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ABSTRACT

This document reports the Research and Development Funding and Performance by Nonprofit Organizations for fiscal years of 1996-1997. Two different questionnaires were used to collect data on the research and development activities of nonprofit organizations. Sections include: (1) Detailed Statistical Tables: Nonprofit Performers of Research and Development; (2) Detailed Statistical Tables: Nonprofit Funders of Research and Development; (3) Technical Notes: Survey Methodology; (4) Analysis by Sampling Strata of Nonprofit Performers' Data; and (5) Survey Materials. (YDS)

Research and Development Funding and Performance by Nonprofit Organizations: Fiscal Years 1996 and 1997

Detailed Statistical Tables

Division of Science Resources Statistics
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National Science Foundation

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Staff of the Gallup Organization of Rockville, MD, and Lincoln, NE., under NSF contract number SRS 96-19075, performed the survey.

NOTE

The Division of Science Resources Studies was renamed the Division of Science Resources Statistics while this report was in production. The name of the Division was not updated in the source and other references of this report, but the change will be incorporated in the next edition.

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INTRODUCTION

The data presented in these tables summarize the information obtained in the National Science Foundation's (NSF's) Survey of Research and Development (R&D) Funding and Performance by Nonprofit Organizations, Fiscal Years 1996 and 1997. The last previous R&D survey of nonprofit organizations collected data for 1973. Summary statistics from that survey are provided here for comparison.

This study is part of the NSF's continuing program of statistical surveys designed to obtain information on the Nation's resources allocated to the advancement of science and engineering. Under this program, all major sectors of the economy are studied, including universities and colleges, industrial firms, Federal Government agencies, and other nonprofit organizations.

The survey was conducted by the Gallup Organization under contract to the National Science Foundation, Division of Science Resources Statistics, Research and Development Statistics Program. The National Science Foundation extends its appreciation to many officials of nonprofit organizations who contributed time to questionnaires, and without whose help the survey could not have been completed.

The 1996 and 1997 survey of nonprofit research organizations obtained data on the financial resources devoted to R&D in the sciences and engineering. Organizations covered by the survey included research institutes; university-affiliated hospitals; other voluntary nonprofit hospitals; professional and technical societies and academies of science and engineering; private foundations; science exhibitors; and trade associations, industrial consortia and academic consortia. Educational organizations, Federally Funded Research and Development Centers, and all organizations owned, operated, or controlled by Federal, State or local governments were excluded from this report. Every effort was made to exclude organizations whose R&D budgets were part of a university or a government entity.

Nonprofit organizations (NPOs), as defined for the nonprofit survey, are legal entities organized or chartered to serve the public interest and are exempt from most forms of Federal taxation. (Universities and colleges, although most are nonprofit in nature, are excluded from the nonprofit organization survey. They are, however, the subjects of a separate NSF survey, the Survey of Research and Development Expenditures at Universities and Colleges.)

SURVEY METHODOLOGY

Two different questionnaires were used to collect information on R&D activities of NPOs: one questionnaire was sent to NPOs that performed R&D and a much shorter questionnaire was sent to NPOs that funded R&D conducted by others, but did not perform R&D themselves. If an NPO reported that it both performed and funded R&D, it was sent a performer questionnaire, and its responses are included only in the R&D performer totals in this report.

Screening questionnaires were sent to 9,112 NPOs (of an estimated survey universe of approximately 185,000) to determine their eligibility for either of the two R&D questionnaires. Survey questionnaires were mailed in 1998 and 1999 to those organizations that had indicated on the screening form that they performed or funded R&D worth at least $250,000 in 1996. Through August 1999, NSF mailed follow-up questionnaires to nonrespondent organizations; from August through October 1999, NSF attempted to contact all non-respondent organizations by telephone. At the survey closeout date of December 15, 1999, the sample comprised 1,005 organizations, including 722 performers and 283 funders.

Of these 1,005 organizations, 352 or 35 percent, returned usable replies. (During post-processing cleaning of the data, the 352 respondents were reduced to 343 respondents.) The final response rate for all NPOs (funders and performers) was 41 percent, adjusting for the nonrespondents that were assumed to be ineligible because they were out of business or could not be traced anywhere in the United States. The separate adjusted response rate for funders was almost 46 percent (110 usable responses) and for performers almost 40 percent (233 usable responses.) Although the response rate is not as high as in other NSF surveys, the overall data totals and major components are presented with sufficient reliability for use. The survey had low nonresponse from certainty stratum of large nonprofit organizations and substantial work was done in weighting for all nonrespondents. Hot-deck imputation was used for item non-response. Smaller data items

are reported in tables so that readers may judge the large components in context but the standard errors for items below $1 billion are quite high, making comparisons of small cells in tables inadvisable.

For more information on the survey methodology, definitions, and sampling results, see Section C (Technical Notes), Section D (Analyses by Sampling Strata) and Section E (Survey Materials) of this report. A complete Methodology Report is available on the world wide web at http://www.nsf.gov/sbe/srs/srdfpnpo/srdfmeth.htm.

Requests for additional information concerning the survey may be directed to John E. Jankowski at (703) 292-7781, jjankows@nsf.gov, or at the following mailing address:

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SURVEY RESULTS

OVERVIEW OF NONPROFIT SECTOR'S R&D ACTIVITIES

The contribution of nonprofit organizations (NPOs) to research and development (R&D) activities in the United States is complex and difficult to measure. Many NPOs perform intramural R&D; others fund extramural R&D activities but do not conduct the R&D themselves; and a number of NPOs both perform and extramurally fund R&D. NPOs that fund R&D may provide such funds both to other NPOs and to institutions outside of the nonprofit sector. Various types and degrees of affiliation and cooperation, especially in cases where research institutes maintain close working relationships with universities or hospitals, make it particularly difficult to track the level and flows of NPO R&D spending.

The nonprofit sector performed about 3 percent ($7.3 billion) of total U.S. R&D in 1997 ($212 billion). Its share was similar to the figure reported for 1973, the last time a survey of this sector's R&D performance was conducted. NPOs' 1997 intramural R&D expenditures were 4-percent more than the $7.1 billion estimate for 1996. The 1997 amount equated to an average annual current dollar increase of 10 percent (5 percent when adjusted for inflation) over the $0.8 billion expended in 1973 (tables A-1, A-2, and A-3).[1]

NPO performers funded an estimated $1.5 billion for extramural[2] R&D in 1997 and $1.3 billion in 1996, an increase of almost 13 percent between 1996 and 1997 (table A-13).[3] An unknown amount of these extramural R&D funds were provided to other NPOs and are undoubtedly included in the totals reported for NPOs' intramural R&D performance.

Other NPOs fund R&D, but do not perform R&D. R&D funding from NPOs that only fund R&D was estimated to be $2.9 billion in 1997 and $2.7 billion in 1996 (tables B-1 and B-2). Part of these NPO R&D funds are provided to NPO R&D performers and part are provided to R&D performers outside of the nonprofit sector. Data from nonprofit R&D performers and nonprofit R&D funders are discussed separately below.

NONPROFIT R&D PERFORMERS

After a lapse of 23 years, the National Science Foundation (NSF) once again surveyed the nonprofit community to quantify the amount of R&D that was being performed in that sector of the U.S. economy. The 1996 figure of $7.1 billion and the 1997 figure of $7.3 billion were higher than anticipated. As a result, there may be a need for more frequent data collections from this sector.

NPOs reported that the Federal Government provided approximately half the funds used in their R&D performance in 1996 and 1997 (table A-1). In 1973, nonprofit organizations received about 62 percent of the funding for their R&D from the Federal Government.

The importance of funding from "other sources" that include organizations' own funds, all foreign sources, and donations from individual persons[4] increased from 17 percent in 1973 to 30 percent in 1997. Anecdotal evidence indicates that most of "other sources" are from organizations' own funds.[5] Respondents received an additional 6 percent of their 1997 intramural R&D funds from "other nonprofit organizations." Thus, as much as 36 percent of the 1997 R&D performed in the nonprofit sector may have been funded by the sector itself.

[1] Most dollar values and growth reported here are in current dollars. Constant (1996) dollar R&D was $2.3 billion in 1973 and $7.2 billion in 1997. Readers wishing to calculate real changes for other data items can deflate current dollar values to constant dollars. The GDP deflator, based on constant 1996 dollars, is 34.02 for 1973, 100.0 for 1996, and 101.66 for 1997.

[2] Extramural R&D funding includes all R&D contracts, subcontracts, all costs of R&D the NPOs contracted out or passed through to sub-recipients, and R&D conducted by others outside the NPOs with funds distributed through or by the NPOs. In contrast, intramural R&D performance includes all direct and indirect costs incurred for R&D performed by people engaged in R&D at the respondent nonprofit organizations.

[3] Extramural R&D expenditures were not collected in the 1973 survey.

[4] "Other sources, including organization's own funds" includes funds other than those from Federal, state and local governments, universities and colleges, other nonprofit organizations, or industry. Other sources include gifts, grants, or contracts received from private individuals and all foreign sources. Organization's own funds include earnings from investments, disbursements from capital, membership dues and assessments, liquidation of assets, unrestricted funds from all sources except other nonprofit organizations, and earnings from miscellaneous sources such as publication sales, admissions, advertising, etc.

[5] Members of the NSF Special Emphasis Panel, which represented nonprofit organizations and groups, said most of the "other sources" of nonprofit organizations would be their own funds. The Panel met on December 10, 1996, at NSF's Arlington office.

Top 10 Respondents[6] Account for 18 Percent of Nonprofit R&D Performance

The 10 respondents with the largest R&D expenditures accounted for 18 percent of total nonprofit expenditures in both 1996 and 1997 (table A-11). Eight of the 10 also participated in the 1973 survey.[7] In 1973, the top 10 respondents performed 43 percent of all nonprofit intramural R&D. This indicates that R&D in the nonprofit sector may be less concentrated in 1997 than in 1973 despite the fact that Howard Hughes Medical Institute (HHMI) increased its R&D expenditures from $1.8 million in 1973 to $352.0 million in 1997. HHMI's increase is a unique case and reflects a huge increase in its endowment.

R&D by Character of Work

For 1997, nonprofit R&D performers reported that the greater part ($4.0 billion or 54 percent) of their intramural R&D work was in basic research. This contrasts with the 40-percent share for basic research reported in 1973 (table A-4).

The proportion of nonprofit expenditures used for applied research declined over the quarter century. In 1973, 42 percent of nonprofit R&D expenditures supported work in applied research. This share declined to 30 percent ($2.2 billion) in 1997. Part of this shift is a result of R&D changes at the HHMI, the largest respondent for 1996 and 1997 in the survey. In 1973, all of its research expenditures—$1.8 million—were used for applied research. In 1976, HHMI began to alter its emphasis; by 1997, all $352 million of its work was performed in basic research.

In contrast to the shift away from applied research toward basic research over the 1973-97 period, development's share remained relatively steady, accounting for 16 percent ($1.1 billion) in 1997 and 18 percent ($0.1 billion) in 1973.

[6] The list in table A-11 is a list of respondents. There are several large nonprofit organizations that did not respond to the survey questionnaire. These large NPOs may have made the top 10 list. Totals are adjusted for unit nonresponse.

[7] The two respondents among the 1997 top 10 that did not participate in the 1973 survey are Fred Hutchinson Cancer Research Center, founded in 1971, and SEMATECH, Inc, founded in 1987.

Performers by Type of Organization and Character of Work

NPOs in the 1996 and 1997 survey were asked to classify themselves into one of nine types of organizations, which included separate listings for university-affiliated hospitals and other nonprofit hospitals.

Type of Organization	Number of NPOs performing R&D in the 1996 and 1997 survey
Total respondents	233
· Research institute	151
· University-affiliated hospital	12
· Other voluntary nonprofit hospital	23
· Private foundation	19
· Professional or technical societies	8
· Science exhibitors	7
· Academic consortia	6
· Industrial consortia	4
· Trade associations	3

"Research Institutes" was the self-described organizational structure of 151 of the 233 respondents. Research institutes performed almost two-thirds of the $7.3 billion nonprofit intramural R&D in 1997. Hospitals, the next largest group, performed 19 percent, or $1.4 billion (table A-1). Because of low coverage rates of such organizations, in most tables reported here the last five listed institution types are grouped under a general "other nonprofit organizations" category.

Fields of Science and Engineering

The life sciences were the focus of most nonprofit R&D in 1997. At $5.3 billion, the life sciences accounted for 72 percent of 1997 intramural expenditures, up considerably from a 45-percent share in 1973 (tables A-8, A-9, and A-10).[8]

[8] Certain aspects of the 1996-97 survey may have exaggerated the concentration of R&D in the life sciences. Specifically, the Association of Independent Research Institutes (AIRI) encouraged its members to respond. AIRI specializes in biomedical research, and 49 (21 percent) of the 233 survey respondents were AIRI members.

Extramural R&D Expenditures by Nonprofit Performers

Nonprofit organization R&D-performers funded $1.5 billion dollars of *extramural* R&D in 1997. This is a 13-percent increase from 1996 funding levels of $1.3 billion (table A-13).

Extramural S&E R&D expenditures were defined in the survey as "all R&D contracts, subcontracts, all costs of R&D your organization contracted out or passed through to sub-recipients, and research conducted by others outside your organization with funds distributed through or by your organization."

Data from the current survey show that external funding of R&D is quite common, with 59 percent of the nonprofit performers funding some extramural R&D in 1997. Research institutes funded almost 45 percent of all the reported extramural R&D in 1996 and 39 percent of the total in 1997.

Performers' Data in other NSF Publications

The 1996-97 survey provided a new expenditures benchmark for R&D performance by NPOs, which was higher than previous NSF estimates for this sector. For example, NSF staff estimated nonprofit R&D performance at $5.6 billion for 1997 before the current survey data became available. These lower estimates were based on nonprofit data in other NSF R&D expenditures surveys. With the exception of Federal R&D funding to the nonprofit sector (see below), the new higher NSF estimates, based on the results of the current nonprofit survey, are incorporated in *National Patterns of R&D Resources: 2000 Data Update* at http://www.nsf.gov/sbe/srs/nsf01309/start.htm.

For an estimate of Federal funding in support of NPO R&D performance reported in the *National Patterns,* NSF will continue to rely on information provided by the Federal agencies that fund NPOs (as reported to the NSF *Survey of Federal Funds for research and Development*). In 1997, Federal agencies reported obligations of $3.0 billion to NPOs and of $0.8 billion to federally-funded research and development centers administered by NPOs. These amounts compare with the $3.7 billion in Federal R&D funding reported by NPO performers on the current nonprofit R&D survey. The decision to use source-reported, rather than performer-reported, data in the *National Patterns* reports is because the Federal Funds survey is—and will continue to be—collected annually.

Nonprofit R&D Funders

Data were collected from a second group of nonprofit organizations: those that funded, but did not perform R&D. NSF estimated that the funders gave $2.9 billion for R&D in 1997 and $2.7 billion in 1996 (tables B-1 and B-2). This is an annual current-dollar increase of 8 percent. In addition, the NPO sector is estimated to have funded R&D buildings, fixtures, and depreciable equipment (R&D capital support) worth $242 million in 1997 and $159 million in 1996.

NSF attempted to contact throughout all 50 states and the District of Columbia each nonprofit organization that was thought to provide R&D funds to other organizations. A CD-ROM list was obtained from the Foundation Center in New York City. Several other funders of R&D were included with certainty because they were on the list from the 1973 survey or because their R&D funding had recently been reported in the media. At the survey's conclusion, 110 funders of R&D from 31 states and the District of Columbia had responded to the survey.

Extramural R&D Expenditures from Nonprofit Funders

Domestic U.S. organizations were the designated recipients of 90 percent of the R&D funds and non-U.S. organizations received 10 percent. NSF estimated the funders gave U.S. domestic organizations $2.6 billion in 1997 and $2.4 billion in 1996 (table B-3). Colleges and universities were the major recipients of R&D funds. They received 44 percent of all R&D funds from the nonprofit organizations in 1996 and 47 percent in 1997. University-affiliated hospitals received additional funds—about 5 percent of the totals in 1996 and 1997.

Nonprofit funders reported that $411 million (14 percent) of their total 1997 R&D funding was provided to other nonprofit organization R&D performers. These organizations included research institutes, hospitals, professional and technical societies or academies of sciences, private foundations, science exhibitors, nonprofit industrial consortia, nonprofit academic consortia, and agricultural cooperatives. (No agricultural cooperatives responded to the NPO performers' part of the survey, but some NPO funders reported giving R&D funds to agricultural cooperatives.)

The category "other types of U.S. institutions" received $597 million, about 20 percent of the funders' 1997 R&D total. Ninety percent of the funding for "other types of institutions" went to state government researchers. Another 3 percent was "undistributed by organization" because a few funders did not keep records on types of organizations they funded. Additional funding to the "other types of institutions" category went to Federal or international organizations.

Funding of Medical R&D by Nonprofit Organizations

Two-thirds of the R&D funds given by the funders in 1996 and 1997 to domestic organizations were designated for medical R&D (table B-3). As was expected, funds given to university-affiliated hospitals and to other voluntary nonprofit hospitals were highly concentrated in medical R&D.

Funding of R&D Capital Support

Funders were asked how much R&D capital support they provided in 1996 and 1997. NSF estimated that the funders provided $242 million in 1997 and $159 million in 1996 (tables B-1 and B-2). The R&D capital support increase is more than 50 percent between the two years, but since it is based on only 17 of the 110 funders in 1996 and 16 funders in 1997, NSF cannot report it with confidence.

Independent foundations were the major providers (among the funders) of R&D capital support. Family foundations and public charities also funded some R&D capital support in 1996 and 1997.

