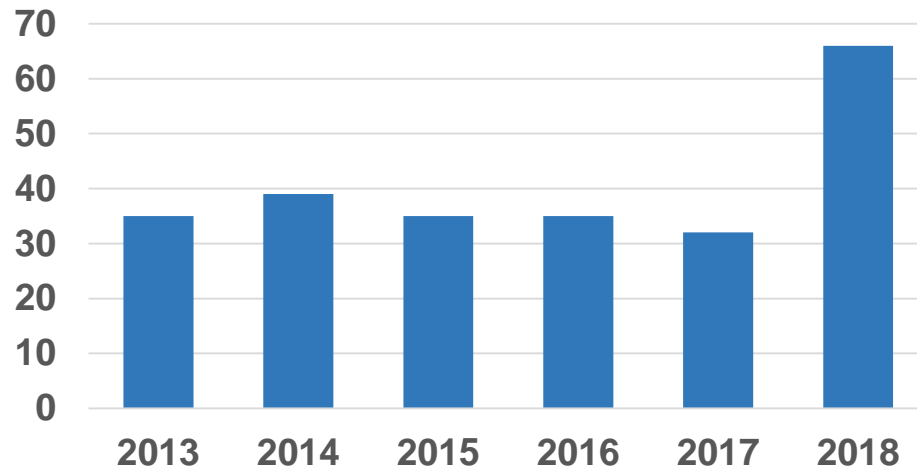
## Funding for Early Stage Investigators

- “**Early Stage Investigator**”: R01 applicant who is within 10 years of receiving a terminal doctoral degree or end of clinical training and has not yet received a major independent NIH grant as PD/PI.
- NIH funds R01s of ESIs at ***more favorable pay lines*** !!
- Historical difference for NICHD has been 2- 4 percentile spread

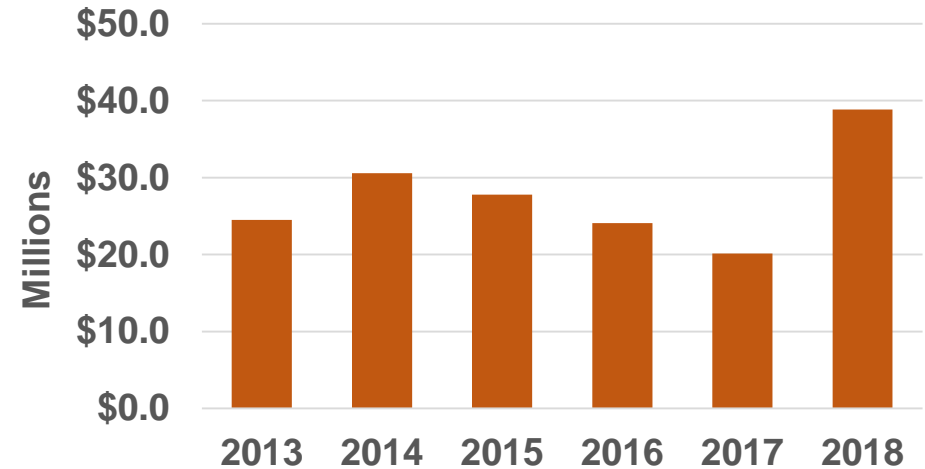


## NICHD Awards to Early Stage Investigators (R01)

Number of ESI Awards



ESI Awarded Direct Costs





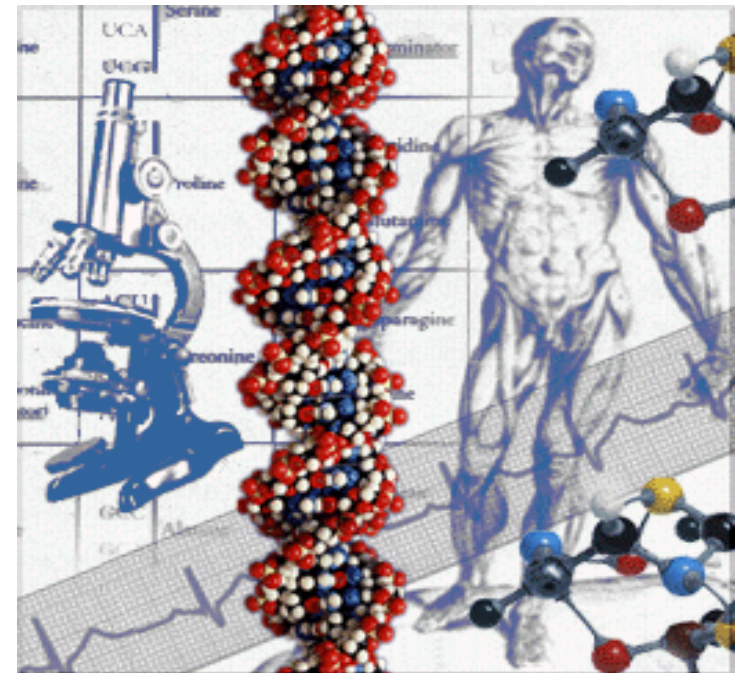
## Extramural Loan Repayment Programs

NIH: Repays 25% of qualified debt per year up to a maximum of \$35,000 and covers the resulting taxes; Debt must exceed 20% of base salary.

