Merit Review Digest

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Office of Integrative Activities

August 4, 2021

Merit Review Modernization

Vision

Continuously modernize the merit review process to promote fairness, transparency, effectiveness, and efficiency in decision-making.

Mission

Enable oversight through open access to data about the merit review process; accelerate broad NSF adoption of proven process improvements.

Strategies

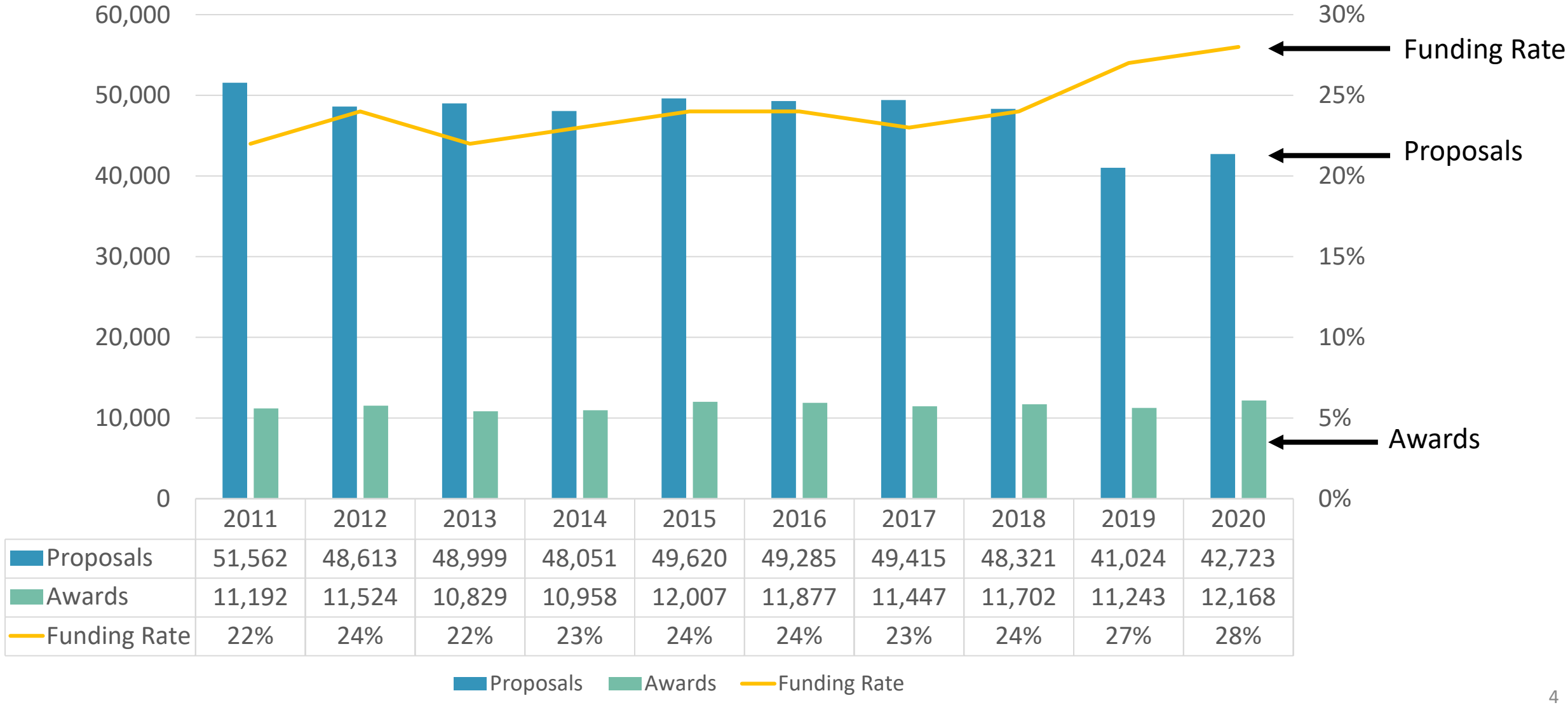
- Develop common understanding of the current state of merit review
- Launch and measure the impact of prototypes and pilots
- Increase accessibility and usefulness of merit review data