SECTION A.
DETAILED STATISTICAL TABLES:
NONPROFIT PERFORMERS OF RESEARCH AND DEVELOPMENT

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Table A-1. **Intramural R&D performance, by type of nonprofit organization (NPO), and source of funds: fiscal year 1997**

Type of NPO	Total	Federal Government	State and local government	Nonprofit organizations	Universities & colleges	Industry	Other sources[1]
	[In millions of dollars]						
Total	7,349	3,708	173	411	48	823	2,184
Research institutes	4,839	2,435	126	245	18	458	1,557
Hospitals, subtotal	1,428	779	27	115	29	309	169
University-affiliated hospitals	464	271	17	29	1	71	75
Other voluntary nonprofit hospitals	965	508	10	86	28	238	94
Private foundations	458	255	19	48	- -	42	94
Other nonprofit organizations[2]	624	239	1	3	1	14	365

[1] Other sources of funds include organizations' own funds, gifts, grants, or contracts received from private individuals, and all foreign sources.

[2] Other nonprofit organizations include professional and technical societies, academies of science or engineering, science exhibitors, academic consortia, industrial consortia, and trade associations.

KEY: - - = Less than $ 0.5 million

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table A-2. **Intramural R&D performance, by type of nonprofit organization (NPO), and source of funds: fiscal year 1996**

Type of NPO	Total	Federal Government	State and local government	Nonprofit organizations	Universities & colleges	Industry	Other sources[1]
	[In millions of dollars]						
Total	7,063	3,740	148	375	45	741	2,014
Research institutes	4,523	2,263	113	242	16	412	1,477
Hospital, subtotal	1,352	723	26	97	27	294	185
University affiliated hospitals	472	270	14	32	1	68	88
Other voluntary nonprofit hospitals	880	453	13	65	26	226	98
Private foundations	547	390	6	34	--	20	97
Other nonprofit organizations[2]	641	364	2	3	3	14	254

[1] Other sources of funds include organizations' own funds, gifts, grants, or contracts received from private individuals, and all foreign sources.

[2] Other nonprofit organizations include professional and technical societies, academies of science or engineering, science exhibitors, academic consortia, industrial consortia, and trade associations.

KEY: -- = Less than $ 0.5 million

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table A-3. **Intramural R&D performance, by type of nonprofit organization (NPO), and source of funds: fiscal year 1973**

Type of NPO	Total	Federal Government	State and local government	Nonprofit organizations[1]	Universities & colleges	Industry	Other sources[2]
	[In millions of dollars]						
Total	786	485	17	50	n.a.	99	134
Research institutes	487	310	12	25	n.a.	79	61
Hospitals	163	106	3	14	n.a.	4	36
Professional or technical societies	62	44	1	3	n.a.	2	11
Private foundations	14	2	--	--	n.a.	--	11
Science exhibitors	8	2	--	1	n.a.	--	4
Trade associations	26	8	--	--	n.a.	14	5
Other nonprofit organizations	26	13	--	6	n.a.	--	7

[1] In the 1973 survey, the only nonprofit funder organizations listed on the survey form were foundations and voluntary health agencies.
[2] Other sources of funds include organizations' own funds, gifts, grants, or contracts received from private individuals, and all foreign sources.

KEY: -- = Less than $ 0.5 million
n.a. = Not available at this level of detail. Universities' and colleges' funds are included in "Other sources" in 1973

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, R&D Activities of Independent Nonprofit Institutions, 1973.

Table A-4. **Intramural R&D performance of nonprofit organizations, by source of funds, and character of work: fiscal years 1973, 1996 and 1997**

Source of funds and character of work	Intramural R&D expenditures			Character of work as percentage of total R&D		
	1973	1996	1997	1973	1996	1997
	[In millions of dollars]			[Percentage of intramural R&D]		
Total R&D	786	7,063	7,349	100.0	100.0	100.0
Federal	485	3,740	3,709			
Non-Federal	301	3,323	3,640			
Basic research	318	3,926	4,004	40.5	55.6	54.5
Federal	187	2,041	2,049			
Non-Federal	131	1,885	1,955			
Applied research	331	2,059	2,202	42.1	29.1	30.0
Federal	211	1,164	1,207			
Non-Federal	120	895	995			
Development	137	1,079	1,143	17.4	15.3	15.6
Federal	87	536	452			
Non-Federal	50	544	691			

NOTES: Data exclude R&D performed by nonprofit-administered Federally Funded Research and Development Centers.
Because of rounding, detail may not add to totals.

SOURCES: National Science Foundation/Division of Science Resources Studies, R&D Activities of Independent Nonprofit Institutions, 1973 and Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table A-5. **Intramural R&D performance, by type of nonprofit organization, source of funds, and character of work: fiscal year 1997**

Type of organization and source of funds	N	Total	Basic research	Applied research	Development
		[In millions of dollars]			
Total	233	7,349	4,004	2,202	1,143
Federal funds		3,709	2,049	1,207	452
Non-Federal funds		3,640	1,954	995	691
Research institutes	151	4,839	2,604	1,583	652
Federal funds		2,435	1,109	977	349
Non-Federal funds		2,404	1,495	606	303
Hospitals	35	1,428	973	397	59
Federal funds		779	640	128	11
Non-Federal funds		649	333	269	48
University affiliated hospitals	12	464	377	81	6
Federal funds		271	234	34	3
Non-Federal funds		193	143	47	3
Other voluntary nonprofit hospitals	23	965	596	316	53
Federal funds		508	406	94	8
Non-Federal funds		457	190	222	45
Private foundations	19	458	329	110	19
Federal funds		255	226	24	5
Non-Federal funds		203	103	86	14
Other nonprofit organizations[1]	28	625	98	112	414
Federal funds		240	74	78	87
Non-Federal funds		385	24	34	327

[1] Other nonprofit organizations include professional and technical societies, academies of science or engineering, science exhibitors, academic consortia, industrial consortia, and trade associations.

KEY: N = Number of respondents

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table A-6. **Intramural R&D performance, by type of nonprofit organization, source of funds, and character of work: fiscal year 1996**

Type of organization and source of funds	N	Total	Basic research	Applied research	Development
		[In millions of dollars]			
Total	233	7,063	3,926	2,059	1,079
Federal funds		3,740	2,041	1,164	536
Non-Federal funds		3,323	1,885	895	544
Research institutes	151	4,523	2,456	1,462	604
Federal funds		2,263	1,007	926	330
Non-Federal funds		2,260	1,449	536	274
Hospitals	35	1,352	932	372	47
Federal funds		723	593	122	8
Non-Federal funds		629	339	250	39
University affiliated hospitals	12	472	391	76	4
Federal funds		270	232	37	1
Non-Federal funds		202	159	39	3
Other voluntary nonprofit hospitals	23	880	541	296	43
Federal funds		453	362	86	6
Non-Federal funds		427	179	210	37
Private foundations	19	548	435	95	18
Federal funds		390	363	22	6
Non-Federal funds		158	72	73	12
Other nonprofit organizations[1]	28	641	103	129	410
Federal funds		364	79	94	192
Non-Federal funds		277	24	35	218

[1] Other nonprofit organizations include professional and technical societies, academies of science or engineering, science exhibitors, academic consortia, industrial consortia, and trade associations.

KEY: N = Number of respondents

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table A-7. **Intramural R&D performance, by type of nonprofit organization, source of funds, and character of work: fiscal year 1973**

Type of organization and source of funds	N	Total	Basic research	Applied research	Development
		[In millions of dollars]			
Total	437	786	318	331	137
Federal funds		485	187	211	87
Non-Federal funds		300	131	119	50
Research institutes	186	487	183	209	95
Federal funds		310	113	133	64
Non-Federal funds		177	70	76	31
Hospitals[1]	123	163	93	53	17
Federal funds		106	60	36	11
Non-Federal funds		57	33	17	6
Professional or technical societies	29	62	5	47	10
Federal funds		44	2	37	6
Non-Federal funds		17	3	10	4
Private foundations	15	14	12	1	--
Federal funds		2	1	1	--
Non-Federal funds		12	11	0	--
Science exhibitors	17	8	8	--	--
Federal funds		2	2	--	0
Non-Federal funds		5	6	--	--
Trade associations and agricultural cooperatives	41	26	2	12	12
Federal funds		8	--	2	6
Non-Federal funds		19	2	10	6
Other nonprofit organizations	26	26	14	9	3
Federal funds		13	9	3	1
Non-Federal funds		13	5	6	2

[1] 1973 survey did not collect data separately for university-affiliated hospitals and other voluntary nonprofit hospitals.

KEY: -- = Less than $ 0.5 million
N = Number of respondents

NOTES: Because of rounding, detail may not add to totals.
Data exclude R&D performed by nonprofit-administered Federally Funded Research & Development Centers (FFRDCs).

SOURCE: National Science Foundation/Division of Science Resources Studies, R&D Activities of Independent Nonprofit Institutions, 1973.

Table A-8. **Intramural R&D performance, by type of nonprofit organization (NPO), and field of science and engineering: fiscal year 1997**

Type of NPO	Total	Life sciences			Psychology	Environmental/earth sciences	Physical sciences	Mathematics & computer sciences	Engineering	Social sciences	Other sciences
		Biological sciences	Agricultural sciences	Medical & health sciences							
	[In millions of dollars]										
Total	7,349	854	22	4,413	70	232	255	269	490	325	419
Research institutes	4,839	794	11	2,618	65	97	147	263	458	305	83
Hospitals	1,428	20	0	14,083	--	0	0	1	0	0	0
University-affiliated hospitals	464	0	0	463	0	0	0	1	0	0	0
Other voluntary nonprofit hospitals	965	20	0	945	--	0	0	0	0	0	0
Private foundations	458	28	11	386	4	2	11	3	--	10	2
Other nonprofit organizations[1]	624	13	1	2	0	133	97	2	32	10	334

[1] Other nonprofit organizations include professional and technical societies, academies of science or engineering, science exhibitors, academic consortia, industrial consortia, and trade associations.

KEY: -- = Less than $ 0.5 million

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table A-9. **Intramural R&D performance, by type of nonprofit organization (NPO), and field of science and engineering: fiscal year 1996**

Type of NPO	Total	Life sciences			Psychology	Environ-mental/earth sciences	Physical sciences	Mathematics & computer sciences	Engineering	Social sciences	Other sciences
		Biological sciences	Agricultural sciences	Medical & health sciences							
	[In millions of dollars]										
Total	7,063	805	22	4,254	61	91	157	237	451	285	75
Research institutes	4,523	754	10	2,437	56	89	145	232	450	274	75
Hospitals	1,352	13	0	1,338	--	0	0	1	0	0	0
University-affiliated hospitals	472	0	0	471	0	0	0	1	0	0	0
Other voluntary nonprofit hospitals	880	13	0	867	--	0	0	0	0	0	0
Private foundations	548	25	11	479	4	2	11	4	1	11	0
Other nonprofit organizations[1]	641	14	1	3	0	151	73	3	40	8	348

[1] Other nonprofit organizations include professional and technical societies, academies of science or engineering, science exhibitors, academic consortia, industrial consortia, and trade associations.

KEY: -- = Less than $ 0.5 million

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table A-10. **Intramural R&D performance, by type of nonprofit organization (NPO), and field of science and engineering: fiscal year 1973**

Type of NPO	Total	Life sciences			Psychology	Environ-mental/earth sciences	Physical sciences	Mathematics & computer sciences	Engineering	Social sciences	Other sciences
		Biological sciences	Agricultural sciences	Medical & health sciences							
	[In millions of dollars]										
Total	786	162	167	26	30	19	72	37	136	130	5
Research institutes	487	104	44	11	18	9	50	34	98	113	5
Hospitals	163	40	98	6	5	0	5	2	2	6	--
Professional or technical societies	62	5	17	4	--	5	13	--	15	2	0
Private foundations	14	5	1	--	--	2	2	0	0	2	0
Science exhibitors	8	4	--	0	--	2	1	0	0	2	0
Trade associations	26	2	0	0	0	1	2	--	20	1	0
Other nonprofit organizations	26	3	7	5	6	0	0	--	--	4	0

KEY: -- = Less than $ 0.5 million

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, R&D Activities of Independent Nonprofit Institutions, 1973.

Table A-11. **Intramural R&D performance at individual nonprofit organizations, by type of organization: fiscal years 1996 and 1997**

Nonprofit organization (ranked by 1997 R&D expenditures)	Intramural R&D expenditures [In millions of dollars] 1997	1996	Type of organization[1]
United States, weighted total	7,349.17	7,063.34	
Total, all respondents	3,011.98	2,824.97	
Howard Hughes Medical Institute	352.00	304.00	1
Mayo Foundation/St.Mary's Hospital Rochester	156.72	140.13	1
SRI International	146.14	145.64	1
Memorial Sloan Kettering Cancer Center	115.23	112.35	1
Research Triangle Institute	112.90	112.80	1
Fred Hutchinson Cancer Research Center	100.47	89.72	1
SEMATECH, Inc	97.70	106.30	8
Dana-Farber Cancer Institute (Children's Cancer Research Foundation)	91.00	91.00	2
Brigham and Women's Hospital	87.79	78.54	3
Beth Israel Deaconess Medical Center, Inc	83.41	74.82	3
Charles Stark Draper Laboratory, Inc	60.60	52.50	1
The Salk Institute For Biological Studies	56.08	54.47	1
Ludwig Institute for Cancer Research	54.50	51.65	1
Analytic Services, Inc	51.77	45.02	1
Harbor-UCLA Research and Education Institute	46.69	44.43	1
Childrens Hospital of Philadelphia	45.72	42.97	3
Rand Corporation	43.00	42.50	1
Population Council	42.23	40.49	1
Summer Institute of Linguistics, Inc	41.00	38.32	4
Whitehead Institute for Biomedical Research	40.71	35.96	1
Henry Ford Health System	39.17	35.75	
Family Health International	35.77	34.42	1
Cold Spring Harbor Laboratory	34.74	32.29	5
American Institute for Research	32.72	24.69	1
Association of Universities for Research In Astronomy, Inc	32.59	24.69	9
National Jewish Medical and Research Center	26.73	24.87	1
Cedars Sinai Medical Center	25.55	29.22	2
Wistar Institute	25.30	25.36	1
Fox Chase Cancer Center	24.78	25.15	1
Jackson Laboratory	24.58	23.26	1
University Corporation for Atmospheric Research	23.33	26.22	9
Oklahoma Medical Research Foundation	21.99	21.40	1
Institute for Cancer Research	21.60	21.87	1
Syracuse Research Corp	20.60	18.10	1
The Burnham Institute	19.50	17.20	1
The Conference Board	19.44	17.36	1
Corp Communications/Factory Mutual Research Corporation	19.13	18.80	1
North Shore University Hospital	18.50	18.00	2
McLean Hospital	18.49	20.89	2
Southwest Foundation for Biomedical Research	18.02	16.35	1

See explanatory information and SOURCE at end of table.

Table A-11. **Intramural R&D performance at individual nonprofit organizations, by type of organization: fiscal years 1996 and 1997**

Nonprofit organization (ranked by 1997 R&D expenditures)	Intramural R&D expenditures [In millions of dollars]		Type of organization[1]
	1997	1996	
Chemical Industry Institute of Toxicology	17.25	17.54	1
Childrens Research Institute	14.68	13.85	3
Magee-Womens Hospital	13.82	13.67	1
Center for Health Research - Kaiser Foundation Hospitals	13.46	13.81	1
Center For Blood Research	12.40	11.20	1
Public Health Research Institute of The City of New York	12.19	10.31	1
Childrens Hospital Research Foundation	12.11	9.31	1
Samuel Roberts Noble Foundation	12.06	11.13	5
Friends Medical Science Research Center	11.72	10.78	1
International Food Policy Research Institute	11.23	9.08	1
Oregon Regional Primate Research Center	11.17	10.60	1
LaJolla Institute for Allergy and Immunology	11.16	8.42	1
Frontier Science & Technology Research Foundation, Inc.	10.37	9.12	1
Kennedy Research Institute, Inc.	9.62	9.55	1
Michigan Public Health Institute	9.22	5.32	1
Academy of Natural Science of Philadelphia	9.21	8.93	1
Albert Einstein Healthcare Network	8.91	8.46	3
Oregon Research Institute	8.82	8.21	1
Edison Welding Institute	8.80	7.33	1
California Pacific Medical Center Research Institute	8.10	7.70	3
New York Botanical Garden	7.35	7.30	1
Emanuel Hospital	7.00	7.00	3
Monell Chemical Senses Center	7.00	7.06	1
Forsyth Dental Center	6.99	7.21	1
SETI Institute	6.92	5.91	1
Beth Israel Medical Center	6.86	7.63	2
Astrophysical Research Consortium	6.70	4.12	9
Corporation of National Research Initiatives	6.68	6.32	1
Coriell Institute for Medical Research (Institute for Medical Research)	6.64	5.91	1
Center For Cultural and Technical Interchange Between East & West, Inc.	6.59	6.79	1
The Smith-Kettlewell Eye Research Institute	6.58	6.30	1
National Center for Manufacturing Science, Inc.	6.54	10.02	8
Picower Institute for Medical Research	6.49	7.61	1
Lankenau Medical Research Center	6.44	6.53	1
Virginia Mason Research Center	6.32	5.52	1
Father Flanagans Boys Home	6.19	6.61	5
University Research Foundation, Inc.	6.16	7.68	1
Blood Research Institute/Blood Center of Southeastern Wisconsin, Inc.	6.15	5.98	1
Missouri Botanical Garden	6.00	5.40	5
Group Health Plan, Inc.	6.00	5.00	1

See explanatory information and SOURCE at end of table.