### *Qualifying research areas:*

- Clinical Research LRP (L30)
- Pediatric Research LRP (L40)
- Contraception & Infertility Research LRP (L50)
- Health Disparities Research LRP
- Clinical Research LRP for Individuals from Disadvantaged Backgrounds

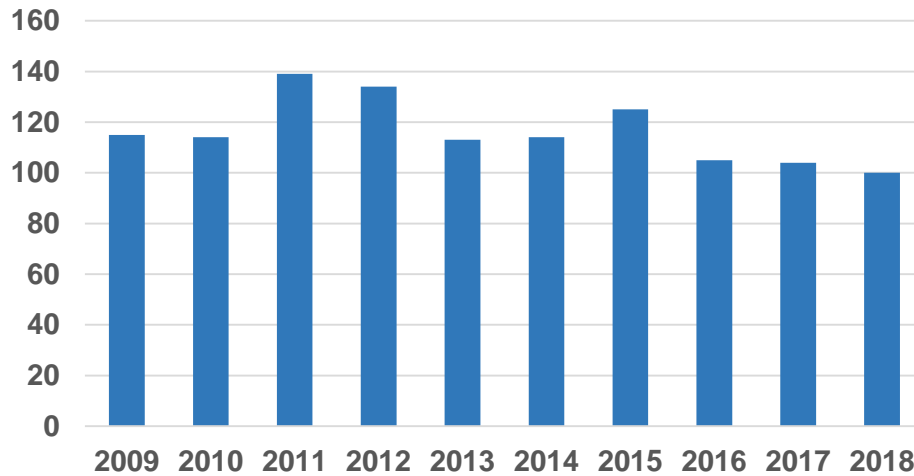
**New Application Period: Sept. 1 to Nov. 16**



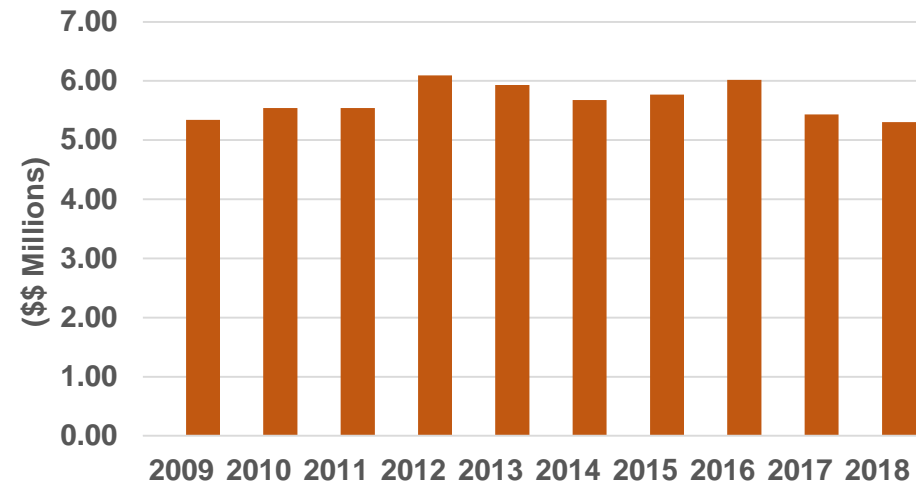


# Loan Repayment Program (NICHD)

### Numbers of Awards



### Direct Costs





## Summary: Training Review Implementation



### NRSA Programs

- ✓ NICHD participating in all Fellowship mechanisms: F30, F31-Parent, F31-Diversity, F32
- ✓ Increased numbers of individual fellowships and success rates
- ✓ Increased relative proportion of individual fellowships vs institutional training grants (T32)

### Career Development Awards

- ✓ Increased K08 / K23 salary contribution from \$75,000 to \$100,000 (FY2017 and beyond)
- ✓ Increased success rates for individual career development awards
- ✓ Increased K99 Success rate from 16% (2014) to 36% (in 2018)
- ✓ Increased relative proportion of individual K awards vs institutional K12 awards



# Discussion



## NICHD Training Officer:

**Dennis A. Twombly, Ph.D.**

**NICHD Training Officer**

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**NICHD Website: <http://www.nichd.nih.gov/>**

**NIH Website: <http://www.nih.gov>**