FY 2020 Merit Review Digest

Highlights

Merit Review Digest – Summary Statistics

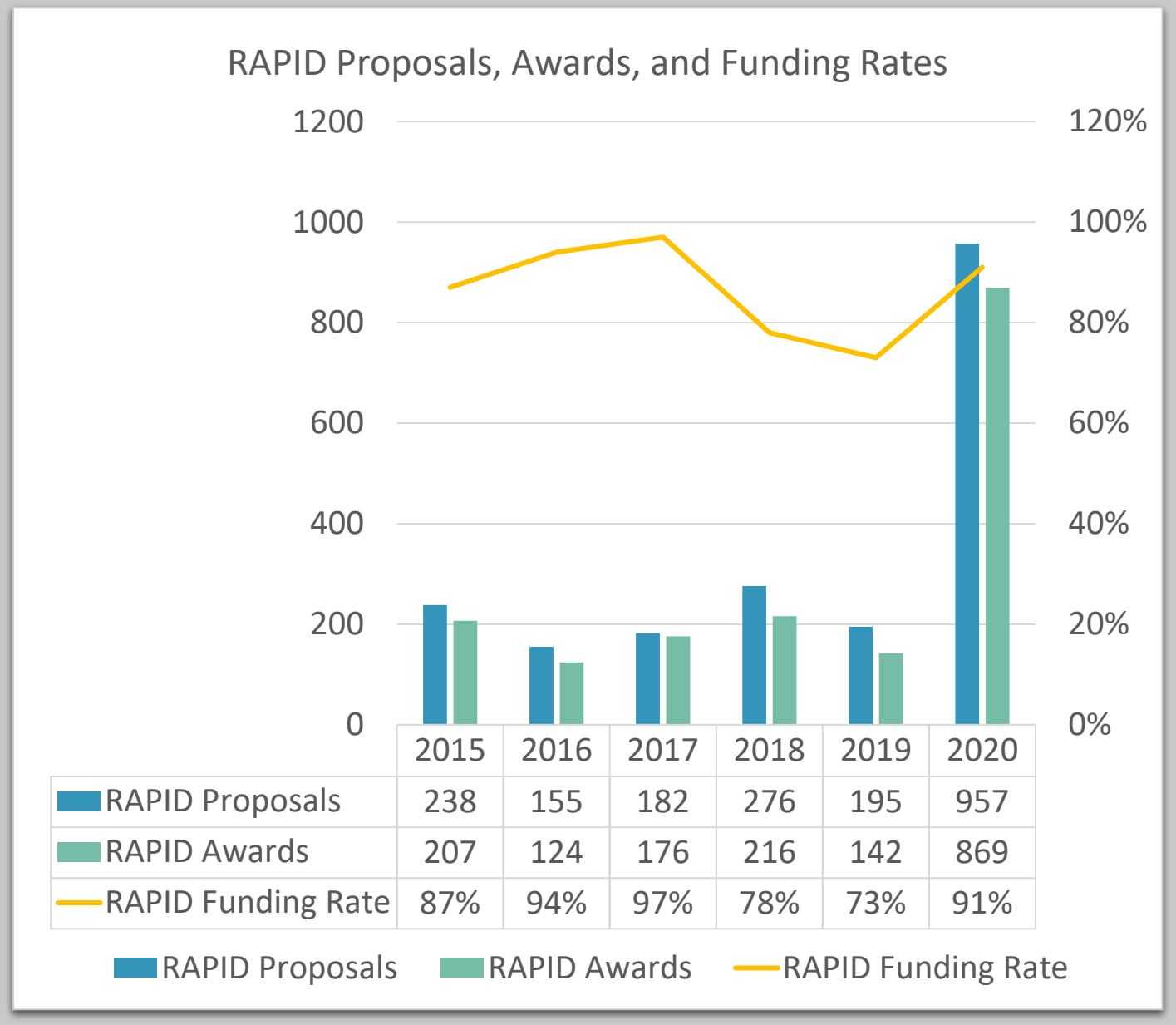
Competitive Proposals, Awards, and Funding Rates



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Proposals	51,562	48,613	48,999	48,051	49,620	49,285	49,415	48,321	41,024	42,723
Awards	11,192	11,524	10,829	10,958	12,007	11,877	11,447	11,702	11,243	12,168
Funding Rate	22%	24%	22%	23%	24%	24%	23%	24%	27%	28%