Table A-11. **Intramural R&D performance at individual nonprofit organizations, by type of organization: fiscal years 1996 and 1997**

Nonprofit organization (ranked by 1997 R&D expenditures)	Intramural R&D expenditures		Type of organization[1]
	1997	1996	
	[In millions of dollars]		
Sidney Kimmel Cancer Center	5.95	5.30	1
Texas Heart Institute	5.94	6.10	1
The Rowland Institute for Science, Inc	5.88	5.83	1
Childrens Hospital of Los Angeles	5.85	5.09	2
Trudeau Institute, Inc	5.52	4.25	1
St. Elizabeth's Medical Center of Boston	5.48	6.20	2
Maimonides Medical Center	5.39	5.30	2
Denver Health Research Foundation	5.24	4.48	2
Boston Biomedical Research Institute, Inc	5.16	6.74	1
Oregon Social Learning Center	5.14	4.41	1
Institute of Living	4.87	2.19	3
Public Private Ventures	4.82	5.60	1
Waste Policy Institute	4.77	4.23	1
School for Field Studies	4.71	4.75	5
California Academy of Sciences	4.60	4.20	1
American Dental Association Health Foundation Paffenbarger Research Center	4.55	4.35	5
Harvard Pilgrim Health Care	4.52	4.25	1
Lovelace Respiratory Research Institute	4.50	4.50	1
Baylor Research Institute	4.41	4.34	1
Pacific International Center for High Tech Research	4.30	3.17	1
John B. Pierce Laboratory	4.29	4.72	1
Palo Alto Medical Research Foundation	4.21	4.46	1
Center for Creative Leadership	4.15	3.09	1
Regenstrief Institute	4.08	3.89	1
Mathematical Sciences Research Institute	3.96	3.45	1
Huntington Medical Research Institutes	3.93	3.92	1
Comap (Consortium for Math and Its Applications)	3.92	3.46	1
Institute of Ecosystem Studies, Inc	3.90	3.63	1
International Computer Science Institute	3.88	5.07	1
Huntington Memorial Hospital	3.82	3.66	1
Herty Foundation	3.67	4.11	1
Hebrew Rehabilitation Center for Aged	3.61	3.12	3
Swedish Medical Center	3.61	2.84	3
Carnegie Museum	3.48	4.94	6
Mt. Sinai Hospital of Greater Miami	3.37	3.03	3
Oceanic Institute (at Makapuu Point)	3.31	3.03	1
Doheny Eye Institute	3.29	3.31	1
Surgical Associates Research and Educational Foundation	3.14	2.20	5
North Carolina Advanced Energy Corporation	3.13	2.94	8
Walter Cancer Institute, Inc	3.10	2.91	1

See explanatory information and SOURCE at end of table.

Table A-11. **Intramural R&D performance at individual nonprofit organizations, by type of organization: fiscal years 1996 and 1997**

Nonprofit organization (ranked by 1997 R&D expenditures)	Intramural R&D expenditures [In millions of dollars]		Type of organization[1]
	1997	1996	
Woods Hole Research Center	3.05	3.45	1
Russell Sage Foundation	3.05	2.26	5
Parkinsons Institute	3.05	2.61	1
Kestrel Institute	3.02	2.82	1
Neurological Sciences Institute	3.01	2.87	1
Pacific Northwest Research Foundation	2.97	2.14	1
Lowell Observatory	2.88	2.46	1
Endowment for Research in Human Biology, Inc	2.85	3.08	1
Sante Fe Institute	2.85	2.75	1
Hauptman-Woodard Medical Research Institute	2.78	2.90	1
Manomet, Inc	2.64	3.28	1
Baystate Medical Center	2.62	2.63	3
Human Gene Therapy Research Institute, Inc	2.60	2.00	1
Guthrie Foundation	2.59	2.38	1
Sun Health Research Institute	2.55	2.15	1
National Water Research Institute	2.50	2.50	1
Via Christi Research, Inc	2.49	2.41	3
Hospital Research and Educational Trust	2.48	3.06	1
Institute for Clinical Research, Inc	2.45	1.70	1
Denver Research Institute	2.42	2.52	9
National Disease Research Interchange	2.40	2.40	1
University of Tennessee Memorial Hospital	2.37	2.19	2
Childrens Healthcare of California	2.32	1.21	3
Institute of Global Environment and Society	2.32	2.35	1
Summa Health System Foundation	2.27	2.19	3
Puget Sound Blood Center and Blood Program	2.24	1.82	1
Deborah Heart and Lung Center	2.22	2.17	3
Dean McGee Eye Institute	2.18	1.87	1
Maine Medical Center	2.10	2.02	3
Institute of Advanced Manufacturing Science, Inc	2.00	2.00	1
Integris Baptist Medical Center of Oklahoma	2.00	1.50	1
National Institute of Statistical Sciences	2.00	1.70	1
Palisades Geophysical Institute, Inc	1.97	1.87	1
Michigan Molecular Institute	1.95	2.29	1
Minneapolis Heart Institute Foundation	1.93	1.99	1
Prince William Sound Science and Technology Institute	1.92	2.41	1
Sacramento Medical Foundation	1.91	1.36	1
Masonic Medical Research Laboratory	1.84	1.85	1
Loma Linda University Medical Center	1.81	0.70	2
Haskins Laboratories, Inc	1.75	1.90	1

See explanatory information and SOURCE at end of table.

Table A-11. **Intramural R&D performance at individual nonprofit organizations, by type of organization: fiscal years 1996 and 1997**

Nonprofit organization (ranked by 1997 R&D expenditures)	Intramural R&D expenditures [In millions of dollars]		Type of organization[1]
	1997	1996	
Scientific Analysis Corporation	1.73	1.48	1
Pacific Health Research Institute	1.67	1.53	1
McLaughlin Research Institute	1.67	1.66	1
Tall Timbers Research, Inc	1.60	1.34	1
Illinois State Museum	1.52	1.41	1
Merit Network, Inc	1.50	0.76	1
Kaiser Foundation Health Plan of Ohio	1.50	1.50	5
Matrix Research Institute	1.50	1.20	1
Sierra Biomedical Research Company	1.35	1.28	1
Center for American Archeology	1.31	1.42	1
National Academy of Engineering	1.30	1.78	4
Shepard Spinal Center	1.27	0.88	3
American Institute of Baking	1.22	1.22	1
National Science Center Foundation	1.21	1.41	5
American Institute for Property and Liability Underwriters, Inc	1.18	0.88	1
Chicago Zoological Society	1.11	0.86	6
American Type Culture Collection, Inc	1.11	0.88	1
La Jolla Institute for Experimental Medicine	1.05	0.96	1
Toledo Hospital	1.02	1.22	3
Kaiser Foundation Health Plan of Colorado	1.02	0.91	5
Alliance to Save Energy	1.00	0.80	4
National Institute for Environmental Renewal	1.00	0.50	1
Rancho Santa Ana Botanic Garden	1.00	1.00	6
Federation of American Society for Experimental Biology	0.89	1.41	4
American Society for Engineering Education	0.86	0.93	4
Urban Institute	0.85	0.58	1
American Association of Physics Teachers	0.83	0.88	4
Science Museum of Minnesota	0.78	0.74	6
Hektoen Institute for Medical Research	0.77	0.72	1
Winthrop University Hospital	0.75	0.62	2
Harrington Arthritis Research Center	0.72	0.94	1
Gemological Institute of America, Inc	0.71	0.61	1
Addiction Research and Treatment Corporation	0.69	1.35	5
Chicago Academy of Science	0.68	0.48	4
Foundation for Blood Research	0.66	1.05	1
Molecular Research Institute	0.65	0.92	1
Rumbaugh-Goodwin Institute for Cancer Research	0.65	0.60	1
St. Lukes Episcopal Hospital	0.65	0.64	3
Gulf & South Atlantic Fisheries Development Foundation, Inc	0.63	0.64	5
Rocky Mountain Institute	0.61	0.52	1

See explanatory information and SOURCE at end of table.

Table A-11. **Intramural R&D performance at individual nonprofit organizations, by type of organization: fiscal years 1996 and 1997**

Nonprofit organization (ranked by 1997 R&D expenditures)	Intramural R&D expenditures [In millions of dollars]		Type of organization[1]
	1997	1996	
Telemedicine Research Center	0.58	0.43	1
National Center for Lead-Safe Housing, Inc.	0.52	0.51	1
Sugar Processing Institute	0.51	0.50	1
Institute of Human Origins	0.51	0.66	1
Buck Center for Research in Aging	0.48	0.59	1
Fairchild Tropical Garden	0.47	0.45	6
Eastern Maine Healthcare	0.46	0.41	3
Ewing Marion Kauffman Foundation	0.46	0.56	5
Community Research Initiative on AIDS	0.43	0.62	1
Wood Hudson Cancer Research Laboratory	0.43	0.36	1
EEG Systems Laboratories	0.43	0.33	1
Neuropsychiatric Research Institute	0.42	0.31	1
Marine Environmental Sciences Consortium	0.40	0.43	9
Northeast States for Coordinated Air Use Management, Inc.	0.40	0.15	1
Inter-Industry Economic Research Fund, Inc.	0.39	0.41	1
Space Physics Research Institute	0.38	0.32	1
Marie Selby Botanical Gardens	0.37	0.33	6
The Mercy Hospital of Pittsburgh	0.36	0.41	3
Council of Chief State School Officers	0.35	0.35	4
Cleveland Museum of Natural History	0.35	0.32	6
Graphic Arts Technical Foundation	0.33	0.25	7
GMI Engineering & Management Institute	0.30	0.20	9
Iowa Oncology Research Association	0.26	0.25	1
Earth Conservancy	0.25	0.47	8
APA The Engineered Wood Association	0.24	0.23	7
Harlan Moore Heart Research Foundation	0.23	0.18	5
MacNeal Hospital	0.21	0.38	3
National Collegiate Athletic Association	0.20	0.20	5
National Action Council for Minorities in Engineering (NACME)	0.19	0.26	5
Rocky Mountain Biological Laboratory	0.17	0.25	1
Air-Conditioning & Refrigeration Institute	0.17	0.24	7
Cleveland Education Fund	0.13	0.11	1

[1] The organizations self-identified themselves into the following categories:

1. Research institute;
2. University-affiliated hospital;
3. Other voluntary nonprofit hospital;
4. Professional or technical society, or academy of science and/or engineering;
5. Private foundation;
6. Science exhibitor;
7. Trade association;
8. Industrial consortium; and
9. Academic consortium.

NOTE: One nonprofit organization asked that its data remain confidential.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table A-12. **Intramural R&D performance at individual nonprofit organizations, by state location: fiscal year 1997**

[In millions of dollars]

State	Nonprofit organization	R&D expenditures
	United States, weighted data	7,349.17
	Total, all respondents	3,011.45
Alabama		
	Marine Environmental Sciences Consortium	0.40
Alaska		
	Prince William Sound Science and Technology Institute	1.92
Arizona		
	Harrington Arthritis Research Center	0.72
	Lowell Observatory	2.88
	Sun Health Research Institute	2.55
California		
	Buck Center for Research in Aging	0.48
	California Academy of Sciences	4.60
	California Pacific Medical Center Research Institute	8.10
	Cedars Sinai Medical Center	25.55
	Childrens Healthcare of California	2.32
	Childrens Hospital of Los Angeles	5.85
	Doheny Eye Institute	3.29
	EEG Systems Laboratories	0.43
	Gemological Institute of America, Inc	0.71
	Harbor-UCLA Research And Education Institute	46.69
	Howard Hughes Medical Institute	352.00
	Huntington Medical Research Institutes	3.93
	Huntington Memorial Hospital	3.82
	Institute of Human Origins	0.51
	International Computer Science Institute	3.88
	Kestrel Institute	3.02
	La Jolla Institute for Experimental Medicine	1.05
	LaJolla Institute for Allergy and Immunology	11.16
	Loma Linda University Medical Center	1.81
	Ludwig Institute for Cancer Research	54.50
	Mathematical Sciences Research Institute	3.96
	Molecular Research Institute	0.65
	National Water Research Institute	2.50
	Palo Alto Medical Research Foundation	4.21
	Parkinsons Institute	3.05
	Rancho Santa Ana Botanic Garden	1.00
	Rand Corporation	43.00
	Sacramento Medical Foundation	1.91
	Scientific Analysis Corp	1.73

See explanatory information and SOURCE at end of table.

Table A-12. **Intramural R&D performance at individual nonprofit organizations, by state location: fiscal year 1997**

[In millions of dollars]

State	Nonprofit organization	R&D expenditures
	SETI Institute	6.92
	Sidney Kimmel Cancer Center	5.95
	Space Physics Research Institute	0.38
	SRI International	146.14
	The Burnham Institute	19.50
	The Salk Institute For Biological Studies	56.08
	The Smith-Kettlewell Eye Research Institute	6.58
Colorado		
	Denver Health Research Foundation	5.24
	Denver Research Institute	2.42
	Kaiser Foundation Health Plan of Colorado	1.02
	National Jewish Medical and Research Center	26.73
	Rocky Mountain Biological Laboratory	0.17
	Rocky Mountain Institute	0.61
	University Corporation for Atmospheric Research	23.33
Connecticut		
	Haskins Laboratories, Inc	1.75
	Institute of Living	4.87
	John B. Pierce Laboratory	4.29
District of Columbia		
	Alliance to Save Energy	1.00
	American Institute for Research	32.72
	American Society for Engineering Education	0.86
	Childrens Research Institute	14.68
	Council of Chief State School Officers	0.35
	Institute for Clinical Research, Inc	2.45
	International Food Policy Research Institute	11.23
	National Academy of Engineering	1.30
	Urban Institute	0.85
Florida		
	Fairchild Tropical Garden	0.47
	Gulf & South Atlantic Fisheries Development Foundation, Inc	0.63
	Marie Selby Botanical Gardens	0.37
	Mt. Sinai Hospital of Greater Miami	3.37
	Palisades Geophysical Institute, Inc	1.97
	Rumbaugh-Goodwin Institute for Cancer Research	0.65
	Tall Timbers Research, Inc	1.60
Georgia		
	Herty Foundation	3.67
	National Science Center Foundation	1.21
	Shepard Spinal Center	1.27

See explanatory information and SOURCE at end of table.

Table A-12. **Intramural R&D performance at individual nonprofit organizations, by state location: fiscal year 1997**

[In millions of dollars]

State	Nonprofit organization	R&D expenditures
Hawaii		
	Center for Cultural And Technical Interchange Between East & West Inc.	6.59
	Oceanic Institute (at Makapuu Point)	3.31
	Pacific Health Research Institute	1.67
	Pacific International Center for High Tech Research	4.30
Illinois		
	American Institute for Property and Liability Underwriters, Inc.	1.18
	Center for American Archeology	1.31
	Chicago Academy of Science	0.68
	Chicago Zoological Society	1.11
	Harlan Moore Heart Research Foundation	0.23
	Hektoen Institute for Medical Research	0.77
	Hospital Research and Educational Trust	2.48
	Illinois State Museum	1.52
	MacNeal Hospital	0.21
Indiana		
	Regenstrief Institute	4.08
	Walter Cancer Institute, Inc.	3.10
Iowa		
	Human Gene Therapy Research Institute Inc.	2.60
	Iowa Oncology Research Association	0.26
Kansas		
	American Institute of Baking	1.22
	National Collegiate Athletic Association	0.20
	Via Christi Research, Inc.	2.49
Kentucky		
	Wood Hudson Cancer Research Laboratory	0.43
Louisiana		
	Sugar Processing Institute	0.51
Maine		
	Eastern Maine Healthcare	0.46
	Foundation for Blood Research	0.66
	Jackson Laboratory	24.58
	Maine Medical Center	2.10
Maryland		
	American Dental Association Health Foundation Paffenbarger Research Center	4.55
	American Type Culture Collection, Inc.	1.11
	Association of Universities for Research In Astronomy, Inc.	32.59
	Federation of American Society For Experimental Biology	0.89
	Friends Medical Science Research Center	11.72
	Institute of Global Environment and Society	2.32

See explanatory information and SOURCE at end of table.

Table A-12. **Intramural R&D performance at individual nonprofit organizations, by state location: fiscal year 1997**

[In millions of dollars]

State	Nonprofit organization	R&D expenditures
	Inter-Industry Economic Research Fund, Inc.	0.39
	Kennedy Research Institute, Inc.	9.62
	National Center for Lead-Safe Housing, Inc.	0.52
	University Research Foundation Inc.	6.16
Massachusetts		
	Baystate Medical Center	2.62
	Beth Israel Deaconess Medical Center, Inc.	83.41
	Boston Biomedical Research Institute, Inc.	5.16
	Brigham and Women's Hospital	87.79
	Center for Blood Research	12.40
	Charles Stark Draper Laboratory, Inc.	60.60
	Comap (Consortium for Math & Its Applications)	3.92
	Corporation Communications/Factory Mutual Research Corporation	19.13
	Dana-Farber Cancer Institute (Childrens Cancer Center Foundation)	91.00
	Endowment for Research In Human Biology, Inc.	2.85
	Forsyth Dental Center	6.99
	Harvard Pilgrim Health Care	4.52
	Hebrew Rehabilitation Center for Aged	3.61
	Manomet, Inc.	2.64
	McLean Hospital	18.49
	Northeast States for Coordinated Air Use Management, Inc.	0.40
	School for Field Studies	4.71
	St. Elizabeth's Medical Center of Boston	5.48
	The Rowland Institute for Science, Inc.	5.88
	Whitehead Institute for Biomedical Research	40.71
	Woods Hole Research Center	3.05
Michigan		
	GMI Engineering & Management Institute	0.30
	Henry Ford Health System	39.17
	Merit Network, Inc.	1.50
	Michigan Molecular Institute	1.95
	Michigan Public Health Institute	9.22
	National Center for Manufacturing Science, Inc.	6.54
Minnesota		
	Group Health Plan, Inc.	6.00
	Mayo Foundation/St.Marys Hospital Rochester	156.72
	Minneapolis Heart Institute Foundation	1.93
	Science Museum of Minnesota	0.78
Missouri		
	Ewing Marion Kauffman Foundation	0.46
	Missouri Botanical Garden	6.00

See explanatory information and SOURCE at end of table.

