RESEARCH EXPENDITURES

September 1, 1999 – August 31, 2000

Texas Public Universities and
Health-Related Institutions

Texas Higher Education Coordinating Board
Division of Finance, Campus Planning, and Research
P.O. Box 12788
Austin, TX 78711-2788

April 2001

Texas Higher Education Coordinating Board

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Coordinating Board Mission

The mission of the Texas Higher Education Coordinating Board is to provide the Legislature advice and comprehensive planning capability for higher education, to coordinate the effective delivery of higher education, to administer programs efficiently and to improve higher education for the people of Texas.

Coordinating Board Philosophy

The Texas Higher Education Coordinating Board will promote access to quality higher education across the state with the conviction that access without quality is mediocrity and that quality without access is unacceptable. The Board will be open, ethical, responsive, and committed to public service. The Board will approach its work with a sense of purpose and responsibility to the people of Texas and is committed to the best use of public monies.

Created by the Texas Legislature in 1965, the Texas Higher Education Coordinating Board works with institutions of higher education, other state agencies, the Legislature and the Governor to ensure that Texans seeking higher education have access to high quality programs. The Board's overall responsibilities include assessing the state of higher education in Texas, making recommendations to the Governor, Legislature and institutions for its enhancement, and establishing policies for the efficient and effective use of the state's higher education resources.

EXECUTIVE SUMMARY

The first six sections of this report are based on data provided by each Texas public university and health-related institution for Fiscal Year 2000 – September 1, 1999 through August 31, 2000. Highlights include:

- Total research expenditures increased 10.4 percent over Fiscal Year 1999. Research expenditures in Fiscal Year 2000 were $1,602,554,938. In Fiscal Year 1999, the total was $1,451,722,101. Total research expenditures increased by 86.1 percent since Fiscal Year 1990.
- Royalties, licensing fees, or other transactions involving intellectual property produced through research generated $28,184,125 – a 36 percent increase over the $20,696,725 received in Fiscal Year 1999. In Fiscal Year 2000, 182 new intellectual properties were produced, compared to 226 in Fiscal Year 1999.
- The federal government provided 55.4 percent of the research funds expended, compared to 54.9 percent in Fiscal Year 1999.
- Scientific discipline categories benefitting from the largest research expenditures include medical sciences – $513,418,079; biological and other life sciences – $349,684,438; engineering – $244,368,819; and environmental sciences – $117,057,627. Funding for medical sciences rose by 20.2 percent in Fiscal Year 2000 compared to the previous year.

The seventh section of this report is based on data provided by the National Science Foundation for Fiscal Year 1998. Highlights include:

- Texas institutions of higher education ranked sixth in federal obligations for science and engineering after California, New York, Maryland, Pennsylvania, and Massachusetts.
- The National Institutes of Health provides 60 percent of the federal research support to Texas higher education institutions.
- Texas institutions ranked third in total research expenditures for Fiscal Year 1998. Life sciences accounted for 61 percent of the research expenditures, followed by engineering (16 percent) and physical sciences (9 percent).
- Eight institutions – Baylor College of Medicine, The University of Texas at Austin, The University of Texas Southwestern Medical Center, the University of Texas Health Science Center at Houston, The University of Texas M. D. Anderson Cancer Center, Texas A&M University (including Texas A&M Service agencies), The University of Texas Health Science Center at San Antonio, and The University of Texas Medical Branch at Galveston – accounted for 80.2 percent of the federal obligations for science and engineering to Texas higher education institutions in Fiscal Year 1998.

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OVERVIEW

The Texas Higher Education Coordinating Board's annual research expenditures report summarizes data submitted to the Board as required by Section 61.051(h) of the Texas Education Code, which states:

> "Once a year, on dates prescribed by the board, each institution of higher education shall report to the board all research conducted at that institution during the last preceding year."

The Coordinating Board's summary report is based on expenditures rather than awards because expenditures more accurately reflect the level of current research activity. Awards tend to fluctuate from year to year, making them a much less stable indicator for year-to-year comparisons.

The Coordinating Board is only able to verify the accuracy of the research expenditures data by comparing them with data provided by the institutions in their Annual Financial Reports. Institutions are asked to ensure that the data reported are consistent with data in their Annual Financial Reports, and a set of definitions is provided to help ensure consistency from institution to institution. Even with these safeguards, institutions have some latitude in determining how they report data.

Data elements and definitions used in this year's report are comparable to similar research expenditure data elements used by the National Science Foundation (NSF). The two sets of elements differ to some degree because the NSF focuses on science and technology alone, while the Coordinating Board's report includes research in all disciplines.

Collection of research expenditure data is a challenging task for institutions. Administrators face many difficulties as they sort out research expenditures at their institutions. For that reason, information they have submitted and the Coordinating Board's research expenditures report should be considered indicative rather than definitive.

Appendix A includes a copy of the survey form completed by each institution. Appendix B includes a list of the institutional contacts who collected the data on their campuses.