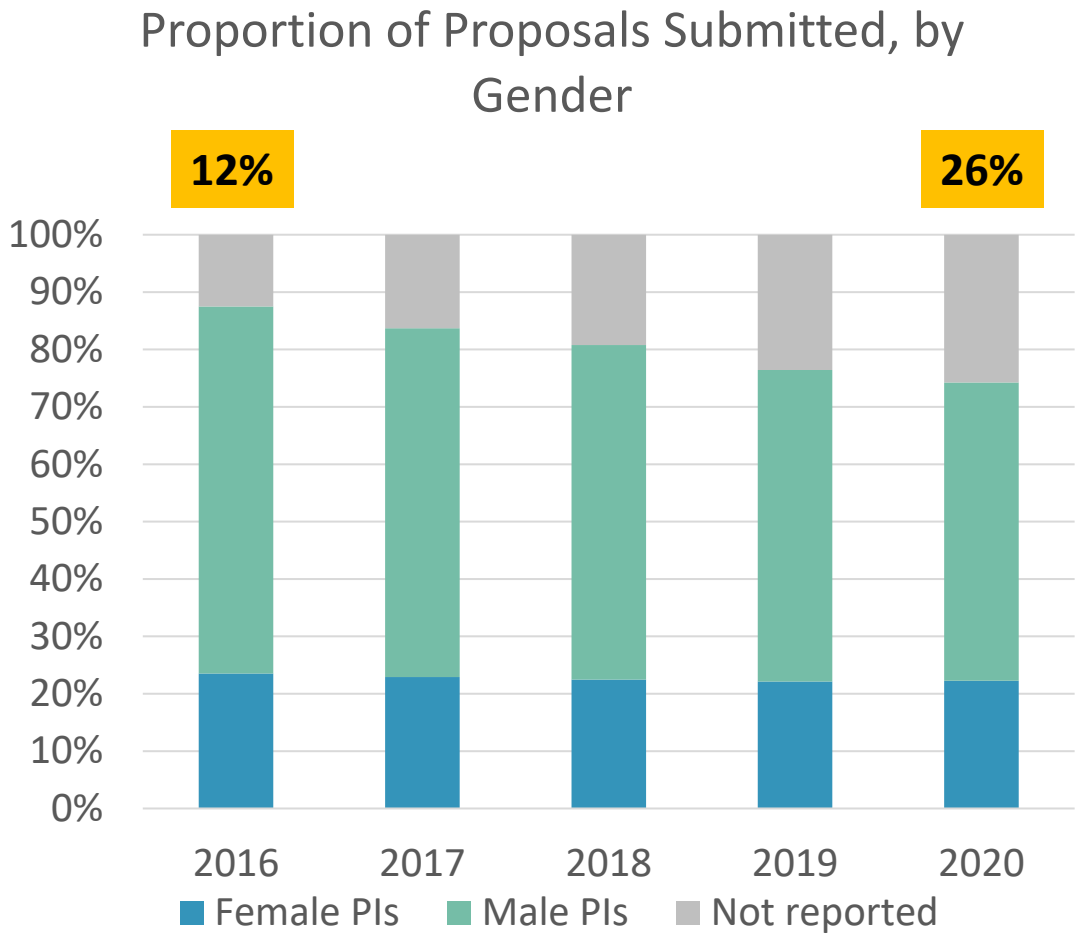
Research in Response to COVID-19

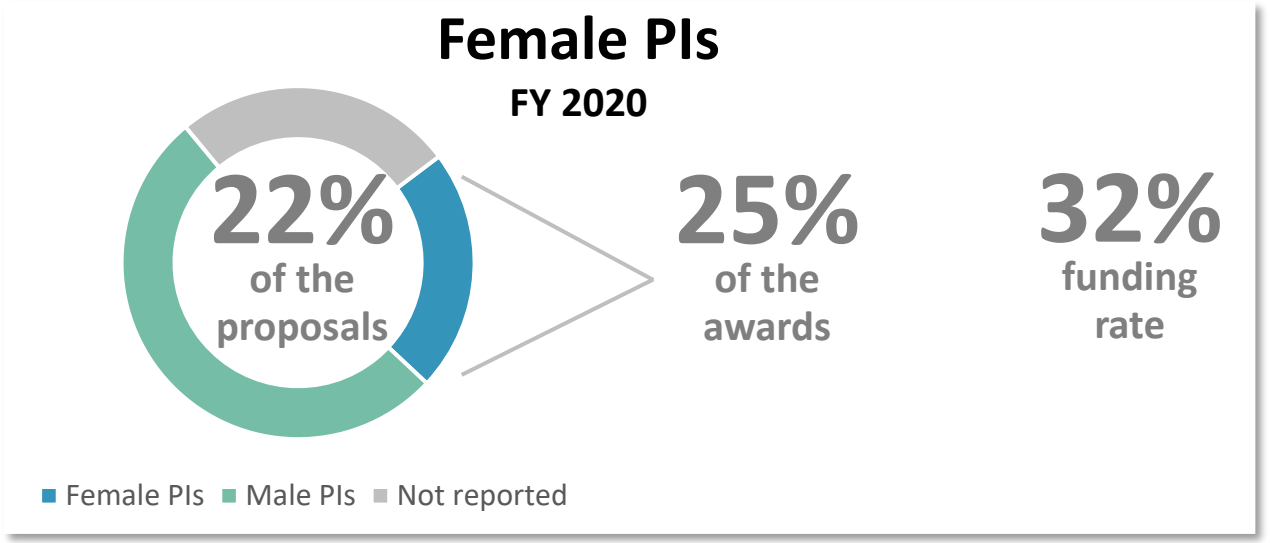
- 1,172 awards made across all NSF Directorates*
- Nearly 10% of all new FY 2020 awards were in response to COVID-19
- 9% of research awards were RAPIDs compared to an average of 2%



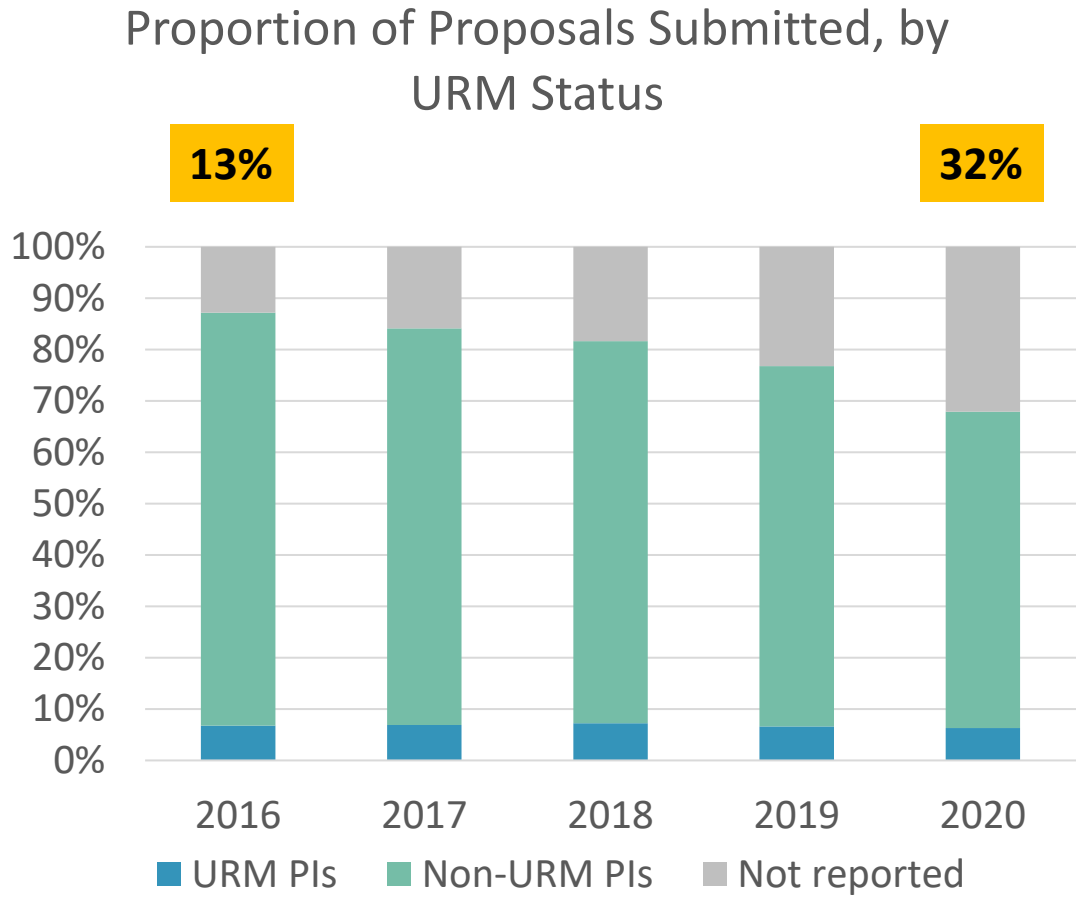
* NSF FY 2020 Agency Financial Report (https://www.nsf.gov/pubs/2021/nsf21002/index.jsp)