Table A-12. **Intramural R&D performance at individual nonprofit organizations, by state location: fiscal year 1997**

[In millions of dollars]

State	Nonprofit organization	R&D expenditures
Montana		
	McLaughlin Research Institute	1.67
Nebraska		
	Father Flanagans Boys Home	6.19
Nevada		
	Sierra Biomedical Research Co	1.35
New Jersey		
	Coriell Institute for Medical Research (Institute for Medical Research)	6.64
	Deborah Heart And Lung Center	2.22
New Mexico		
	Lovelace Respiratory Research Institute	4.50
	Santa Fe Institute	2.85
New York		
	Addiction Research and Treatment Corporation	0.69
	Albert Einstein Healthcare Network	8.91
	Beth Israel Medical Center	6.86
	Cold Spring Harbor Laboratory	34.74
	Community Research Initiative on AIDS	0.43
	Frontier Science & Technology Research Foundation, Inc	10.37
	Hauptman-Woodard Medical Research Institute	2.78
	Institute of Ecosystem Studies, Inc	3.90
	Maimonides Medical Center	5.39
	Masonic Medical Research Laboratory	1.84
	Memorial Sloan Kettering Cancer Center	115.23
	National Action Council for Minorities In Engineering (NACME)	0.19
	New York Botanical Garden	7.35
	North Shore University Hospital	18.50
	Picower Institute for Medical Research	6.49
	Population Council	42.23
	Public Health Research Institute of the City of New York	12.19
	Russell Sage Foundation	3.05
	Syracuse Research Corp	20.60
	The Conference Board	19.44
	Trudeau Institute, Inc	5.52
	Winthrop University Hospital	0.75
North Carolina		
	Center for Creative Leadership	4.15
	Chemical Industry Institute of Toxicology	17.25
	Family Health International	35.77
	National Institute of Statistical Sciences	2.00
	North Carolina Advanced Energy Corporation	3.13
	Research Triangle Institute	112.90

See explanatory information and SOURCE at end of table.

Table A-12. **Intramural R&D performance at individual nonprofit organizations, by state location: fiscal year 1997**

[In millions of dollars]

State	Nonprofit organization	R&D expenditures
North Dakota		
	Neuropsychiatric Research Institute	0.42
Ohio		
	Childrens Hospital Research Foundation	12.11
	Cleveland Education Fund	0.13
	Cleveland Museum of Natural History	0.35
	Edison Welding Institute	8.80
	Institute of Advanced Manufacturing Science, Inc	2.00
	Kaiser Foundation Health Plan of Ohio	1.50
	Summa Health System Foundation	2.27
	Toledo Hospital	1.02
Oklahoma		
	Dean McGee Eye Institute	2.18
	Integris Baptist Medical Center of Oklahoma	2.00
	Oklahoma Medical Research Foundation	21.99
	Samuel Roberts Noble Foundation	12.06
Oregon		
	Center for Health Research - Kaiser Foundation Hospitals	13.46
	Emanuel Hospital	7.00
	Neurological Sciences Institute	3.01
	Oregon Regional Primate Research Center	11.17
	Oregon Research Institute	8.82
	Oregon Social Learning Center	5.14
	Telemedicine Research Center	0.58
Pennsylvania		
	Academy of Natural Science of Philadelphia	9.21
	Carnegie Museum	3.48
	Childrens Hospital of Philadelphia	45.72
	Earth Conservancy	0.25
	Fox Chase Cancer Center	24.78
	Graphic Arts Technical Foundation	0.33
	Guthrie Foundation	2.59
	Institute for Cancer Research	21.60
	Lankenau Medical Research Center	6.44
	Magee-Womens Hospital	13.82
	Matrix Research Institute	1.50
	Monell Chemical Senses Center	7.00
	National Disease Research Interchange	2.40
	National Institute for Environmental Renewal	1.00
	Public Private Ventures	4.82
	Surgical Associates Research and Educational Foundation	3.14
	The Mercy Hospital of Pittsburgh	0.36
	Wistar Institute	25.30

See explanatory information and SOURCE at end of table.

Table A-12. **Intramural R&D performance at individual nonprofit organizations, by state location: fiscal year 1997**

[In millions of dollars]

State	Nonprofit organization	R&D expenditures
Tennessee		
	University of Tennessee Memorial Hospital	2.37
Texas		
	American Association of Physics Teachers	0.83
	Baylor Research Institute	4.41
	SEMATECH, Inc	97.70
	Southwest Foundation for Biomedical Research	18.02
	St. Lukes Episcopal Hospital	0.65
	Summer Institute of Linguistics, Inc	41.00
	Texas Heart Institute	5.94
	Waste Policy Institute	4.77
Virginia		
	Air-Conditioning & Refrigeration Institute	0.17
	Analytic Services, Inc	51.77
	Corporation of National Research Initiatives	6.68
Washington		
	APA The Engineered Wood Association	0.24
	Astrophysical Research Consortium	6.70
	Fred Hutchinson Cancer Research Center	100.47
	Pacific Northwest Research Foundation	2.97
	Puget Sound Blood Center and Blood Program	2.24
	Swedish Medical Center	3.61
	Virginia Mason Research Center	6.32
Wisconsin		
	Blood Research Institute/ Blood Center of Southeastern Wisconsin Inc	6.15

NOTE: One nonprofit organization asked that its data remain confidential.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding Performance by Nonprofit Organizations, 1996 and 1997.

Table A-13. **Extramural R&D expenditures by NPO performers of R&D, by type of NPO and number of survey respondents: fiscal years 1996 and 1997**

Type of organization	Respondents	Funders of extramural R&D		Funds given for extramural R&D	
	1996 and 1997	1996	1997	1996	1997
	Number of NPOs				
Total	233	133	137	1,494	1,324
Research institutes	151	85	87	667	517
Hospitals	35	19	20	354	341
University-affiliated hospitals	12	7	7	266	264
Other voluntary nonprofit hospitals	23	12	13	88	77
Private foundation	19	10	11	127	93
Other nonprofit organizations[1]	28	19	19	346	373

[1] Other nonprofit organizations include professional and technical societies, academies of science or engineering, science exhibitors, academic consortia, industrial consortia, and trade associations.

KEY: NPO = Nonprofit organization

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

SECTION B.
DETAILED STATISTICAL TABLES:
NONPROFIT FUNDERS OF
RESEARCH AND DEVELOPMENT

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Table B-1. **Funds provided by nonprofit organizations for medical and non-medical R&D, and R&D capital, by type of nonprofit funder: fiscal year 1997**

Type of nonprofit R&D funder	Number of funders	Funding for R&D and R&D capital				
			R&D funding			
		Total	Total	Medical funding	Non-medical funding	R&D capital
	N	[In millions of dollars]				
Total, all funders	110	3,150	2,908	1,771	1,137	242
Independent foundations	47	1,886	1,653	1,180	472	234
Family foundations	17	71	65	55	11	5
Public charities	17	395	393	316	77	3
Other nonprofit organizations[1]	29	797	798	220	578	0

[1] Other nonprofit organizations include operating foundations, professional or technical societies, academies of science or engineering, trade associations, corporate foundations, and community foundations.

KEY: N = Number of survey respondents

NOTE: Nonprofit R&D funders comprise only those organizations that do not perform R&D themselves. Nonprofit organizations that both fund and perform R&D are considered nonprofit R&D performers. Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table B-2. **Funds provided by nonprofit organizations for medical and non-medical R&D, and R&D capital, by type of nonprofit funder: fiscal year 1996**

Type of nonprofit R&D funder	Number of funders	Funding for R&D and R&D capital				
		Total	R&D funding			R&D capital
			Total	Medical funding	Non-medical funding	
	N	[In millions of dollars]				
Total, all funders	110	2,842	2,683	1,638	1,046	159
Independent foundations	47	1,608	1,470	1,096	374	138
Family foundations	17	64	55	38	17	9
Public charities	17	385	378	302	76	7
Other nonprofit organizations[1]	29	784	781	202	579	4

[1] Other nonprofit organizations include operating foundations, professional or technical societies, academies of science or engineering, trade associations, corporate foundations, and community foundations.

KEY: N = Number of survey respondents.

NOTE: Nonprofit R&D funders comprise only those organizations that do not perform R&D themselves. Nonprofit organizations that both fund and perform R&D are considered nonprofit R&D performers. Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table B-3. **Funds provided by nonprofit organizations for medical and non-medical R&D, by type of recipients: fiscal years 1996 and 1997**

Type of recipient	1996			1997		
	Total	Medical	Non-medical	Total	Medical	Non-medical
	[In millions of dollars]					
All recipients	2,683	1,638	1,045	2,908	1,771	1,137
All U.S. recipients	2,387	1,579	805	2,606	1,710	897
Colleges or universities	1,168	689	479	1,365	782	583
Nonprofit organizations	404	304	99	411	333	78
Hospitals	152	141	11	133	124	8
University-affiliated hospitals	131	123	8	119	112	7
Other voluntary nonprofit hospitals	21	18	3	13	12	1
Research institutes	212	137	75	222	171	51
Professional or technical societies or academies of sciences	11	10	--	20	12	8
Private foundations	18	12	6	28	24	4
Science exhibitors	1	0	1	1	0	1
Nonprofit industrial consortia	2	1	1	4	2	2
Nonprofit academic consortia	8	3	5	3	--	3
Agricultural cooperatives	--	0	--	1	0	1
Industry	222	3	219	231	3	228
Federally Funded Research & Development Centers	1	--	--	3	2	1
Other types of U.S. institutions	591	583	8	597	590	7
All types outside of the U.S.	296	59	237	302	61	241

KEY: -- = Less than $0.5 million

NOTE: Nonprofit R&D funders comprise only those organizations that do not perform R&D themselves. Nonprofit organizations that both fund and perform R&D are considered nonprofit R&D performers. Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table B-4. **Funds provided for R&D from individual nonprofit organizations: fiscal years 1996 and 1997**

Nonprofit R&D funder (ranked by 1997 R&D funded)	R&D funded	
	1997	1996
	[In millions of dollars]	
United States, weighted data	3,150.15	2,841.51
Total, all respondents	884.85	821.27
Health Research, Inc.	165.25	164.48
GRI	131.25	127.78
American Cancer Society, Inc.	70.30	68.14
W. M. Keck Foundation	51.46	31.84
Joint Oceanographic Institutes	50.02	51.90
Juvenile Diabetes Foundation International	30.28	27.68
Burroughs Wellcome Fund	21.30	13.89
Wisconsin Alumni Research Foundation	20.26	19.22
South Carolina Universities Research and Education Foundation	16.12	14.45
U.S. Civilian Research Development Foundation for Independent States	16.10	9.60
The Whitaker Foundation	15.70	18.28
The John A. Hartford Foundation Inc.	14.71	15.93
James S. McDonnell Foundation	14.59	12.11
Alfred P. Sloan Foundation	14.24	7.63
American Water Works Association Research Foundation	14.06	7.00
Pew Charitable Trust	13.55	1.13
Arthritis Foundation, Inc.	13.52	11.35
The Andrew W. Mellon Foundation	12.28	14.85
National Dairy Council	9.40	9.00
G. Harold & Leila Y. Mathers Charitable Foundation	8.95	10.47
Research Corporation	6.84	4.82
Dewitt Wallace Fund for Memorial Sloan-Kettering Cancer Center	6.70	6.10
William T. Grant Foundation	6.38	6.60
American Federation for Aging	5.27	3.93
M. J. Murdock Charitable Trust	5.08	2.76
Robert W. Woodruff Foundation	4.50	5.98
Northeast Tier Ben Franklin Technology Center	4.16	4.17
Shell Oil Company Foundation	4.01	3.76
Health Effects Institute	3.96	3.40
North Carolina Biotechnology Center	3.60	3.83
International Lead Zinc Research Organization	3.50	3.70
Roy J. Carver Charitable Trust	3.49	2.35
Charles Lee Powell Foundation	3.47	3.14
Whitehall Foundation, Inc.	3.15	2.49
That Man May See, Inc.	2.95	2.30
Southern Coalition for Advanced Transportation, Inc.	2.92	4.31
American Iron and Steel Institute	2.85	3.59
Council of American Overseas Research Centers	2.75	2.75
The Patrick and Catherine Weldon Donahue Medical Research Foundation	2.74	3.06
Endowment for Research in Human Biology, Inc.	2.65	2.72

See explanatory information and SOURCE at end of table.

Table B-4. **Funds provided for R&D from individual nonprofit organizations: fiscal years 1996 and 1997**

Nonprofit R&D funder (ranked by 1997 R&D funded)	R&D funded	
	1997	1996
	[In millions of dollars]	
American Transit Foundation	2.50	5.50
Diabetes Research Institute Foundation	2.35	2.76
American Society of Heating Refrigerating and A-C Engineers	2.34	2.74
William K. Warren Medical Research Center, Inc	2.30	2.30
Eastern Paralyzed Veterans' Association	2.16	2.05
The Buffett Foundation	2.12	1.46
Jeffrey M & Barbara Picower Foundation	2.03	0.35
Society of Actuaries	2.03	1.89
Orthopaedic Research Education Foundation	1.78	1.92
Oceanic Institute (At Makapuu Point)	1.70	1.60
Will Rogers Memorial Fund	1.63	1.61
Edison Polymer Innovation Corporation	1.56	1.88
The Helen Hay Whitney Foundation	1.51	1.43
John E. Fetzer Institute, Inc	1.44	1.40
Portland Cement Association	1.42	1.60
Society of Automotive Engineers	1.37	0.77
Gustavus and Louise Pfeiffer Research Foundation	1.35	0.86
The Kenneth T. and Eileen L. Norris Foundation	1.20	1.19
United Cerebral Palsy Association	1.20	1.20
American Welding Society, Inc	1.20	0.90
Applied Technology Council	1.20	1.14
Blandin Foundation/SOTA TEC Fund	1.15	0.95
RGK Foundation	1.08	0.96
Connelly Foundation	1.07	0.50
William G. McGowan Charitable Fund	1.05	0.64
Minnesota Mining and Manufacturing Foundation, Inc	1.05	1.16
The Seaver Institute	1.03	0.95
CAMP, Inc	1.00	1.00
Thomas F. and Kate Miller Jeffress Memorial Trust	1.00	0.91
Meadows Foundation, Inc	0.97	0.67
Allied-Signal Foundation, Inc	0.93	0.60
The Flinn Foundation	0.93	0.82
Ruth & Milton Steinbach Fund, Inc	0.90	0.70
Fannie E. Rippel Foundation	0.90	0.59
Hawaii Community Foundation	0.88	0.44
Vivian L. Smith Foundation	0.81	1.05
American Institute for Chemical Engineers	0.76	0.59
Mote Scientific Foundation, Inc	0.75	1.90
The John Merck Fund	0.72	0.72
The Harry Frank Guggenheim Foundation	0.69	0.83
Asthma & Allergy Foundation of America - National	0.64	0.53
Baylor Oral Health Foundation	0.63	0.50

See explanatory information and SOURCE at end of table.

Table B-4. **Funds provided for R&D from individual nonprofit organizations: fiscal years 1996 and 1997**

Nonprofit R&D funder (ranked by 1997 R&D funded)	R&D funded	
	1997	1996
	[In millions of dollars]	
National Asphalt Pavement Association	0.60	0.60
Charlotte Geyer Foundation	0.60	0.60
Shoenberg Foundation, Inc	0.57	0.15
The Campbell Foundation	0.52	0.06
The Bingham Trust	0.50	0.58
Children's Health System, Inc	0.50	0.50
Primary Childrens Medical Center Foundation	0.47	0.35
Leonard X. Bosack Bette M. Kruger Foundation	0.41	0.59
Moody Foundation	0.40	0.69
Hoblitzelle Foundation	0.38	0.38
Lake Pontchartrain Basin Foundation	0.38	0.30
Geraldine R. Dodge Foundation, Inc	0.37	0.53
Alaska Fisheries Development Foundation	0.37	0.73
The Jewish Healthcare Foundation of Pittsburgh	0.33	0.80
International Anesthesia Research Society	0.31	0.35
Geological Society of America	0.30	0.35
The Wills Foundation	0.29	0.31
Research Fund of the American Otological Society, Inc	0.28	0.20
Abraham and Sonia Rochlin Foundation	0.28	0.00
The Roy E. Coats Fund for the Research and Treatment of Cancer	0.26	0.09
Smith Richardson Foundation, Inc	0.25	0.00
Leland Fikes Foundation, Inc	0.20	0.60
The Coleman Foundation, Inc	0.18	1.81
Meyer Memorial Trust	0.18	1.50
E. L. Wiegand Foundation	0.16	0.42
IBM International Foundation	0.12	0.34
Foundation for Child Development	0.00	0.31

NOTE: Nonprofit R&D funders comprise only those organizations that do not perform R&D themselves. Nonprofit organizations that both fund and perform R&D are considered nonprofit R&D performers. Because of rounding, detail may not add to totals. One funder asked that its data remain confidential.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

SECTION C.
TECHNICAL NOTES:
SURVEY METHODOLOGY

TECHNICAL NOTES, SURVEY METHODOLOGY

The Survey of Research and Development Funding and Performance by Nonprofit Organizations: 1996 and 1997 collected information on the science and engineering (S&E) research and development (R&D) activities of nonprofit organizations (NPOs). It collected data both from NPOs that fund S&E R&D and from those that perform R&D themselves. The National Science Foundation (NSF) carried out a similar study of nonprofit organizations in 1973. This section provides a brief overview of the methodology used for the 1996-97 survey. The complete Methodology report is available on the world wide web at http://www.nsf.gov/sbe/srs/srdfpnpo/srdfmeth.htm

Overview

The Survey of Research and Development Funding and Performance by Nonprofit Organizations: 1996 and 1997 collected information on S&E R&D activities of nonprofit organizations. It collected data both from NPOs that fund S&E R&D and from those that perform R&D themselves. The overall target population for the survey was nonprofit organizations that funded or performed S&E R&D of $250,000 or more during fiscal year (FY) 1996.

