



CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

April 11, 2007

H.R. 362

A bill to authorize science scholarships for educating mathematics and science teachers, and for other purposes

*As ordered reported by the House Committee on Science and Technology
on March 28, 2007*

SUMMARY

H.R. 362 would authorize the appropriation of about \$1.5 billion for several new and existing programs within the National Science Foundation (NSF) and the Department of Energy (DOE) that support the training and professional development of elementary and secondary schools teachers in the fields of science, technology, engineering, and mathematics (STEM). CBO estimates that implementing H.R. 362 would cost \$898 million over the 2008-2012 period, assuming appropriation of the amounts authorized or estimated to be necessary. Enacting H.R. 362 would have no significant effect on direct spending or revenues.

H.R. 362 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA); the bill would benefit public institutions of higher education.

ESTIMATED COST TO THE FEDERAL GOVERNMENT

The estimated budgetary impact of H.R. 362 is shown in the following table. The cost of this legislation falls within budget function 250 (general science, space, and technology).

	By Fiscal Year, in Millions of Dollars					
	2007	2008	2009	2010	2011	2012
SPENDING SUBJECT TO APPROPRIATION						
Spending Under Current Law for Certain Programs Authorized by H.R. 362						
Scholarship, Teacher Development, and Talent Expansion Programs						
Estimated Budget Authority ^a	40	0	0	0	0	0
Estimated Outlays	35	33	18	8	2	0
Proposed Changes						
Robert Noyce Teacher Scholarship Program						
Authorization Level	0	70	101	133	164	196
Estimated Outlays	0	8	40	75	109	141
Teacher Institutes and Development Programs						
Authorization Level	0	35	43	49	53	57
Estimated Outlays	0	4	19	32	42	48
STEM Talent Expansion Program						
Authorization Level	0	44	55	60	60	60
Estimated Outlays	0	5	24	41	52	57
Graduate Degree Grant Program						
Authorization Level	0	46	51	56	61	67
Estimated Outlays	0	6	24	39	49	56
Laboratory Science Expansion Program						
Estimated Authorization Level	0	5	5	5	5	0
Estimated Outlays	0	1	3	4	5	4
Other Provisions						
Estimated Authorization Level	0	2	2	2	2	2
Estimated Outlays	0	2	2	2	2	2
Total Changes						
Estimated Authorization Level	0	202	257	305	345	382
Estimated Outlays	0	26	112	193	259	308
Spending Under H.R. 362						
Estimated Authorization Level	40	202	257	305	345	382
Estimated Outlays	35	59	130	201	261	308

a. The 2007 level reflects estimated appropriations for the Robert Noyce Scholarship Program; teacher institutes and development programs at NSF and DOE; and the STEM Talent Expansion Program.

BASIS OF ESTIMATE

H.R. 362 would authorize about \$1.5 billion for new and existing programs to provide support for undergraduate students and elementary and secondary school teachers in STEM fields. CBO estimates that implementing H.R. 362 would cost \$898 million over the 2008-2012 period, assuming appropriation of the necessary amounts. For this estimate, CBO assumes that the legislation will be enacted before the beginning of fiscal year 2008 and that the necessary amounts will be appropriated each year. Estimated outlays are based on historical spending patterns for existing or similar programs.

Authorizations for Existing Programs

H.R. 362 would authorize appropriations for several existing programs at NSF and DOE, including the Robert Noyce Scholarship Program, the Teacher Institutes for the 21st Century program, the Laboratory Science Teacher Professional Development program, and the Science, Technology, Engineering, and Mathematics Talent Expansion program. The bill would authorize \$149 million for 2008 for those programs and a total of about \$1.2 billion over the 2008-2012 period. (By comparison, about \$40 million was appropriated for 2007.) CBO estimates that implementing these provisions would cost \$697 million over the 2008-2012 period, assuming appropriation of the specified amounts.

Robert Noyce Teacher Scholarship Program. This program provides grants to institutions of higher education for scholarships and stipends for undergraduate students in the fields of mathematics, science and engineering planning to become elementary and secondary school teachers. According to NSF, about \$10 million was provided for the Robert Noyce Teacher Scholarship program for 2007.