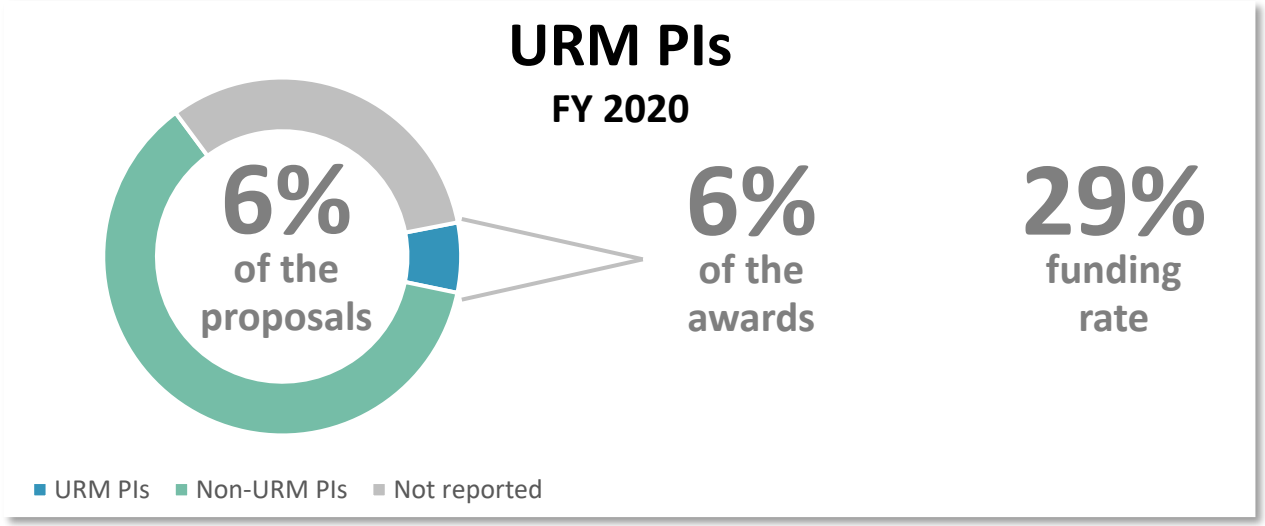
Participation of Female PIs (Competitive Proposals)