Key Variables

The following key variables were included on the survey instruments:

- Nonprofit organization,
- Nonprofit performer of R&D,
- Expenditures for intramural R&D,
- Character of work (basic research, applied research, and development),
- Fields of science and engineering,
- Sources of funds (Federal, state, local, industry, universities and colleges, other nonprofit organizations, other sources including own funds and all foreign sources),
- Type of nonprofit R&D performer (research institutes, hospitals, professional or technical societies, private foundations, science exhibitors, trade associations, industrial consortia, academic consortia),
- Extramural funding of R&D at other institutions,
- Nonprofit funder of R&D,
- Types of nonprofit funders of R&D (independent, corporate, family, community and operating foundations; public charities; professional or technical societies and academies of science or engineering; trade associations),
- Funds provided for medical and non-medical R&D, and R&D capital, and
- R&D funds provided to types of recipients (colleges and universities, hospitals, research institutes, professional or technical societies and academies of sciences, private foundations, science exhibitors, industrial consortia, academic consortia, agricultural cooperatives, industry, Federally Funded Research and Development Centers, other U.S. institutions, all types outside the U.S.).

Target population and sample frame

The overall target population for the survey was nonprofit organizations that fund or perform S&E R&D. In its 1973 study, NSF had used a $100,000 cutoff to determine which NPOs were eligible for the main data collection. Taking into account inflation over the intervening 25 years, NSF adopted a $250,000 cutoff for the current survey. An NPO was considered eligible for the main questionnaire if it reported spending $250,000 or more on R&D activities during 1996. Because there is no extant list of Nonprofit Organizations involved in S&E R&D activities, the first task for the new study was to compile a comprehensive list of potentially eligible NPOs. First, samples of potential performers and funders of S&E R&D were selected and sent a short screening questionnaire to determine their eligibility for the main study. NSF then tried to collect more detailed information from those NPOs that were, according to their screener responses, eligible for the main study. The screener was also used to determine whether each NPO was a "funder" or "performer." NPOs that both performed R&D in-house and funded R&D at other organizations received the performer questionnaire that also asked for extramural R&D funding.

Two frames were needed for the study, one consisting of possible *research funders* (independent nonprofit organizations funding S&E R&D) and the other consisting of possible *research performers* (independent nonprofit organizations conducting science and engineering research and/or development). Both frames were to exclude organizations already eligible for related NSF surveys, e.g., colleges and universities, industry, and government agencies. As in previous nonprofit R&D surveys conducted by NSF, the most serious problems were those generated by the lack of a

comprehensive mailing list, the dissimilarity among the types of organizations included within the sector, and shifts of organizations into and out of the sector. An additional problem arose from the complex relationships that exist between organizations within and outside the sector. Various types and degrees of affiliation and cooperation, especially in cases where research institutes maintained close working relationships with universities or hospitals, made it difficult to determine whether a particular organization should be considered independent or not.

For the nonprofit organizations that fund S&E R&D, NSF used a single source, the *Foundation Directory* published by the Foundation Center in New York. The *Foundation Directory* is compiled from a public-use Internal Revenue Service database. The sample of research funders was restricted to NPOs listed in the *Foundation Directory* of the Foundation Center (NY) with assets of at least $2 million or $50,000 in annual giving.

The sample of research performers was based on three lists of highly likely R&D performers plus two different samples from an Internal Revenue Service (IRS) public-use file of approximately 600,000 NPOs. These two IRS file samples were 1) a probability-proportional-to-size sample of likely R&D performers, i.e., those that had a National Taxonomy of Exempt Entities code that indicated an interest in science, engineering or technology, and 2) a probability-proportional-to-size sample of all other NPOs in the IRS file. The National Center for Charitable Statistics (NCCS) trimmed the IRS file to fewer than 185,000 NPOs after removing NPOs that had gross receipts of less than $25,000, and religious organizations. The sample was carefully designed with probability proportional to size and because of reliance on the largest NPO database in existence, coverage at the institutional level is believed to be at or close to 100 percent. There may be minor coverage problems for nonprofit organizations that were established just prior to the 1996 survey year. The three specialized lists were:

- respondents to a 1973 nonprofit R&D survey; members of the Association of Independent Research Institutes; and other large, well-known R&D performers;
- a Codebook that is used to identify recipients of Federal R&D funding for reporting to NSF's Survey of Federal Support to Universities, Colleges, and Nonprofit Institutions; and
- a list of teaching hospitals compiled by the Association of American Medical Colleges.

Data collection techniques and nonresponse adjustments

Screening questionnaires were sent to 9,112 NPOs (of an estimated survey universe of approximately 184,000 possible R&D performers and 2,000 possible R&D funders) to determine their eligibility for either of the two R&D questionnaires. Survey questionnaires were mailed in 1998 and 1999 to 1,131 organizations that had indicated on the screening form that they performed or funded R&D worth at least $250,000 in 1996. Through August 1999, NSF mailed follow-up questionnaires to nonrespondent organizations; from August through October 1999, NSF attempted to contact all nonrespondent organizations by telephone. During the course of the data-collection phase of the survey, 126 organizations that neither funded nor performed R&D were deleted from the survey universe. Thus, as of the closeout date of December 15, 1999, the sample comprised 1,005 organizations, including 722 performers and 283 funders.

Of these 1,005 organizations, 352 or 35 percent, returned usable replies. (During post-processing cleaning of the data, the 352 respondents were reduced to 343 respondents.) The final response rate for all NPOs (funders and performers) was 41 percent, adjusting for the nonrespondents that were assumed to be ineligible because they were out of business or could not be traced anywhere in the United States. The separate adjusted response rate for funders was almost 46 percent (110 usable responses) and for performers almost 40 percent (233 usable responses).

The sample was designed to have a representative sample of U.S. R&D-performing and R&D-funding nonprofit organizations. The 41-percent response rate was lower than anticipated and sampling error in individual data cells, especially the smaller cells, are quite high. The national estimates for total nonprofit R&D and major items, such as basic research, applied research and development, are presented with sufficient

reliability for use. Smaller data items are reported in tables so that readers may judge the large components in context but the standard errors for items below $1 billion are quite high, making comparisons of small cells in tables inadvisable.

Of the NPOs surveyed for 1996 and 1997, 59 percent did not respond, including 54 percent of the funders and 60 percent of the performers. Separate weighting for funders and performers was carried out in three stages to correct for unit nonresponse. The first stage compensated for the different selection probabilities for the different sample NPOs. The initial weight (W1) for a given NPO was simply the inverse of its probability of selection into the sample. In the second stage, this base weight was adjusted to compensate for different rates of nonresponse to the screening effort. This nonresponse adjustment was calculated as the inverse of the screener response rate within eight weighting cells; the adjusted weight (W2) was the product of the initial weight and the inverse of the response rate for that cell. The final weight incorporated an adjustment for nonresponse to the main survey.

The survey data were weighted to national estimates. The weights were calculated to reflect: (1) different selection probabilities for the different sample NPOs; (2) adjustments to compensate for different rates of nonresponse to the screening effort; and (3) adjustments for non-response to the main survey. Item nonresponse was addressed through logical and hot deck imputation.

In an attempt to complete all items, staff telephoned NPOs that left some data cells blank on their questionnaires. Then staff dealt with item nonresponse through logical and hot deck imputation. Staff identified all missing data that could be resolved logically and used hot deck imputation for the remaining cells.

Trend Data

The last survey of nonprofit organizations' R&D was for performers only. It collected FY 1973 data. Selected data from FY 1973 are reproduced in this report with the 1996 and 1997 data. Data users should read all technical notes and footnotes in the tables to understand how the 1973 coverage differs from that of the 1996 and 1997 survey.

SECTION D.
ANALYSIS BY SAMPLING STRATA OF NONPROFIT PERFORMERS' DATA

Analysis by Strata of Performers' Data

The S&E R&D performers in the Survey of R&D Funding & Performance by Nonprofit Organizations: 1996 and 1997 were sampled from five separate databases and each database was assigned a number 1 through 5. Other than the third strata, teaching hospitals, all strata had a mix of all types of nonprofit organizations. The strata results are presented below to help future researchers decide what are the best lists of nonprofit organizations and what list(s) should be used for the most efficient survey of nonprofit R&D performers. The strata in the 1996 and 1997 survey were:

Strata Description

1. 1973 survey respondents, members of the Association of Independent Research Institutes, and other large, well-known R&D performers included with certainty.
2. Non-academic nonprofit organization (NPO) recipients of Federal funding who were listed in the Codebook for the National Science Foundation's (NSF's) Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions. All respondents in Stratum 2 had received Federal funds at least once between 1974 and 1994.
3. Teaching hospitals listed by the Association of American Medical Colleges.
4. NPOs that were likely to perform R&D because of their National Taxonomy of Exempt Entities (NTEE) codes. Stratum 4 was composed of NPOs that filed Internal Revenue Form 990 and were in the same NTEE codes as the Stratum 2 S&E R&D performers. This indicated that the NPOs were likely to perform R&D.
5. NPOs that were selected from the remaining NPOs that filed Internal Revenue Service Form 990.

All NPOs in Strata 1 and 2 were included with certainty if and when the survey contractor was able to obtain current addresses for them. (Some NPOs on the lists were out of business or could not be traced anywhere in the United States.)

The survey contractor used probability proportional to size in Strata 3, 4, and 5 to select a sample. Only large NPOs were likely to be selected in the samples. Many NPOs were on multiple lists and received multiple survey forms. In most cases NPOs were assigned to the particular stratum for which the NPO returned the coded survey form.

R&D Reported by Stratum

Stratum 1 accounted for 41 percent and Stratum 2 accounted for 36 percent of the 1997 R&D reported in the survey. Thus, the first two strata accounted for almost 77 percent of the survey's R&D. The last three strata required considerable survey work and follow-up yet they accounted for only 23 percent of the total R&D. Stratum 3, teaching hospitals, reported 3 percent of the R&D. The contractor had a particularly difficult time identifying a knowledgeable person within hospitals, reaching him/her by telephone, and obtaining the hospitals' participation in the survey. (Hospitals, hospital-like NPOs or hospital-affiliated NPOs were represented in all strata of the survey sample.) Strata 4 and 5, which required much survey effort since many of the sampled organizations were unfamiliar with NSF and with research and development, contributed only 17 and 4 percent, respectively, to the R&D totals. These results suggest that future R&D surveys of nonprofit organizations might focus on the first two or three strata for the most efficient use of resources.

Strata and Amounts of Federal Funding

The Federal Government provided half of all R&D funds used by the nonprofit organizations in 1997. There was considerable variance among the nonprofits from the five sample lists in the percentage of their R&D that was federally funded. NPOs in Strata 4 and 3 reported the lowest levels of Federal funding:

Percent of NPOs' intramural R&D performance funds provided by Federal Government in 1997

Strata	Percent
Total, all strata	50
1. 1973 respondents + Certainty	63
2. Federal funds recipients	53
3. Teaching Hospitals	34
4. NTEE targeted codes	17
5. Sample of remaining NPOs	55

Tables D-1 and D-2 provide R&D expenditure totals for each sampling strata, distributed by broad source of funding (Federal and non-Federal) and character of work (basic research, applied research, and development). Tables D-3 and D-4 provide R&D expenditure totals for each sampling strata, distributed by detailed source of funding.

Number of Respondents Receiving Federal Funds

One hundred and ninety-nine of the 233 respondents reported receiving Federal funds in either 1996 or 1997. This is 85 percent of the 233 respondents.

One hundred and ninety-six received Federal funds in both years. One received Federal funds in 1996 but not in 1997; two received Federal funds in 1997 but not in 1996.

Several large NPOs did not receive any Federal funds for R&D in either year. If NSF only collected R&D data from NPOs that received Federal funds, as listed in the Codebook for the NSF Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, NSF would have missed these four major performers of more than $10 million a year each:

Howard Hughes Medical Institute
Summer Institute of Linguistics
The Conference Board
Samuel Roberts Noble Foundation

All but the Summer Institute of Linguistics were included in the 1973 survey and were in Stratum 1. If the 1996 and 1997 survey had been limited to the first two strata, three of the four large NPOs that did not use Federal funds would have been included in the survey.

Fifteen additional NPO respondents performed over $1 million a year in R&D but did not receive any Federal funds. These 15 NPOs and their R&D would have been missed if the survey sample had been drawn only from Stratum 2, organizations listed in the NSF's Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions.

Types of Organizations among Strata

Survey respondents were asked to classify themselves into one of the nine following types of organizations: research institutes; university-affiliated hospitals; other voluntary non-profit hospitals; professional or technical societies or academies of science and/or engineering; private foundations; science exhibitors; trade associations, industrial consortia; or academic consortia.

Stratum 1 had seven types of organizations; Stratum 2 had all nine types; Stratum 3 had three types; Stratum 4 had four types and Stratum 5 had two types. All nine types of organizations were included in the first two strata.

Fields of Science and Engineering by Strata

All five strata reported the majority of their 1996 and 1997 R&D being performed in the life sciences, which include medical and health sciences, biological sciences and—to a small degree—agricultural sciences (tables D-5 and D-6).

In 1997, NPOs in Stratum 5 (sample of remaining NPOs) reported that they budgeted 99 percent of their R&D for medical and health sciences; NPOs in Stratum 3 (teaching hospitals) used almost 98 percent for medical and health sciences while NPOs in Stratum 4 (targeted NTEE codes) used 73 percent. NPOs in Stratum 1 used 52 percent of their funds for medical and health science and NPOs in Stratum 2 (recipients of funds from various Federal agencies) used 56 percent for medical and health sciences R&D. Strata 1, 2 and 4 spent additional funds on R&D in the biological sciences.

In 1997, NPOs in Stratum 4 (targeted NTEE codes) used almost 11 percent of R&D funds for environmental and earth sciences R&D while NPOs in Strata 1 and 2 spent considerable funds on engineering, social sciences, mathematical and computer sciences, and physical sciences R&D.

Extramural R&D Funding by Strata

Respondents in all 5 strata reported they funded extramural R&D in both 1996 and 1997. Stratum 1 (1973 respondents, Association of Independent Research Institute members, and certainty NPOs) funded $722 million in extramural R&D in 1997 while Stratum 2 (Federal funding recipients) provided $660 million. This could represent a considerable figure of "pass through funds" from the Federal Government to subcontractors (table D-7).

D. List of Tables

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Analysis by Sampling Strata of Nonprofit Performers' Data

Research and Development by Source of Funds

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D-5. Intramural R&D performance by nonprofit organizations, by field of science and engineering and sampling strata: fiscal year 1996 61

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Extramural and Intramural Research and Development

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Table D-1. **Intramural R&D performance by nonprofit organizations, by Federal and non-Federal sources of funds, character of work and sampling strata: fiscal year 1996**

Character of work	N	Sampling strata					
		All	1	2	3	4	5
			1973 + certainty	FSS	Teaching hospitals	NTEE 68-targeted R&D[1]	Other PPS
		233	72	128	5	22	6
		[In millions of dollars]					
Total research & development		7,063	2,860	2,484	179	1,163	377
Federal funds		3,740	1,791	1,392	64	207	286
Non-Federal funds		3,323	1,068	1,092	116	956	91
Basic research		3,926	1,817	1,051	61	736	261
Federal funds		2,041	1,093	625	23	52	248
Non-Federal funds		1,885	724	426	38	684	13
Applied research		2,059	786	746	85	354	88
Federal funds		1,164	521	467	27	115	34
Non-Federal funds		895	265	279	58	239	54
Development		1,079	257	688	34	73	28
Federal funds		536	177	300	14	39	5
Non-Federal funds		544	79	387	20	34	23

[1] Includes one performer that was originally on the NPO funder list, i.e., stratum 6.

KEY: FSS = Listed in the Code Book of the NSF survey of Federal Support to Universities, Colleges, and Nonprofit Institutions
NTEE = National Taxonomy of Exempt Entities codes
Other PPS = Other nonprofit organizations from IRS list that were sampled by probability proportional to size of gross annual expenditures
N = Number of survey respondents
NPO = Nonprofit organization

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table D-2. **Intramural R&D performance by nonprofit organizations, by Federal and non-Federal sources of funds, character of work and sampling strata: fiscal year 1997**

Character of work	N	Sampling strata					
		All	1	2	3	4	5
			1973 + certainty	FSS	Teaching hospitals	NTEE 68-targeted R&D[1]	Other PPS
		233	72	128	5	22	6
		[In millions of dollars]					
Total research & development....		7,349	2,984	2,634	206	1,253	272
Federal funds.....		3,709	1,888	1,391	71	210	149
Non-Federal funds.....		3,640	1,096	1,243	135	1,043	123
Basic research.....		4,004	1,888	1,110	70	798	137
Federal funds.....		2,049	1,164	691	27	56	112
Non-Federal funds.....		1,954	724	420	43	742	25
Applied research.....		2,202	833	803	98	366	102
Federal funds.....		1,207	548	488	29	111	32
Non-Federal funds.....		995	286	315	69	255	69
Development.....		1,143	262	721	39	89	33
Federal funds.....		452	176	213	15	43	5
Non-Federal funds.....		691	86	508	23	45	28

[1] Includes one performer that was originally on the NPO funder list, i.e., stratum 6.