Section 104 would authorize the appropriation of \$70 million in 2008 and a total of \$664 million over the 2008-2012 period for this scholarship program. The bill would increase the minimum annual scholarship under the program from \$7,500 to \$10,000 and would extend the maximum award from two years to three years. Assuming appropriation of the specified amounts, CBO estimates that this program would cost \$373 million over the 2008-2012 period.

Teacher Institutes and Development. H.R. 362 would authorize appropriations for two programs that foster partnerships between researchers and those who teach math and science in elementary and secondary schools. Section 202 would authorize the appropriation of \$32 million for 2008 and \$195 million over the 2008-2012 period for NSF's Funding for Teacher Institutes for the 21st Century program, which received about \$2 million in 2007. Assuming appropriation of the specified amounts, this program would cost \$121 million over the 2008-2012 period, CBO estimates.

Similarly, DOE's Office of Science will spend about \$2 million in 2007 for the Laboratory Science Teacher Professional Development program, which provides professional development for about 300 elementary and secondary school teachers through partnerships with several DOE national laboratories. Section 202 would authorize the appropriation of \$3 million for 2008 and a total of \$41 million over the 2008-2012 period for this program. CBO estimates that outlays for this program would total \$24 million over the 2008-2012 period, assuming appropriation of the specified amounts.

STEM Talent Expansion Program. NSF's STEM Talent Expansion Program (STEP) currently spends about \$26 million a year for grants to institutions of higher education to increase the number of undergraduate students that complete programs in STEM fields. Grant funding may be used to promote research, interdisciplinary teaching, and other activities such as internships, student advising, and community college bridge programs.

Section 205 would authorize the appropriation of \$40 million for the STEP program for 2008 and a total of \$255 million over the 2008-2012 period. In addition, the bill would direct NSF to establish centers to support the STEP program, with funding authorized at \$4 million in 2008 and \$24 million over the 2008-2012 period. The centers would be responsible for developing undergraduate curriculum, teaching methods, and better training for professors and teaching assistants to increase the number of STEM graduates. CBO estimates that implementing those two initiatives would cost \$179 million over the 2008-2012 period if the authorized funds are appropriated.

Authorization of New Initiatives

H.R. 362 would authorize several new initiatives at NSF, including a graduate degree grant program, a Laboratory Science Pilot Program, and various other activities. CBO estimates that implementing those programs would cost \$201 million over the 2008-2012 period, assuming appropriation of the necessary funds.

Graduate Degree Grant Program. Section 204 would authorize the appropriation of \$281 million over the 2008-2012 period for grants to institutions of higher education to establish master's degree programs for math and science teachers currently in the workforce. That funding, which would be administered by NSF's Math and Science Partnership program, would be used to develop instructional materials, provide stipend support, and acquire equipment necessary to offer online instruction. CBO estimates that implementing this program would cost \$174 million over the 2008-2012 period.

Laboratory Science Pilot Program. Section 208 would establish a new program at NSF that would provide grants to educational partnerships for purchasing laboratory equipment, maintaining and renovating facilities, providing safety training, and developing programs that integrate laboratory experience with classroom instruction. The federal cost-share for these

grants would be capped at 50 percent. The bill would authorize the appropriation of \$5 million for this program for 2008, and such sums as may be necessary through fiscal year 2011. CBO estimates that implementing this provision would cost \$17 million over the 2008-2012 period.

Other Provisions. In addition, H.R. 362 would:

- Establish a program for teachers participating in the Math and Science Partnership to develop mentor relationships with industry scientists, mathematicians and engineers;
- Establish a national panel on curricular materials; and
- Direct NSF to report to the Congress on the effectiveness of several programs authorized by the bill.

Based on the cost of similar activities, CBO estimates that NSF would spend about \$10 million over the 2008-2012 period to implement those projects, assuming appropriation of the necessary amounts.

INTERGOVERNMENTAL AND PRIVATE-SECTOR IMPACT

H.R. 362 contains no intergovernmental or private-sector mandates as defined in the UMRA. The bill would authorize activities and grant funds that would benefit institutions of higher education. Any costs they might incur would result from complying with conditions of federal assistance.

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