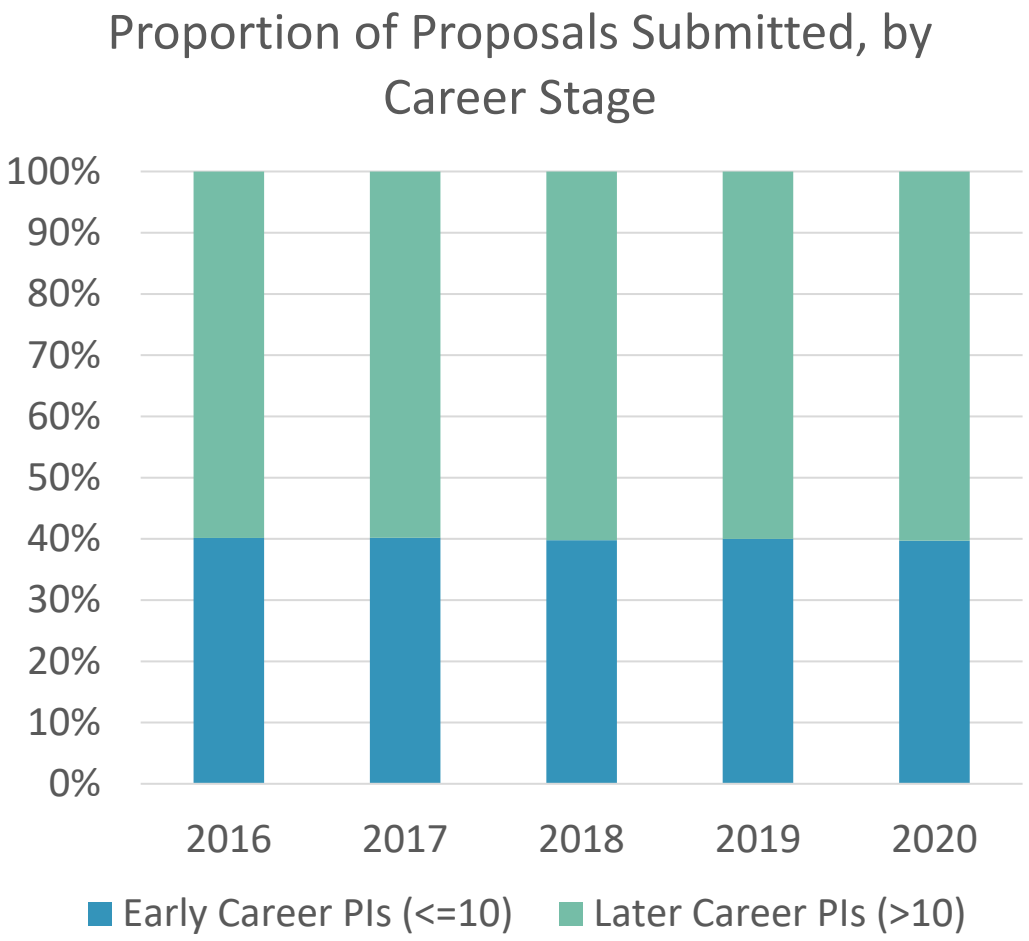
Participation of PIs from Underrepresented Racial or Ethnic Groups (URM*) (Competitive Proposals)

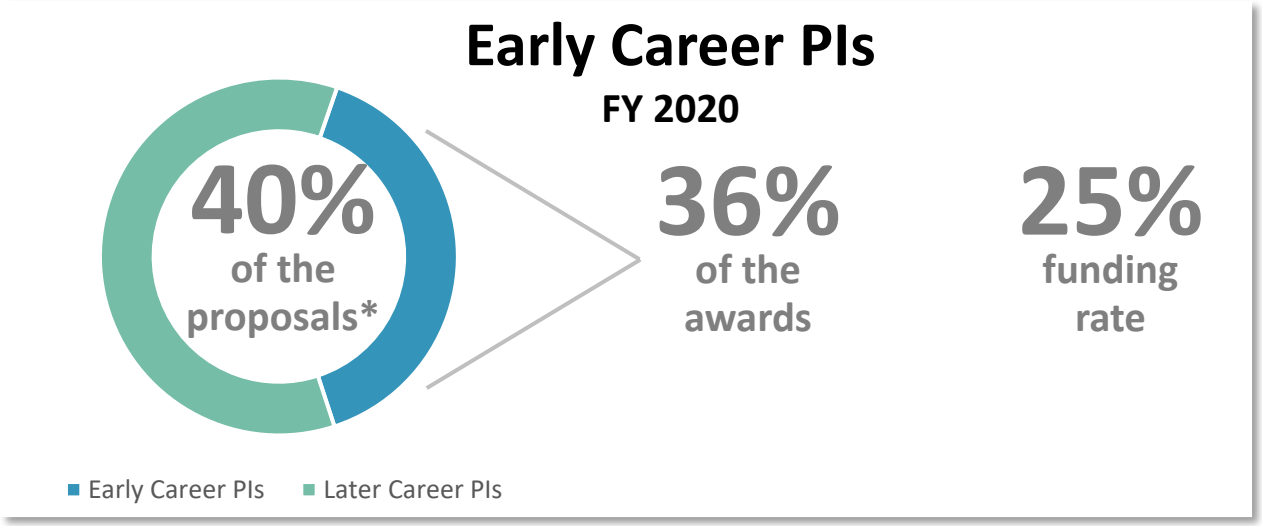




* URM is defined as racial and ethnic groups underrepresented in STEM and includes American Indian/Alaska Native, Black/African American, Hispanic or Latino, and Native Hawaiian/Pacific Islanders