KEY: FSS = Listed in the Code Book of the NSF survey of Federal Support to Universities, Colleges, and Nonprofit Institutions
NTEE = National Taxonomy of Exempt Entities codes
Other PPS = Other nonprofit organizations from IRS list that were sampled by probability proportional to size of gross annual expenditures
N = Number of survey respondents
NPO = Nonprofit organization

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table D-3. **Intramural R&D performance by nonprofit organizations, by sources of funds and sampling strata: fiscal year 1996**

Number	Strata	Total	Federal Government	State and local governments	Nonprofit organizations	Universities & colleges	Industry	Other sources
	Description	[In millions of dollars]						
	Total, all strata	7,063	3,740	148	376	45	740	2,014
1	1973 respondents & certainty NPOs	2,860	1,791	57	170	9	290	542
2	Federal funding recipients (FSS)	2,484	1,392	78	128	25	240	622
3	Teaching hospitals	179	64	7	1	--	24	84
4	NPOs targeted for R&D by 68 NTEE codes[1]	1,163	207	1	61	10	160	724
5	Other PPS	377	286	5	17	1	26	42

[1] Includes one performer that was originally on the NPO funder list, i.e., stratum 6.

KEY: -- = Less than $0.5 million
NPO = Nonprofit organization
FSS = Listed in the Code Book of the NSF survey of Federal Support to Universities, Colleges, and Nonprofit Institutions
NTEE = National Taxonomy of Exempt Entities codes
Other PPS = Other nonprofit organizations from IRS list that were sampled by probability proportional to size of gross annual expenditures

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table D-4. **Intramural R&D performance by nonprofit organizations, by sources of funds and sampling strata: fiscal year 1997**

Number	Strata	Total	Federal Government	State and local governments	Nonprofit organizations	Universities & colleges	Industry	Other sources
	Description	[In millions of dollars]						
	Total, all strata	7,349	3,709	173	411	48	823	2,185
1	1973 respondents & certainty NPOs	2,984	1,888	72	171	9	315	529
2	Federal funding recipients (FSS)	2,634	1,391	86	125	27	274	731
3	Teaching hospitals	206	71	9	1	--	33	93
4	NPOs targeted for R&D by 68 NTEE codes[1]	1,253	210	1	94	8	151	788
5	Other PPS	272	149	5	21	3	51	44

[1] Includes one performer that was originally on the NPO funder list, i.e., stratum 6.

KEY: -- = Less than $0.5 million
NPO = Nonprofit organization
FSS = Listed in the Code Book of the NSF survey of Federal Support to Universities, Colleges, and Nonprofit Institutions
NTEE = National Taxonomy of Exempt Entities codes
Other PPS = Other nonprofit organizations from IRS list that were sampled by probability proportional to size of gross annual expenditures

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table D-5. **Intramural R&D performance by nonprofit organizations, by field of science & engineering and sampling strata: fiscal year 1996**

Number	Strata Description	Fields of science and engineering										
		Total	Life sciences			Psychology	Environmental/ earth sciences	Physical sciences	Mathematics & computer sciences	Engineering	Social sciences	Other sciences
			Biological sciences	Agricultural sciences	Medical & health sciences							
		[In millions of dollars]										
	Total, all strata	7,063	805	22	4,257	61	242	229	240	491	294	423
1	1973 respondents & certainty NPOs	2,860	514	18	1,505	38	53	101	165	216	209	40
2	Federal funding recipients (FSS)	2,484	131	3	1,359	23	44	125	74	269	74	384
3	Teaching hospitals	179	0	0	174	0	0	0	--	5	0	0
4	NPOs targeted for R&D by 68 NTEE codes[1]	1,163	159	0	846	0	145	3	--	1	8	0
5	Other PPS	377	0	0	374	--	0	0	0	0	3	0

[1] Includes one performer that was originally on the NPO funder list, i.e., stratum 6.

KEY: -- = Less than $0.5 million

NPO = Nonprofit organization

FSS = Listed in the Code Book of the NSF survey of Federal Support to Universities, Colleges, and Nonprofit Institutions

NTEE = National Taxonomy of Exempt Entities codes

Other PPS = Other nonprofit organizations from IRS list that were sampled by probability proportional to size of gross annual expenditures

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table D-6. **Intramural R&D performance by nonprofit organizations, by field of science & engineering and sampling strata: fiscal year 1997**

Number	Strata: Description	Fields of science and engineering: Total	Life sciences: Biological sciences	Life sciences: Agricultural sciences	Life sciences: Medical & health sciences	Psychology	Environmental/ earth sciences	Physical sciences	Mathematics & computer sciences	Engineering	Social sciences	Other sciences
		[In millions of dollars]										
	Total, all strata	7,349	854	22	4,413	70	232	255	269	490	325	419
1	1973 respondents & certainty NPOs	2,984	534	19	1,565	43	51	101	193	201	233	46
2	Federal funding recipients (FSS)	2,634	130	4	1,466	26	48	151	75	283	80	373
3	Teaching hospitals	206	0	0	201	0	0	0	--	5	0	0
4	NPOs targeted for R&D by 68 NTEE codes[1]	1,253	190	0	913	0	134	4	1	2	9	0
5	Other PPS	272	0	0	269	1	0	0	0	0	3	0

[1] Includes one performer that was originally on the NPO funder list, i.e., stratum 6.

KEY: -- = Less than $0.5 million
NPO = Nonprofit organization
FSS = Listed in the Code Book of the NSF survey of Federal Support to Universities, Colleges, and Nonprofit Institutions
NTEE = National Taxonomy of Exempt Entities codes
Other PPS = Other nonprofit organizations from IRS list that were sampled by probability proportional to size of gross annual expenditures

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

Table D-7. **Extramural R&D funding by nonprofit R&D performers, by sampling strata: fiscal years 1996 and 1997**

Number	Strata	1996 and 1997	Number of NPOs reporting extramural funding		Funding of extramural R&D	
	Description		1996	1997	1996	1997
		N			[In millions of dollars]	
	Total, all strata	233	133	137	1,324	1,494
1	1973 respondents & certainty NPOs	72	50	54	617	722
2	Federal funding recipients (FSS)	128	72	71	619	660
3	Teaching hospitals	5	2	3	25	24
4	NPOs targeted for R&D by 68 NTEE codes[1]	22	6	6	47	60
5	Other PPS	6	3	3	16	28

[1] Includes one performer that was originally on the NPO funder list, i.e., stratum 6.

KEY: N = Number of survey respondents
NPO = Nonprofit organization
FSS = Listed in the Code Book of the NSF survey of Federal Support to Universities, Colleges, and Nonprofit Institutions
NTEE = National Taxonomy of Exempt Entities codes
Other PPS = Other nonprofit organizations from IRS list that were sampled by probability proportional to size of gross annual expenditures

NOTES: Because of rounding, detail may not add to totals.
Extramural R&D funding includes all R&D contracts, subcontracts, all costs of R&D the NPOs contracted out or passed through to subrecipients, and R&D conducted by others outside the NPOs with funds distributed through or by the NPOs.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of R&D Funding & Performance by Nonprofit Organizations, 1996 and 1997.

SECTION E.
SURVEY MATERIALS

E. List of appendices

Survey Forms

Appendix 1. Paper Screener Questionnaire

Appendix 2. Performer Questionnaire

Appendix 3. Funder Questionnaire

Appendix 1: Paper Screener Questionnaire

Screening Questions for the Survey of 1996 and 1997 Research and Development Funding and Performance by Nonprofit Organizations

National Science Foundation

Nonprofit organizations play a key role in conducting and funding important research in the medical and health-related sciences, natural and social sciences, and engineering. The National Science Foundation is seeking your help in understanding the work of the nonprofit sector by asking you to complete this questionnaire on research and development activities undertaken by your organization.

This information is solicited under the authority of the National Science Foundation Act of 1950, as amended. Your response is entirely voluntary and your failure to provide some or all of the information will not adversely affect your organization.

Please write any address corrections on or alongside the label.

EIN: Organization EIN
Name of Organization
Address of Organization

Name of person completing this questionnaire_____

Title_____

Telephone Number _____E-mail Address _____@_____

Organization (if different from above)_____

Address (of new organization)_____

_____

If your organization is different from the organization listed on the label, what is the relationship between the two organizations? _____

_____

Completing this survey requires an average of 12 minutes. If you wish to comment on this burden, please contact Suzanne H. Plimpton, Reports Clearance Officer, NSF, at 703-306-1125, or email splimpto@nsf.gov.
Please return the completed survey by March 31, 1999 to:

NSF Study of Nonprofits
The Gallup Organization Survey Processing Center
PO Box 5700
Lincoln, NE 68505-9926

If you have any questions or comments about the survey, please contact Dr. Barbara Wells of The Gallup Organization at 1-888-558-5776 *(NSF@gallup.com)*.

General Instructions

Please refer to the following definitions when responding to survey questions, even if your organization may use a different definition.

- ***Research*** is systematic study directed toward fuller knowledge or understanding of the subject studied. Research is classified as either basic or applied, according to the objectives of the investigator.

- ***Development*** is systematic use of the knowledge or understanding gained from research, directed toward the production of useful materials, devices, systems, or methods, including design and development of prototypes and processes.

- ***Research and development*** includes the development and use of scientific knowledge through fundamental research in the laboratory, in the field, or through experiments; clinical investigations; clinical trials; epidemiological, engineering, and demographic studies; and controlled pilot projects. Included in this definition is the preparation for publication of books and papers describing the results of the specific research and development, if carried out as an integral part of that research and development. Also included is the administration of research and development. Traineeships, if they are mainly directed to R&D, are also included.

Science and Engineering (S&E) includes:

- ***Medical or Health-Related Sciences*** including Biochemistry, Genetics, Physiology, Cell Biology/Molecular Biology, Pharmacology/Toxicology, Epidemiology, Health Care Sciences and Services, Reproduction, Growth and Development, Oncology/Pathology/Hematology, Immunology, Microbiology/Virology, Biomedical Engineering and Instrumentation, Neuroscience, Clinical Medicine, and other medical or health sciences.

- ***Natural and Social Sciences*** including Agricultural Sciences, Biological Sciences (non-medical), Computer Sciences, Environmental Sciences, Mathematical Sciences, Physical Sciences, Psychology, and Social Sciences.

- ***Engineering*** including Aeronautical and Astronautical, Chemical, Civil, Electrical, Mechanical, Metallurgical and Materials, and other engineering fields.

Science and engineering ***do not*** include law, business administration/management science, humanities, history (except research in history and philosophy of science and technology), the arts, or education (except educational psychology).

Scannable Form—This questionnaire is a scannable form. Please follow the steps below carefully when completing this questionnaire.

- Use a blue or black ink pen only.
- Do not use ink that soaks through the paper.
- Make solid marks that fall inside the response boxes.
- For each question, please choose only ONE answer.

1. Your Organization

Is your organization a nonprofit organization? (By nonprofit, we mean an organization classified as 501(c) by the Internal Revenue Service, filing a 990 or a 990-PF tax return form.)

___ Yes ___ No

2. Research Performance

In fiscal year 1996, did your organization ***conduct*** any research or development in the science, engineering, or technology fields?

Science, engineering and technology fields include: Social Sciences, Psychology, Medical and Health Sciences, Biological Sciences, Engineering, Physical Sciences, Environmental Sciences, Mathematical Sciences, Computer Sciences, and Agricultural Sciences.

___ Yes ***(Continue with Question 2a)*** ___ No ***(Skip to Question 3)***

2a. Approximately how much research or development in the science, engineering or technology fields did your organization ***perform*** in fiscal year 1996? *(Consider total costs, including both direct and indirect costs in both internally and externally funded research or development.)*

___ Less than $50,000
___ $50,000 - $249,999
___ $250,000 - $999,999
___ $1,000,000 - $4,999,999
___ $5,000,000 - $24,999,999
___ $25 million or more

3. Research and Development Funding

In fiscal year 1996, did your organization ***fund*** other organizations to conduct research or development in the science, engineering, or technology fields?

Science, engineering, and technology fields include: Social Sciences, Psychology, Medical and Health Sciences, Biological Sciences, Engineering, Physical Sciences, Environmental Sciences, Mathematical Sciences, Computer Sciences, and Agricultural Sciences.

___ Yes ***(Continue with Question 3a)*** ___ No ***(Skip to NOTE below Question 3a)***

3a. Approximately how much research or development in the science, engineering or technology fields did your organization ***fund*** to other organizations in fiscal year 1996?

___ Less than $50,000
___ $50,000 - $249,999
___ $250,000 - $999,999
___ $1,000,000 - $4,999,999
___ $5,000,000 - $24,999,999
___ $25 million or more

NOTE: *If you answered "No" to Question 2* ***and*** *Question 3, you need not answer any more questions. Please return this questionnaire in the enclosed postage paid envelope. Thank you.*

Others, please continue.

4. University Affiliation

Did your organization have an agreement of affiliation with any college or university in fiscal year 1996?

___ Yes *(Continue with Question 4a)* ___ No *(Skip to Question 5)*

4a. Did the college or university include the activities of your organization as part of its budget in fiscal year 1996?

___ Yes ___ No ___ Don't Know

5. Government Affiliation

Is your organization a unit of the Federal, regional, state, county, city, or local government?

___ Yes ___ No

5a. Is your organization part of a public college or public university?

___ Yes ___ No

6. Survey Coordinator

The NSF has contracted with The Gallup Organization to develop an estimate of the amount of research and development in science and engineering funded or performed by nonprofit organizations. We would like to send your organization a survey which will ask for more detailed data on the funds your organization spends on science and engineering research or development.

Please fill in the information requested below identifying the best-qualified person in your organization to provide us with this information. *If this person is located at a different organization or address from what is listed on the front of this survey, please provide that organization's name and correct address.*

Name_____

Title_____

Name of Organization _____

Address _____

_____

Telephone Number_____

Fax Number_____

E-mail Address_____@_____

Thank you for providing us with preliminary information and a contact for your organization. Please return this form within the next four weeks in the enclosed postage paid envelope to NSF Survey of Nonprofit Organizations, The Gallup Organization Survey Processing Center, PO Box 5700, Lincoln NE 68505-9926.

Appendix 2: Performer Questionnaire

Survey of 1996 and 1997 Research and Development Performance by Nonprofit Organizations

NATIONAL SCIENCE FOUNDATION (NSF)

Nonprofit organizations play a key role in conducting important research in the medical and health-related sciences, natural and social sciences, and engineering. The National Science Foundation is seeking your help in understanding the work of the nonprofit sector by asking you to complete this questionnaire on the science and engineering research and development activities undertaken by your organization.
This information is solicited under the authority of the National Science Foundation Act of 1950, as amended. Your response is entirely voluntary and your failure to provide some or all of the information will not adversely affect your organization. Information received from individual organizations may be published in NSF reports.
Please write any corrections in the space next to the address.

If anyone other than the person listed above completes all or part of this survey, please ask each respondent to fill in the requested information in Question 8, page 11.
It is estimated that response to this survey will require three hours. If you wish to comment on this burden, please contact Suzanne H. Plimpton, Reports Clearance Officer, NSF, at 703-306-1125, or email splimpto@nsf.gov.
Please return the completed survey by July 30, 1999 to:

NSF Survey of Nonprofits
The Gallup Organization Survey Processing Center
P.O. Box 5700
Lincoln, NE 68505-9926

If you have any questions or comments about the survey, please contact Barbara Wells of The Gallup Organization at 1-888-558-5776 or NSF@gallup.com.

General Instructions

WHAT TO INCLUDE

- Please report for the entire organization, including any branches, divisions and departments that are not separately incorporated. If your organization has offices and facilities in the United States in addition to those at the address listed on *the cover of the booklet*, please indicate the names and addresses of each of these facilities in the Comments and Feedback section on page 12.

- The survey covers your fiscal years ending in 1996 and 1997.

- If exact data are not available, please give the best estimate.

- Enter "0" as an item total rather than leave an item blank.

GLOSSARY OF TERMS

Refer to the Glossary on pages 13-14 for detailed definitions of research and development and science and engineering and a list of Federally Funded Research and Development Centers (FFRDC).

QUESTIONS

If you have any questions or comments about the survey, please contact Barbara Wells of The Gallup Organization at 1-888-558-5776 or NSF@gallup.com.

RETURNING THE COMPLETED SURVEY

Return this survey by **July 30, 1999** in the enclosed pre-paid envelope or mail directly to:

NSF Survey of Nonprofit Organizations
The Gallup Organization Survey Processing Center
P.O. Box 5700
Lincoln, NE 68505-9926

SCANNABLE FORM

This questionnaire is a scannable form. Please mark your responses with an "x" using a blue or black pen as in the example below.

ELECTRONIC VERSION (WORLD WIDE WEB)

This questionnaire is available in an electronic form. The web address for the electronic version of the questionnaire is http://nsfperformer.gallup.com and is available using most browsers including Netscape and Internet Explorer. Your password and the nonprofit organization's EIN is printed on the front cover of the paper questionnaire.

1. Type of Organization

Please MARK ONE BOX next to the item that most closely describes your organization's function **in 1996**. If your organization fits into more than one category, please select the one that *best* describes your organization's primary function.

