

At a Glance

H.R. 2528, STEM Opportunities Act of 2019

As ordered reported by the House Committee on Science, Space, and Technology on June 20, 2019

By Fiscal Year, Millions of Dollars	2019	2019-2024	2019-2029
Direct Spending (Outlays)	0	0	0
Revenues	0	0	0
Deficit Effect	0	0	0
Spending Subject to Appropriation (Outlays)	0	206	not estimated
Statutory pay-as-you-go procedures apply?	No	Mandate Effects	
Increases on-budget deficits in any of the four consecutive 10-year periods beginning in 2030?	No	Contains intergovernmental mandate?	No
		Contains private-sector mandate?	No

The bill would

- Authorize the appropriation of \$30 million annually over the 2020-2024 period for the National Science Foundation (NSF) to award grants to study participation in science, technology, engineering, and mathematics (STEM) and computer science by people in underrepresented populations
- Authorize the appropriation of \$14 million over the 2020-2024 period for the NSF to survey grantees and to establish policies on implicit bias at certain grantee institutions
- Establish a program for uniform data collection about grant applicants across certain agencies

Estimated budgetary effects would primarily stem from

- Spending of appropriations authorized for the NSF
- The program to collect data on grant applicants

Detailed estimate begins on the next page.

Bill Summary

H.R. 2528 would specifically authorize appropriations totaling \$164 million over the 2020-2024 period for the National Science Foundation to award grants to study participation in STEM and computer science education and employment by people in underrepresented groups, to carry out surveys, and to establish policies on implicit bias at certain grantee institutions. The bill also would initiate a program to collect data uniformly about grant applicants across certain federal agencies and would require those agencies to implement other activities to improve the recruitment and retention of people in underrepresented populations in STEM fields.

Estimated Federal Cost

The estimated budgetary effect of H.R. 2528 is shown in Table 1. The costs of the legislation fall primarily within budget function 250 (general science, space, and technology).

Table 1.
Estimated Increases in Spending Subject to Appropriation Under H.R. 2528

	By Fiscal Year, Millions of Dollars						2019-2024
	2019	2020	2021	2022	2023	2024	
NSF Grants							
Authorization	0	30	30	30	30	30	150
Estimated Outlays	0	5	17	24	30	30	106
Data Collection Program							
Estimated Authorization	0	16	17	12	12	12	69
Estimated Outlays	0	16	17	12	12	12	69
Other Activities							
Estimated Authorization	0	8	7	7	5	4	31
Estimated Outlays	0	8	7	7	5	4	31
Total Changes							
Estimated Authorization	0	54	54	49	47	46	250
Estimated Outlays	0	29	41	43	47	46	206

Basis of Estimate

For this estimate, CBO assumes that the legislation will be enacted near the end of 2019 and that the authorized and necessary amounts will be appropriated each year. Estimated outlays are based on historical spending patterns for similar activities. CBO estimates that implementing H.R. 2528 would cost \$206 million over the 2020-2024 period.

NSF Grants

H.R. 2528 would authorize the appropriation of \$30 million annually over the 2020-2024 period for the NSF to award grants to nonprofit organizations and institutions of higher

education to develop policies and programs that improve the recruitment, retention, and advancement of people in underrepresented populations in academic STEM careers, undergraduate STEM education, and computer science and to carry out data analysis on the demographic characteristics of applicants for federal research and development (R&D) grants. CBO estimates that providing those grants would cost \$106 million over the 2020-2024 period and \$44 million after 2024.

Data Collection Program

Section 4 would direct federal agencies with at least \$100 million in R&D spending in 2018 to collect and submit detailed information to the NSF about their federal R&D grant applicants. The Office of Science and Technology Policy (OSTP) and the NSF would be required to establish a policy to ensure that the data are collected uniformly. CBO expects that five agencies—the Departments of Agriculture, Defense, Energy, and Health and Human Services and the National Aeronautics and Space Administration—would incur higher costs to comply with the new policy, to update databases, and to prepare data for annual submission. Using information from those agencies, CBO estimates that implementing the bill's provisions would cost OSTP and each agency, on average, about \$1 million annually for additional staff.

In addition, using information from the NSF, CBO estimates that the agency would incur average annual costs of \$8 million to implement the data collection program. About half of that amount would be for 25 additional employees at an average annual cost of \$150,000 each; the other half would be for database maintenance. In total, CBO estimates, implementing section 4 would cost \$69 million over the 2020-2024 period.

Other Activities

The bill would authorize the appropriation of \$3 million annually over the 2020-2022 period for the NSF to create and distribute surveys to collect demographic information on STEM faculty at grantee institutions. In addition, the bill would authorize the appropriation of \$1 million annually over the 2020-2024 period for the NSF to develop a policy on implicit bias at doctoral-degree-granting institutions that receive federal funding. CBO estimates that implementing those activities would cost \$14 million over the 2020-2024 period.

H.R. 2528 also would require agencies to implement the recommendations of a previous OSTP report on implicit bias, conduct pilot orientation activities to train agency staff concerning implicit bias, and hold related workshops in conjunction with meetings of STEM-related organizations. Finally, the NSF would be required to report on the implementation of activities under the bill. Based on the costs of similar tasks, CBO estimates that meeting those and other requirements would cost about \$3 million annually, and \$17 million over the 2020-2024 period.

Pay-As-You-Go Considerations: None.

Increase in Long-Term Deficits: None.

Mandates: None.

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