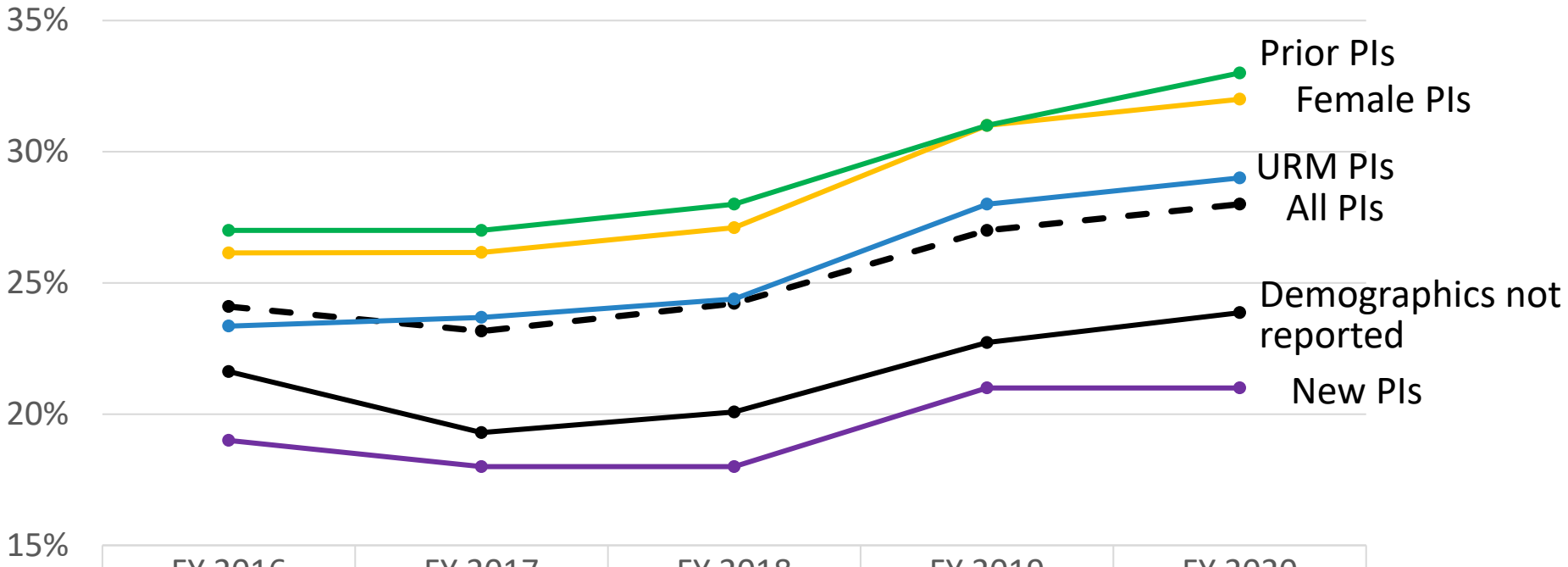
Participation of Early Career PIs* (Research Proposals)





* In FY 2020, NSF changed the definition of an early career-PIs as someone within ten years of receiving their last degree at the time of award. This updated definition is not associated with meaningful changes in the patterns of awards or funding rates over time. Under the new definition, the proportion of awards to early career PIs was approximately 14% higher in both FY 2019 and 2020.