- ☐ **Research institute, including medical research organizations**— A separately incorporated, independent, nonprofit organization operating under the direction of its own controlling body. It performs research and development in engineering, and in the medical, health, natural, and social sciences (including policy analysis).
- ☐ **University-affiliated hospital**—A member of the American Hospital Association which operates as an integral part of an institution of higher education. Hospitals, which have been set up by research institutes and which function primarily as laboratories for the research institutes should be considered research institutes.
- ☐ **Other voluntary nonprofit hospital**—A member of the American Hospital Association not subject to the control of either federal, state, or local governments, nor an integral part of any institution of higher education. Hospitals, which have been set up by research institutes and which, while providing patient care, function primarily as laboratories for the research institutes should be considered research institutes.
- ☐ **Professional or technical society, or academy of science and/or engineering**—A voluntary association of individuals sharing a common interest in the advancement of knowledge, either within a single field or across a broad spectrum of disciplines. The major function of these organizations is to aid and encourage the collection, collation, and dissemination of scientific knowledge for the benefit of their members and the scientific community as a whole.
- ☐ **Private foundation**—A nongovernmental, nonprofit organization having a principal fund of its own, managed by its own trustees or directors, and established to maintain or to aid activities serving the common welfare. This organizational type includes operating foundations that allocate the greater proportion of their R&D budgets to intramural performance, and philanthropic foundations that allocate most of their funds to grants and contracts for research to be performed extramurally.
- ☐ **Science exhibitor**—A nonprofit organization which has as its primary goal the expansion of scientific and technologies literacy within its community by providing exhibits that display and interpret the latest scientific and technological advances within its field or fields. Included in this category are museums, zoological parks, botanical gardens, and arboreta.
- ☐ **Trade association**—An organization of business competitors in a specific industry or business, primarily interested in the commercial promotion of products or services. Membership is usually held in the name of a business entity. Its activities may fall into one or more of the following areas: business ethics, management practices, standardization, commercial (i.e., statistical) research, publication, promotion, and public relations.
- ☐ **Industrial consortium**—A not-for-profit research joint venture conducting science and engineering research and development.
- ☐ **Academic consortium**—An academically administered not-for-profit research joint venture conducting science and engineering research and development.
- ☐ **Agricultural cooperative**—An organization of individuals or business entities nominally competitors, engaged in the production and sale of agricultural products. Its activities may include one or more of the following areas: collective marketing or purchasing, research and development, public relations, and the improvement of the economic condition of the farm population of the United States.

Federally Funded Research and Development Center (FFRDC)— One of the specific organizations that was established to meet the particular research and development needs of a Federal agency. See list on last page of the Glossary, page 14.

2. *Total Intramural Science and Engineering Research and Development Expenditures for Fiscal Years 1996 and 1997*

Complete the grid below with your organization's total intramural science and engineering (S&E) research and development (R&D) expenditures for fiscal years 1996 and 1997. Please categorize your organization's expenditures as basic research, applied research, or development funds for each fiscal year. If your records do not yield exact figures on amounts expended for each of the three categories, please provide your best estimates.

TIPS:

- **Basic research** is directed toward an increase of knowledge; the primary aim of the investigator is a fuller knowledge or understanding of the subject under study rather than a specific application thereof.
- **Applied research** is directed toward the practical application of knowledge. The definition of applied research differs from the definition of basic research chiefly in terms of the objectives of the investigator.
- **Development** is the systematic use of knowledge or understanding gained from research directed toward the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes. It does not include quality control or routine product testing.
- **Intramural S&E R&D Expenditures** include all direct and indirect operating costs incurred for S&E R&D performance conducted internally by people who do research at your organization.

Include:

- ✓ cost of research and development performed by scientists and engineers doing research at your organization, whether in the United States or abroad
- ✓ independent research and development, classified research and development, and all indirect costs for research and development
- ✓ If your organization performed research and development for others on contract, *include* the total your organization charged for the work performed in the year covered by survey

Exclude:

- ✗ grants and fellowships, traineeships, and other assistantships awarded by your organization
- ✗ the gathering of general-purpose data, and activities concerned primarily with the dissemination of scientific information
- ✗ all research and development contracts and subcontracts
- ✗ extramural S&E R&D expenditures including all costs of all R&D your organization contracted out or passed through to subrecipients, and research conducted by others outside your organization with funds distributed through or by your organization.

Intramural S&E R&D expenditures		**FY 1996**		**FY 1997**
1. Amount used for basic research.....	$		$	
2. Amount used for applied research.....	$		$	
3. Amount used for development.....	$		$	
Total intramural S&E R&D expenditures (sum of rows 1, 2, and 3).....	$		$	

3. *Total Extramural Science and Engineering Research and Development Expenditures for Fiscal Years 1996 and 1997*

Please fill in the grid below with your organization's total extramural science and engineering (S&E) research and development (R&D) expenditures for fiscal years 1996 and 1997. If your records do not yield exact figures on amounts expended, please provide your best estimates.

TIPS

- **Extramural S&E R&D expenditures** include all research and development contracts, subcontracts, all costs of R&D your organization contracted out or passed through to sub-recipients, and research conducted by others outside your organization with funds distributed through or by your organization.

	FY 1996	FY 1997
Extramural S&E R&D expenditures	$	$

4. *Sources of Funds for Intramural Science and Engineering Research and Development Expenditures, and Research and Development Categories*

Please fill in the grid below with your organization's sources of funds for intramural science and engineering (S&E) research and development (R&D) expenditures for fiscal years 1996 and 1997.

TIPS

- **Source of funds** refers to the ultimate source rather than immediate source of funds concerned. For example, if your organization is working as a subcontractor to a prime contractor and the prime contract is with the federal government, you should list *federal government* as the source of funds.
- In considering funds, exclude the amounts of R&D contracted out by your organization to be performed by other organizations.
- **Federal government** includes all federal grants and contracts that the agencies awarded specifically for research and development.
- **State** and **local governments** include all grants and contracts these government officials awarded specifically for R&D.
- **Nonprofit organizations** include all grants and contracts from any nonprofit organizations, including foundations, public charities, and professional associations. (Include all funds used for R&D whether or not the source has awarded them specifically for R&D.) Funds from foundations that are affiliated with or grant solely to your organization should be included under *Other sources, including your organization's own funds*. Funds specifically designated for R&D and derived from a health agency that is a unit of a state or local government should be reported under *state* and *local government*.
- **Universities and colleges** include all grants and contracts from colleges and universities awarded specifically for research and development.
- **Industry** includes all grants and contracts which profit-making organizations awarded specifically for R&D. Do not include grants and contracts from nonprofit foundations financed by industry; these should be reported under *nonprofit organizations*.
- **Other sources, including organization's own funds** should include any additional funds received from outside sources other than those already noted. Examples include gifts, grants, or contracts received from private individuals and all foreign sources. Organization's own funds include earnings from investments, disbursements from capital, membership dues and assessments, liquidation of assets, unrestricted funds from all sources except other nonprofit organizations, and earnings from miscellaneous sources such as publication sales, admissions, advertising, etc. Include independent R&D.

Sources of Funds

	FY 1996	FY 1997
a. Federal government, Total	$	$
a1. Federal funds used for basic research	$	$
a2. Federal funds used for applied research	$	$
a3. Federal funds used for development	$	$
b. State and local governments	$	$
c. Nonprofit organizations	$	$
d. Universities and colleges	$	$
e. Industry	$	$
f. Other sources, including your organization's own funds	$	$
Total Sources of Funds (Sum of rows a-f)	$	$

Data Check: Total Sources = Total in Question 2

5. Expenditures for Intramural Science and Engineering Research and Development by Field of Science and Engineering

Please fill in the grid on the following page with your organization's total expenditures for intramural research and development by field of science and engineering for fiscal years 1996 and 1997.

TIPS

Interdisciplinary research should be categorized by individual research project according to the nature of the research performed. When individual projects encompass multiple fields, estimate and report that portion of the expenditures that can be assigned to each discipline involved.

Include:

- ✓ all expenditures for science and engineering R&D by field
- ✓ all expenditures derived from outside sources and your organization's own funds
- ✓ all contracts, grants, gifts, endowments (income or principal), State and local government appropriations, or other sources, provided the funds were separately budgeted for R&D and were expended during the fiscal years 1996 and 1997
- ✓ any indirect costs reimbursed or reimbursable by outside sponsors of R&D projects

Exclude:

- × research and development expenditures in the field of Education
- × expenditures by contractors, subcontractors, or subrecipients

Definitions of Fields

a. ***Biological (nonmedical) Sciences*** include Biotechnology, Botany, Ecology, Biostatistics, Zoology, etc.

b. ***Agricultural Sciences include*** Aquaculture, Plant Science, Soil Science, Renewable Natural Resources, Landscape Architecture, Horticulture, etc.

c. ***Medical and Health-Related Sciences*** include Biochemistry, Genetics, Physiology, Cell Biology/Molecular Biology, Pharmacology, Toxicology, Epidemiology, Health Care Sciences and Services, Reproduction, Growth and Development, Oncology, Pathology, Hematology, Immunology, Microbiology, Virology, Biomedical Engineering and Instrumentation, Neuroscience, Clinical Medicine, and other medical or health-related sciences.

d. ***Psychology*** includes General Psychology, Clinical Psychology, School Psychology, Art Therapy, Animal Behavior, Educational Psychology, Experimental Psychology, Human Development and Personality, and Social Psychology.

e. ***Environmental/Earth Sciences*** include Atmospheric Sciences, Meteorology, Geology, Paleontology, Seismology, and Oceanography.

f. ***Physical Sciences*** include Astronomy, Astrophysics, Chemistry, Physics, and Physical Sciences, etc.

g. ***Mathematics and Computer Sciences***

h. ***Engineering*** includes Aeronautical, Astronautical, Chemical, Civil, Electrical, Mechanical, Metallurgical and Materials, and other engineering fields.

i. ***Social Sciences*** include Anthropology, Archaeology, Economics, Political Science, Sociology, and other social sciences **excluding Education**.

j. ***Other Sciences*** (excluding Education) not elsewhere classified.

Expenditures for Intramural S&E R&D by Field of Science and Engineering

Field of Science & Engineering	FY 1996 Expenditures	FY 1997 Expenditures
6. Biological (nonmedical) Sciences		
B. Agricultural Sciences		
C. Medical and Health-Related Sciences		
D. Psychology		
E. Environmental/Earth Sciences		
F. Physical Sciences (Astronomy, Astrophysics, Chemistry, Physics, etc.)		
F. Mathematics and Computer Sciences		
G. Engineering		
H. Social Sciences		
I. Other Sciences, not elsewhere classified		
TOTAL INTRAMURAL SCIENCE AND ENGINEERING Research and Development Expenditures		

7. *Top Three Major States and Their Intramural Science and Engineering Research and Development Expenditure.*

In what three states did your organization perform the *largest* amounts of S&E R&D in fiscal years 1996 and 1997? This includes intramural S&E R&D expenditures for your main office as well as any site offices.

TIPS

- Your organization's **main office or headquarters** is the corporate headquarters for your organization. If you operate in only one location, all of your intramural R&D expenditures will be in the state housing that location. If you have multiple sites in the same state, combine activities within that state.
- **Site offices** are other locations managed by your organization in which your organization conducts R&D activities (ignore site offices in which no R&D occurs). These could be field sites, experiment stations, data collection facilities, or sites for experimental or laboratory equipment. Exclude sites managed by subcontractors or subrecipients.
- For example, your organization may be conducting a clinical trial in multiple states but the data collection is managed from a site office in Texas. If so, the field expenses for the clinical trial should all be attributed to Texas, even though they occur in multiple states.

	Name of State	Amount of S&E R&D
FY 1996	1.	$
	2.	$
	3.	$

	Name of State	Amount of S&E R&D
FY 1997	1.	$
	2.	$
	3.	$

7. Researchers at Your Organization

How many S&E R&D full-time equivalents (FTE's) were compensated by your organization as of March 1996 and March 1997?

TIPS

Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods, and systems, and in the management of the projects concerned.

- Include visiting researchers and graduate students if your organization compensates them directly.
- Include people compensated by your organization in the United States and in foreign countries.

Full-time equivalents (FTE's) represent the sum of all individuals with full- and part-time commitments to research and development or other activities. For example, if two physicians spend half of their time in direct patient care and half of their time on research and development, together they represent one FTE scientist engaged primarily in research and development.

Year	*Number of FTE researchers on staff*
1996	
1997	

8. Respondent Information

Please fill in your name and title at this organization, as well as the names and titles of any other individuals who answered any questions in this survey and the question number(s) each individual worked on. Also, include telephone numbers in case we have questions about any entries. *If you need additional space to list respondents, please use the space in the Comment and Feedback section on page 12.*

a. Name of primary contact: _____

Title: _____

Telephone: ☐☐☐ ☐☐☐☐ ☐☐☐☐

Please write in the question numbers answered: _____

Organization & Address (If different than organization and address on the cover of the booklet.)

_____

_____

If your organization is different from the one printed on the cover of the booklet, what is your organization's relationship to that organization?

_____

_____

b. Name of other respondent: _____

Title: _____

Telephone: ☐☐☐ ☐☐☐☐ ☐☐☐☐

Please write in the question numbers answered: _____

Organization & Address (If different than organization and address on the cover of the booklet.)

_____

_____

If your organization is different from the one printed on the cover of this booklet, what is your organization's relationship to that organization?

9. Comments and Feedback

We appreciate the time you have taken to fill out the Survey of 1996 and 1997 Research and Development Performance by Nonprofit Organizations.

How many person-hours/minutes were required to complete this questionnaire?

☐☐ hrs ☐☐ minutes

If you have any comments regarding this study, please write them in the space below.

_____

_____

_____

_____

_____

_____

_____

_____

_____

Thank you very much for your participation.

Please return the completed questionnaire in the enclosed pre-paid envelope, or mail directly to:

NSF Survey of Nonprofit Organizations
The Gallup Organization Survey Processing Center
P.O. Box 5700
Lincoln, NE 68505-9926

Glossary of Terms

Please refer to the following definitions when responding to survey questions, even if your organization uses different definitions

Research is systematic study directed toward fuller knowledge or understanding of the subject studied. Research is classified as either basic or applied, according to the objectives of the investigator.

Development is systematic use of the knowledge or understanding gained from research, directed toward the production of useful materials, devices, systems, or methods, including design and development of prototypes and processes.

Research and development includes the development and use of scientific knowledge through fundamental research in the laboratory, in the field or through experiments; clinical investigations; clinical trials; epidemiological, engineering, and demographic studies; and controlled pilot projects. Included in this definition is the preparation for publication of books and papers describing the results of the specific research and development, if carried out as an integral part of that research and development. Also included is the administration of research and development. Traineeships, if they are mainly directed to R&D, are also included.

Science and Engineering (S&E) includes:

- **Medical or Health-Related Sciences** including Biochemistry, Genetics, Physiology, Cell Biology/Molecular Biology, Pharmacology/Toxicology, Epidemiology, Health Care Sciences and Services, Reproduction, Growth and Development, Oncology/Pathology/Hematology, Immunology, Microbiology/Virology, Biomedical Engineering and Instrumentation, Neuroscience, Clinical Medicine, and other medical or health-related sciences.

- **Natural and Social Sciences** including Agricultural Sciences, Biological Sciences (non-medical), Computer Sciences, Environmental Sciences, Mathematical Sciences, Physical Sciences, Psychology (including Educational Psychology), and Social Sciences.

- **Engineering** including Aeronautical and Astronautical, Chemical, Civil, Electrical, Mechanical, Metallurgical and Materials, and other engineering fields.

Science and Engineering (S&E) excludes:

a. law, business administration/management science, humanities, history (except research in history and philosophy of science and technology), the arts, or **education** (except educational psychology).

Federally Funded Research and Development Center (FFRDC). Any of the specific organizations (listed below) that were established to meet the particular R&D needs of a federal agency:

Aerospace Federally Funded Research and Development Center (Aerospace Corp.)
Ames Laboratory (Iowa State University of Science and Technology)
Argonne National Laboratory (University of Chicago)
Arroyo Center (RAND Corp.)
Brookhaven National Laboratory
C3I Federally Funded Research & Development Center (MITRE Corp.)
Center for Advanced Aviation System Development (MITRE Corp.)
Center for Naval Analyses (CNA Corp.)
Center for Nuclear Waste Regulatory Analyses (Southwest Research Institute)
Energy Technology Engineering Center *(removed from FFRDC list in November 1995)*
Ernest Orlando Lawrence Berkeley National Laboratory (University of California)
Fermi National Accelerator Laboratory (Universities Research Association, Inc.)
Idaho National Engineering Laboratory (Lockheed Idaho Technologies Inc.)
Inhalation Toxicology Research Institute *(removed from FFRDC list in May 1996)*
Institute for Defense Analyses Studies and Analyses FFRDC (IDA)
Institute for Defense Analyses Communications and Computing FFRDC (IDA)
Internal Revenue Service FFRDC (MITRE Corp.)*
Jet Propulsion Laboratory (California Institute of Technology)
Lawrence Livermore National Laboratory (University of California)
Lincoln Laboratory (Massachusetts Institute of Technology)
Logistics Management Institute (LMI)
Los Alamos National Laboratories (University of California)
National Astronomy and Ionosphere Center (Cornell University)
National Center for Atmospheric Research (University Corporation for Atmospheric Research)
National Defense Research Institute (RAND Corp.)
National Renewable Energy Research Laboratory (Midwest Research Institute)
National Radio Astronomy Observatory (Associated Universities, Inc.)
National Optical Astronomy Observatories (Association of Universities for Research in Astronomy, Inc.)
NCI Frederick Cancer Research and Development Center (Science Applications International Corp.; Advanced BioScience Laboratories, Inc.; Charles River Laboratories, Inc.; Data Management Services, Inc.)
Oak Ridge Institute for Science and Education (Oak Ridge Associated Universities, Inc.)
Oak Ridge National Laboratory (Lockheed Martin Energy Systems, Inc.)
Pacific Northwest National Laboratories (Battelle Memorial Institute)
Princeton Plasma Physics Laboratory (Princeton University)
Project Air Force (RAND Corp.)
Sandia National Laboratory (Sandia Corp.)
Savannah River Technology Center (Westinghouse Savannah River Co.)
Science and Technology Policy Institute (RAND Corp.)**
Software Engineering Institute (Carnegie Mellon University)
Stanford Linear Accelerator Center (Leland Stanford, Jr. University)
Thomas Jefferson National Accelerator Facility*** (Southeastern Universities Research Association)

* *(In October 1998 the name was changed from Tax Systems Modernization Institute.)*
** *(In October 1998 the name was changed from The Critical Technologies Institute.)*
*** *(In May 1996 the name was changed from Continuous Electron Beam Accelerator Facility.)*

Appendix 3. Funder Questionnaire

Survey of 1996 and 1997 Research and Development Funding by Nonprofit Organizations

National Science Foundation

Nonprofit organizations play a key role in research in the medical and health related sciences, natural and social sciences, and engineering. The National Science Foundation is seeking your help in understanding the work of the nonprofit sector by asking you to complete this questionnaire on science and engineering research and development activities funded by your organization.

This information is solicited under the authority of the National Science Foundation Act of 1950, as amended. Your response is entirely voluntary and your failure to provide some or all of the information will not adversely affect your organization. Information received from individual organizations may be published in NSF reports.

Please correct any incorrect information on the label.

Organization Identification # (EIN)
Contact Name
Name of Organization
Address of Organization
Phone number
E-mail address

If anyone other than the person listed above completes all or part of this survey, please ask each respondent to fill in the requested information in Question 4, page 7.

It is estimated that response to this survey will require two hours. If you wish to comment on this burden, please contact Suzanne H. Plimpton, Reports Clearance Officer, NSF, at 703-306-1125 or email splimpto@nsf.gov.

Please return the completed survey by July 30, 1999 to:

NSF Survey of Nonprofit Organizations
The Gallup Organization Survey Processing Center
P.O. Box 5700
Lincoln, NE 68505-9926

If you have any questions or comments about the survey, please contact Barbara Wells of The Gallup Organization at 1-888-558-5776 or *NSF@gallup.com*.

General Instructions

WHAT TO INCLUDE

- Please report for the entire organization, including any branches, divisions, and departments that are not separately incorporated. If your organization has offices and facilities in the United States in addition to the address listed on the cover of this questionnaire, please indicate the name and address of each of these facilities in the space provided for comments and feedback in Question 5, page 8.
- The survey covers your fiscal years ending in 1996 and 1997.
- If exact data are not available, please give the best estimate.
- Enter "0" as an item total rather than leave an item blank.

GLOSSARY OF TERMS

Refer to the Glossary on pages 9-11 for detailed definitions.

QUESTIONS

If you have any questions or comments about the survey, contact Barbara Wells of The Gallup Organization toll-free at 1-888-558-5776, or NSF@gallup.com.

RETURNING THE COMPLETED SURVEY

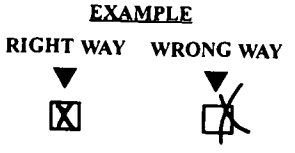
Return this survey by **September 30, 1999** in the enclosed pre-paid envelope or mail directly to:

NSF Survey of Nonprofit Organizations

The Gallup Organization Survey Processing Center
4 P.O. Box 5700
5 Lincoln, NE 68505-9926

SCANNABLE FORM

This questionnaire is a scannable form. Please mark your responses with an "x" using a blue or black pen as in the example below.



ELECTRONIC VERSION (WORLD WIDE WEB)

This questionnaire is available in an electronic form. The web address for the electronic version of the questionnaire is http://nsffunder.gallup.com and is available using most browsers including Netscape and Internet Explorer. Your password and the nonprofit organization's EIN is printed on the front cover of the paper questionnaire.

Type of Organization

Please **mark one box** next to the item that most closely describes your organization **in 1996**. If you have any difficulty categorizing your organization, or if your organization conducts intramural (in-house) science and engineering research and development, please call Dr. Barbara Wells toll-free at 1-888-558-5776.

- ☐ **Independent Foundation**—A grant-making organization usually classified by the IRS as a private foundation. An independent foundation may also be known as a general-purpose foundation, a special purpose foundation, or a private non-operating foundation.
- ☐ **Corporate Foundation**—A private foundation whose funds for grants are derived primarily from the contributions of a profit-making business organization. The corporate foundation may maintain close ties with the donor company, but it is an independent organization, often with its own endowment. (The corporate foundation is distinct from the corporate giving program.)
- ☐ **Family Foundation**—An independent private foundation whose funds are derived from members of a single family.
- ☐ **Community Foundation**—A 501(c)(3) organization that makes grants for charitable purposes in a specific community or region. Funds are usually derived from many donors and held in an endowment independently administered; income earned by the endowment is then used to make grants.
- ☐ **Public Charity**—In general, an organization that is tax-exempt under code section 501(c)(3) and is classified by the IRS as a public charity and not a private foundation. Public charities generally derive their funding or support primarily from the general public in carrying out their social, educational, religious, or other charitable activities serving the common welfare.
- ☐ **Operating Foundation**—A private foundation whose primary purpose is to conduct research, social welfare, or other programs determined by their governing bodies or establishment charters. Some grants may be made, but the sum is generally small relative to the funds used for the foundation's own programs.
- ☐ **Professional or technical society, or academy of science and/or engineering**— A voluntary association of individuals sharing a common interest in the advancement of knowledge, either within a single field or across a broad spectrum of disciplines. The major function of these organizations is to aid and encourage the collection, collation, and dissemination of scientific and engineering knowledge for the benefit of their members and the scientific and engineering community as a whole.
- ☐ **Science Exhibitor**—A nonprofit organization, whose primary goal is the expansion of scientific and technological literacy within the community by providing exhibits that display and interpret the latest scientific findings and technological advances within their field or fields. Included in this category are museums, zoological parks, botanical gardens, and arboreta.
- ☐ **Trade Association**—Trade associations are nonprofit, cooperative, voluntarily-joined organizations of business competitors designed to assist their members and their industry in dealing with mutual business problems in one or more of the following areas: accounting practice; business ethics; commercial and industrial research; standardization; statistics; trade promotion; and relations with government, employees, and the general public.

2. Amount of Science and Engineering Research and Development Funded in 1996 and 1997

How much science and engineering research and development did your organization fund during fiscal years **1996 and 1997**? What types of institutions were funded? What amount of the total expenditures was for medical or health-related R&D?

TIPS

- ***Science and Engineering Research and Development funding***

  Includes:

  - ✓ grants and contracts for science and engineering research and development
  - ✓ R&D-related fellowships and postdoctoral funding included in the budgets of grants and contracts
  - ✓ science and engineering research and development endowments in the year they are awarded

  Excludes:

  - ✗ contributions to general purpose funds
  - ✗ general purpose or undesignated endowments
  - ✗ scholarships, fellowships, or postdoctoral funding
  - ✗ costs for buildings, fixtures, or other depreciable equipment used in S&E R&D. These items are reported in Question 3 *Science and Engineering Research and Development Capital Support.*

Medical or Health-Related Research and Development is aimed ultimately at the improvement of human health and conquest of disease. Within this context, medical or health-related research and development includes Health Care Sciences and Services; Biomedical Engineering and Instrumentation; Clinical Medicine; Biochemistry; Genetics; Physiology; Cell Biology/Molecular Biology; Pharmacology/Toxicology; Epidemiology; Reproduction, Growth and Development; Oncology/Pathology/Hematology; Immunology; Microbiology/Virology; and Neuroscience.

TOTAL AMOUNT OF SCIENCE AND ENGINEERING R&D FUNDED

Please list the amount of science and engineering research and development funding your organization provided to each type of institution listed below. Column 2 and column 4 ask for that part of the total expenditures that were for medical or health-related research and development. Descriptions of the types of organizations are provided on pages 10 and 11.

Type of Institution Within the United States	FY 1996 Total – All S&E Fields (1)	FY 1996 Medical or health- related (2)	FY 1997 Total – All S&E Fields (3)	FY 1997 Medical or health-related (4)
a. *College or university*				
b. *University-affiliated hospital*				
c. *Other voluntary nonprofit hospital*				
d. *Research institute*				
e. *Professional or technical society, or academy of science*				
f. *Industry*				
g. *Private foundation*				
h. *Science exhibitor*				
i. *Trade association*				
j. *Nonprofit industrial consortium*				
k. *Nonprofit academic consortium*				
l. *Agricultural cooperative*				
m. *Federally Funded Research and Development Center (FFRDC) (See list on page 11)*				
n. *Other (Please specify)*				
All Types of Institutions Outside the United States				
Total Amount of S&E R&D Funded (Sum of all rows)				

3. *Science and Engineering Research and Development Capital Support*

How much of the total science and engineering research and development capital support was provided by your organization during fiscal years 1996 and 1997?

TIPS

S&E R&D Capital Support includes all expenses for buildings, fixtures, and depreciable equipment in the United States used in R&D performance.

Include:

- ✓ costs normally chargeable to fixed asset accounts for which depreciation accounts are ordinarily maintained
- ✓ major alterations, capitalized repairs, and improvements
- ✓ expenditures made during the year for establishments under construction, but not yet in operation

Exclude:

- × capital expenditures made by owners of property rented or leased, including the federal government
- × cost of land
- × cost of maintenance and repair charged as current operating expense
- × cost of government-owned structures or equipment
- × capital support to non-U.S. organizations and their researchers

Science and Engineering Research and Development Capital Support	
FY 1996	**FY 1997**
$	$

4. Respondent Information

Please fill in your name and title at this organization, as well as the names and titles of any other individuals who answered any questions in this survey and the question number(s) each individual worked on. Also, include telephone numbers in case we have questions about any entries. If you need additional space to list respondents, please use the space in the Comment and Feedback section on page 8.

a. Name of primary contact: _____

Title: _____

Telephone: ☐☐☐ ☐☐☐☐ ☐☐☐☐

Please write in the question numbers answered: _____

Organization & Address (If different than organization and address on the cover of this booklet.)

_____

_____

If your organization is different from the one printed on the cover of this booklet, what is your organization's relationship to that organization?

_____

_____

b. Name of other respondent: _____

Title: _____

Telephone: ☐☐☐ ☐☐☐☐ ☐☐☐☐

Please write in the question numbers answered: _____

Organization & Address (If different than organization and address on the cover of this booklet.)

_____

_____

If your organization is different from the one printed on the cover of this booklet, what is your organization's relationship to that organization?

_____

5. Comments and Feedback

We appreciate the time you have taken to fill out the Survey of 1996 and 1997 Research and Development Funding by Nonprofit Organizations.

How many person-hours/minutes were required to complete this questionnaire?

☐☐ hrs ☐☐ minutes

If you have any comments regarding this study, please write them in the space below.

Please return the completed questionnaire in the enclosed pre-paid envelope, or mail directly to:

NSF Survey of Nonprofit Organizations
The Gallup Organization Survey Processing Center
P.O. Box 5700
Lincoln, NE 68505-9926

Glossary of Terms

Please refer to the following definitions when responding to survey questions, even if your organization may use different definitions.

Research is systematic study directed toward fuller knowledge or understanding of the subject studied. Research is classified as either basic or applied, according to the objectives of the investigator.

Development is systematic use of the knowledge or understanding gained from research, directed toward the production of useful materials, devices, systems, or methods, including design and development of prototypes and processes.

Research and development includes the development and use of scientific knowledge through fundamental research in the laboratory, in the field, or through experiments; clinical investigations; clinical trials; epidemiological, engineering, and demographic studies; and controlled pilot projects. Included in this definition is the preparation for publication of books and papers describing the results of the specific research and development, if carried out as an integral part of that research and development. Also included is the administration of research and development. Traineeships, if they are mainly directed to R&D, are also included.

Science and Engineering (S&E) includes:

- **Medical or Health-Related Sciences** including Biochemistry, Genetics, Physiology, Cell Biology/Molecular Biology, Pharmacology/Toxicology, Epidemiology, Health Care Sciences and Services, Reproduction, Growth and Development, Oncology/Pathology/Hematology, Immunology, Microbiology/Virology, Biomedical Engineering and Instrumentation, Neuroscience, Clinical Medicine, and other medical or health-related sciences.

- **Natural and Social Sciences** including Agricultural Sciences, Biological Sciences (non-medical), Computer Sciences, Environmental Sciences, Mathematical Sciences, Physical Sciences, Psychology (including Educational Psychology), and Social Sciences.

- **Engineering** including Aeronautical and Astronautical, Chemical, Civil, Electrical, Mechanical, Metallurgical and Materials, and other engineering fields.

Science and Engineering (S&E) excludes:

- law, business administration/management science, humanities, history (except research in history and philosophy of science and technology), the arts, or **education** (except educational psychology).

Types of institutions within the United States

a. **College or university.** An accredited institution of higher learning which offers undergraduate or graduate degrees. Report grants and contracts to *university-affiliated hospitals*.

b. **University-affiliated hospital.** A member of the American Hospital Association which operates as an integral part of an institution of higher education. Hospitals which have been set up by research institutes and function primarily as laboratories for the research institutes should be considered *research institutes*.

c. **Other voluntary nonprofit hospital.** A member of the American Hospital Association not subject to the control of either federal, state, or local governments, nor an integral part of any institution of higher education. Hospitals, which have been set up by research institutes and which, while providing patient care, function primarily as laboratories for the research institutes, should be considered *research institutes*.

d. **Research institute, including medical research organizations.** A separately incorporated, independent nonprofit organization operating under the direction of its own controlling body. Its primary function is the performance of research and development in the sciences and engineering. This category also includes policy analysis organizations.

e. **Professional or technical society, or academy of science and/or engineering.** A voluntary association of individuals sharing a common interest in the advancement of knowledge, either within a single field or across a broad spectrum of disciplines. The major function of these organizations is to aid and encourage the collection, collation, and dissemination of scientific and engineering knowledge for the benefit of their members and the science and engineering community as a whole.

f. **Industry.** For-profit organizations conducting science and engineering research or development.

g. **Private foundation.** A non-governmental, nonprofit organization having a principal fund of its own, managed by its own trustees or directors, and established to maintain or to aid activities serving the common welfare. This organizational type includes operating foundations, which allocate the greater proportion of their R&D budgets to intramural performance, and philanthropic foundations, which allocate most of their funds to grants and contracts for R&D to be performed extramurally. This category also includes non-profit advocacy groups conducting S&E R&D.

h. **Science exhibitor.** A nonprofit organization, which has as its primary goal the expansion of scientific and technological literacy within its community by providing exhibits that display and interpret the latest scientific findings and technological advances within its field or fields. Included in this category are museums, zoological parks, botanical gardens, and arboreta.

i. **Trade association.** A nonprofit, cooperative, voluntarily-joined organization of business competitors designed to assist its members and their industry in dealing with mutual business problems in the following areas: accounting practice, business ethics, commercial and industrial research, standardization, statistics, trade promotion, and relations with government, employees, and the general public.

j. **Nonprofit industrial consortium.** A not-for-profit research joint venture conducting science and engineering research and development. For-profit industrial consortia should be included under *industry*.

k. **Nonprofit academic consortium.** A not-for-profit research joint venture headed by a college or university conducting science and engineering research and development.

l. **Agricultural cooperative.** An organization of individuals or business entities nominally competitors, in the production and sale of agricultural products. Its activities may include one or more of the following areas: collective marketing or purchasing, R&D, public relations, and the improvement of the economic condition of the farm population of the United States.

m. **Federally Funded Research and Development Center (FFRDC).** Any of the specific organizations (listed below) that were established to meet the particular R&D needs of a federal agency:

Aerospace Federally Funded Research and Development Center (Aerospace Corp.)
Ames Laboratory (Iowa State University of Science and Technology)
Argonne National Laboratory (University of Chicago)
Arroyo Center (RAND Corp.)
Brookhaven National Laboratory
C3I Federally Funded Research & Development Center (MITRE Corp.)
Center for Advanced Aviation System Development (MITRE Corp.)
Center for Naval Analyses (CNA Corp.)
Center for Nuclear Waste Regulatory Analyses (Southwest Research Institute)
Energy Technology Engineering Center *(removed from FFRDC list in November 1995)*
Ernest Orlando Lawrence Berkeley National Laboratory (University of California)
Fermi National Accelerator Laboratory (Universities Research Association, Inc.)
Idaho National Engineering Laboratory (Lockheed Idaho Technologies Inc.)
Inhalation Toxicology Research Institute *(removed from FFRDC list in May 1996)*
Institute for Defense Analyses Studies and Analyses FFRDC (IDA)
Institute for Defense Analyses Communications and Computing FFRDC (IDA)
Internal Revenue Service FFRDC (MITRE Corp.)*
Jet Propulsion Laboratory (California Institute of Technology)
Lawrence Livermore National Laboratory (University of California)
Lincoln Laboratory (Massachusetts Institute of Technology)
Logistics Management Institute (LMI)
Los Alamos National Laboratories (University of California)
National Astronomy and Ionosphere Center (Cornell University)
National Center for Atmospheric Research (University Corporation for Atmospheric Research)
National Defense Research Institute (RAND Corp.)
National Renewable Energy Research Laboratory (Midwest Research Institute)
National Radio Astronomy Observatory (Associated Universities, Inc.)
National Optical Astronomy Observatories (Association of Universities for Research in Astronomy, Inc.)
NCI Frederick Cancer Research and Development Center (Science Applications International Corp.; Advanced BioScience Laboratories, Inc.; Charles River Laboratories, Inc.; Data Management Services, Inc.)
Oak Ridge Institute for Science and Education (Oak Ridge Associated Universities, Inc.)
Oak Ridge National Laboratory (Lockheed Martin Energy Systems, Inc.)
Pacific Northwest National Laboratories (Battelle Memorial Institute)
Princeton Plasma Physics Laboratory (Princeton University)
Project Air Force (RAND Corp.)
Sandia National Laboratory (Sandia Corp.)
Savannah River Technology Center (Westinghouse Savannah River Co.)
Science and Technology Policy Institute (RAND Corp.)**
Software Engineering Institute (Carnegie Mellon University)
Stanford Linear Accelerator Center (Leland Stanford, Jr. University)
Thomas Jefferson National Accelerator Facility*** (Southeastern Universities Research Association)

* *(In October 1998 the name was changed from Tax Systems Modernization Institute.)*
** *(In October 1998 the name was changed from The Critical Technologies Institute.)*
*** *(In May 1996 the name was changed from Continuous Electron Beam Accelerator Facility.)*

Institutions Outside the United States. All types of science and engineering research and development institutions located outside the United States.

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