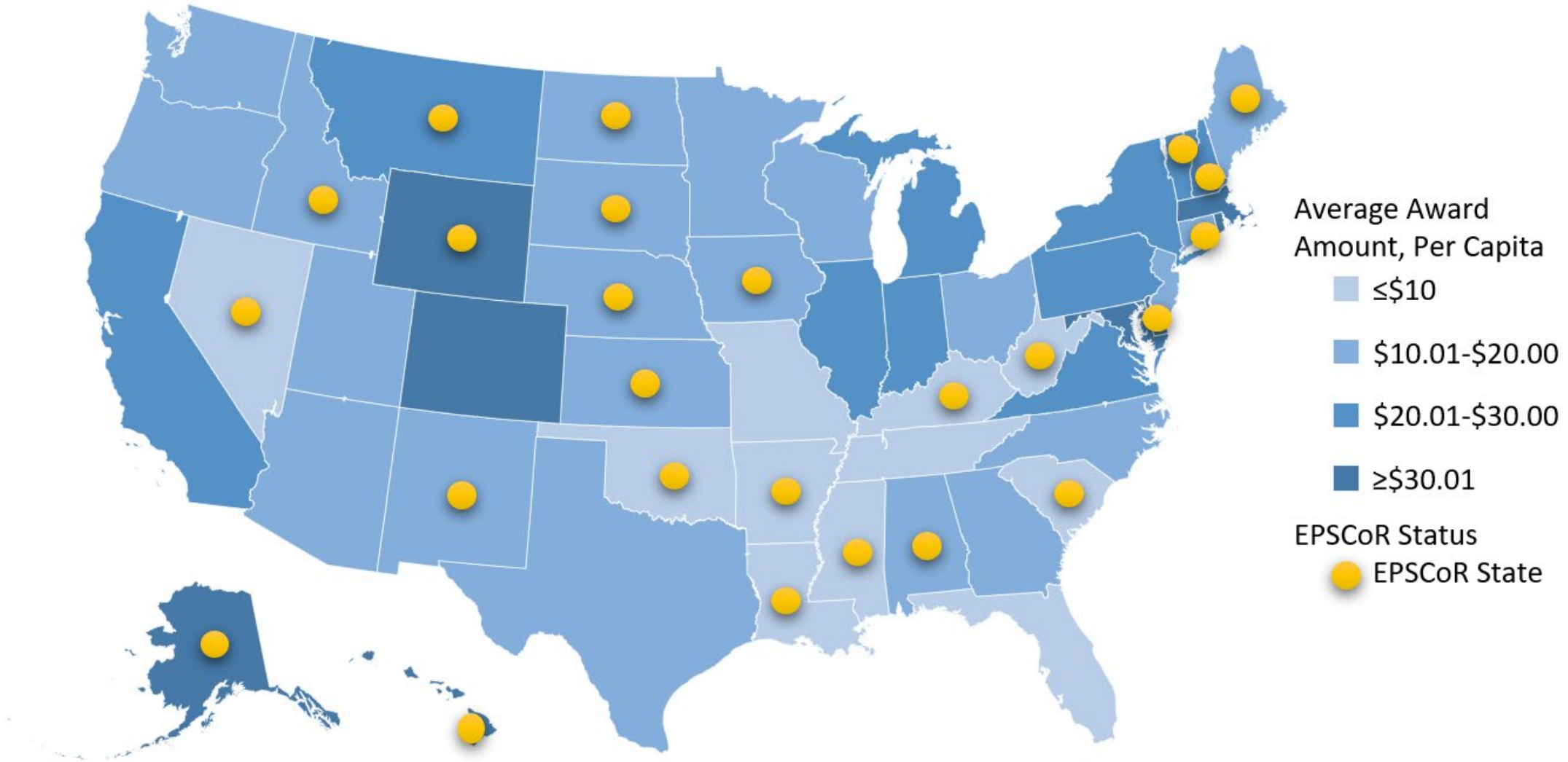
Funding Rate Trends



	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
All PIs	24%	23%	24%	27%	28%
Female PIs	26%	26%	27%	31%	32%
URM PIs	23%	24%	24%	28%	29%
New PIs	19%	18%	18%	21%	21%
Prior PIs	27%	27%	28%	31%	33%
Demographics not reported	22%	19%	20%	23%	24%

All PIs Female PIs URM PIs New PIs Prior PIs Demographics not reported

Per Capita Research Support

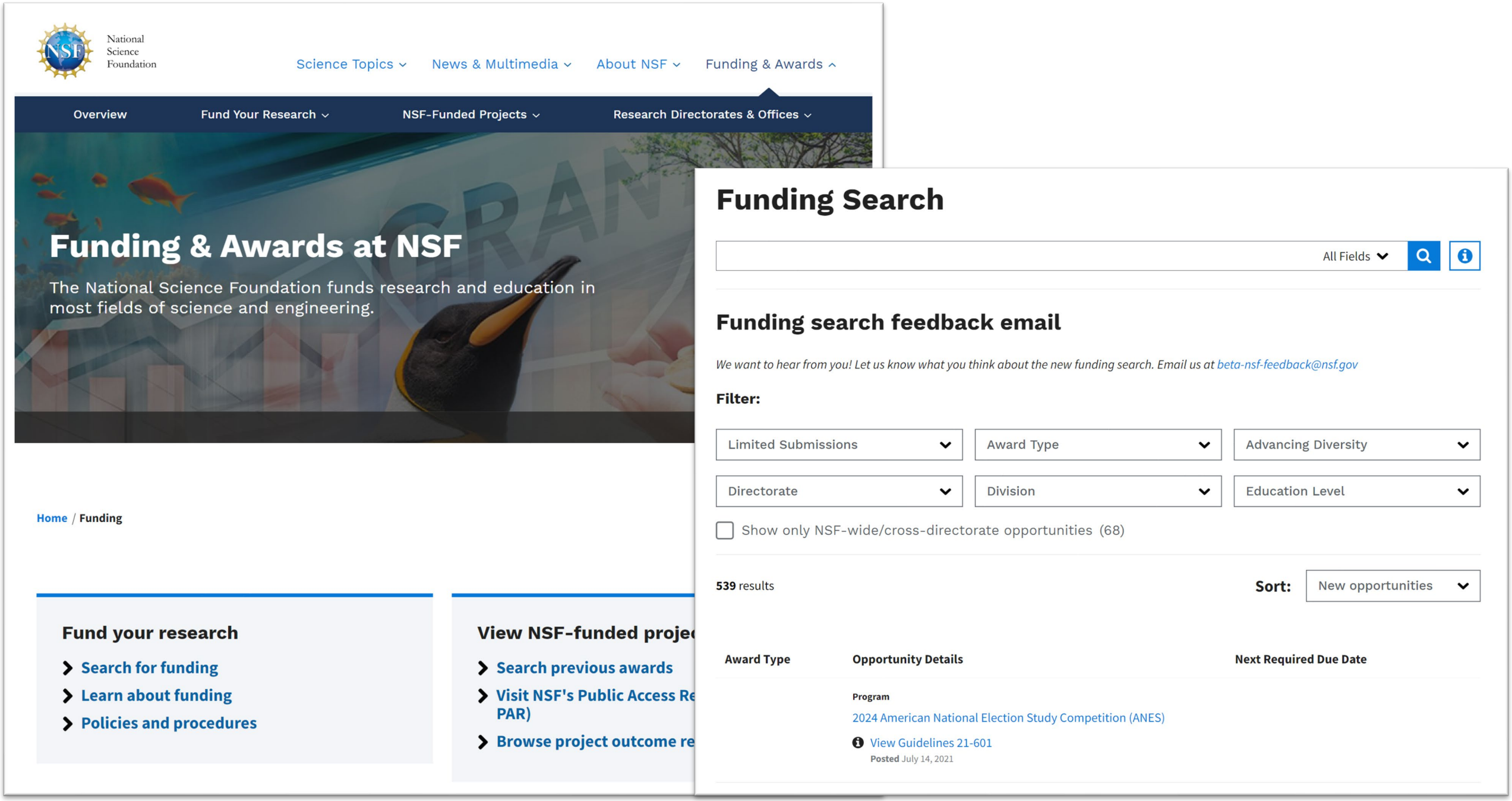


Sources: Annual Estimates of the Resident Population for the United States, Regions, States, the District of Columbia, and Puerto Rico: April 1, 2010 to July 1, 2020 (NST-EST2020); NSF 2020 funding data from NSF Budget Internet Information Systems.

Survey of Principal Investigator and Reviewer Experiences

- Launch of the 4th biennial begins in late August
- PIs and reviewers participating in FY 2019-2020
- Helps us understand how well we are serving the research community and where we need to improve

Merit Review Information and Resources



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NSF 101: Five tips for your Broader Impacts statement

How does your research impact society? Scientists and engineers funded by the U.S. National Science Foundation are accountable to taxpayers for conducting research, and collectively moving their research beyond the lab to impact the public good, thereby benefitting the economy, society and discovery itself. This is what NSF defines as "Broader Impacts."

The Broader Impacts statement is a critical component of any research proposal submitted to NSF. Broader impacts strengthen the relationship between the science community and society. Take for example the work of Ayanna Howard, the Linda J. and Mark C. Smith Professor and Chair of the School of Interactive Computing at

Spread the Word

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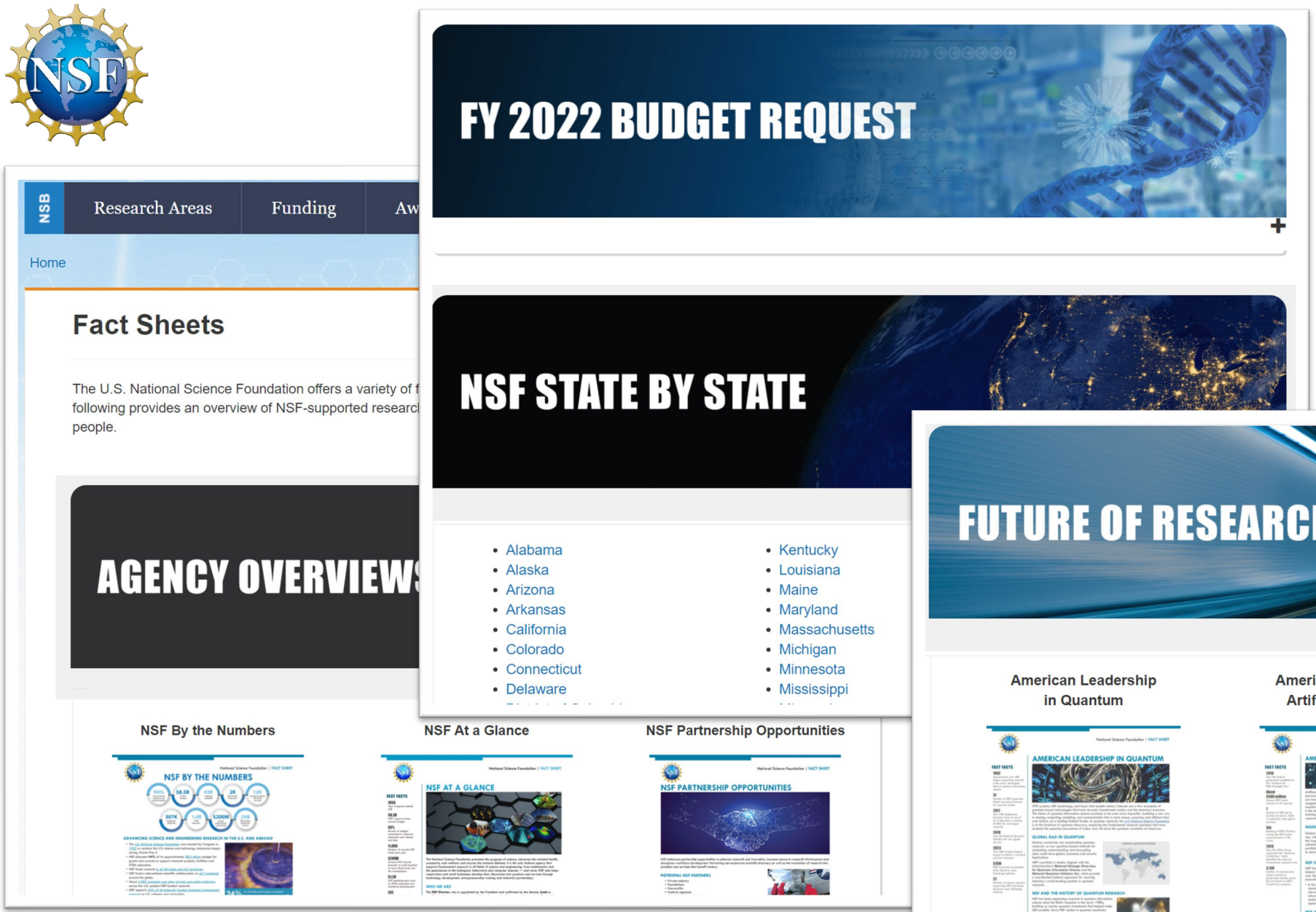

https://www.nsf.gov/about/congress/factsheets.jsp

Pilot Activities

Use of Broader Impacts Experts on COVs
Reviewer Preparedness

February NSB Resolutions

Maximize Reviewers' Preparedness

Is watching NSF's reviewer orientation video associated with higher quality reviews?

- Retrospective analysis comparing reviews written by reviewers that watched the video and reviewers that did not.

Include Broader Impacts Experts on COVs

What effect does requiring the inclusion of BI expertise on COVs have on the nature and quality of COV recommendations?

- Compare reports written by COVs that required inclusion of BI expertise with a comparison group of COVs that did not.

Questions?