This report also contains a new section, starting on page 32, that compares research funding in Texas with that of other states. This data is drawn from three National Science Foundation reports on research obligations and research expenditures.

MAJOR FINDINGS

Total research expenditures at Texas public institutions of higher education increased by 10.4 percent during Fiscal Year 2000, continuing a long-term growth trend. Research expenditures increased by 6.3 percent at public universities and by 15.9 percent at public health-related institutions.

As in most states, Texas' higher education research expenditures were concentrated in a relatively small number of institutions. Collectively, the top five institutions in research spending accounted for 70 percent of total research expenditures. The top 10 institutions accounted for 89 percent of the total.

The top seven institutions in Table 1 also appear in the National Science Foundation's list of top 100 institutions in federal research and development expenditures for 1998.

Texas health-related institutions have very strong research programs. Five of them ranked among the top 10 Texas public institutions in research expenditures.

Table 1

Research and Development Expenditure Rankings, FY 2000

Institution	1996	1997	1998	1999	2000
Texas A&M University (including Texas A&M Services)	1	1	1	1	1
The University of Texas at Austin	2	2	2	2	2
The University of Texas Southwestern Medical Center at Dallas	3	3	3	3	3
The University of Texas M.D. Anderson Cancer Center	4	4	4	4	4
The University of Texas Health Science Center at Houston	5	5	5	5	5
The University of Texas Medical Branch at Galveston	7	7	7	6	6
The University of Texas Health Science Center at San Antonio	6	6	6	7	7
University of Houston	8	8	8	8	8
Texas Tech University	9	9	9	9	9
The University of Texas at El Paso	13	11	11	10	10

The federal government funded 55.4 percent of all research expenditures by Texas public institutions of higher education, making it the source of most research funds – as it is in other states. At academic institutions[1] nationwide, the National Science Foundation/SRS, *Academic*

[1]For this purpose, academic institutions are generally defined as institutions of higher education that grant doctorates in science or engineering and/or spend at least $50,000 for separately budgeted research and development.

Research and Development Expenditures: Fiscal Year 1999, Early Release Table B-29 shows that 53.3 percent of the academic research was funded by the federal government. State government provided 19.7 percent of the funds for all research expenditures in the state's public higher education institutions. Institutional and private funding accounted for the remaining 24.9 percent.

The ratio of federal funds to state-appropriated funds for each of the 10 Texas institutions reporting the greatest research expenditures is provided in Table 2.

Table 2

Federal/State Research and Development Expenditure Ratio Rankings, FY 2000

Institution	R&D Rank	Fed/State Ratio	Ratio Rank
The University of Texas Health Science Center at San Antonio	7	10.08	1
The University of Texas Southwestern Medical Center at Dallas	3	9.64	2
The University of Texas Health Science Center at Houston	5	8.49	3
The University of Texas at El Paso	10	7.17	4
The University of Texas Medical Branch at Galveston	6	7.14	5
The University of Texas at Austin	2	3.69	6
The University of Texas M.D. Anderson Cancer Center	4	1.62	7
Texas A&M University (including Texas A&M Services)	1	1.56	8
University of Houston	8	1.31	9
Texas Tech University	9	1.13	10

Medical sciences, accounting for 32 percent of the total, led all other disciplines in expenditures. The top five disciplines – medical sciences, engineering, biological and other life sciences, physical sciences, and environmental sciences – collectively accounted for 83.1 percent of all reported research expenditures.

Institutions earned $28,184,125 from royalties, licenses, and other transactions involving 762 different intellectual properties produced through research.

California ($2.32 billion), New York $1.31 billion), Maryland ($0.99 billion), Pennsylvania ($0.96 billion), Massachusetts ($ 0.94 billion), and Texas ($ 0.85 billion) were the top six states in federal obligations for science and engineering for Fiscal Year 1998.

The National Institutes of Health, the Department of Defense, and the National Science Foundation provided 60.3 percent, 11.4 percent, and 10.2 percent, respectively, of the Fiscal Year 1998 federal obligations for science and engineering to Texas higher education institutions.

STATEWIDE SUMMARY DATA

Expenditures related to research are divided into two categories: (1) expenditures for the conduct of research and development, and (2) other sponsored activities. "Other sponsored activities" refers to support received from external sources to fund activities that cannot be considered strictly research. Examples include grants for equipment or facilities, contracts to perform studies, and training. Definitions for both categories are included in the survey form that is Appendix A.

Tables 3 and 4 and Figures 1 - 4 provide information on expenditures and sources of funds for research and development and for other sponsored activities related to research at public universities and health-related institutions. Some institutions do not report funds used for other sponsored activities related to research.

Table 3

Sources of Funds for Research and Other Research-Related Sponsored Programs, FY 2000

	Federal	State		Institution
		Appropriated	Contracts and Grants	
Public Universities				
Research and Development	$466,342,097	$146,240,572	$70,325,581	$80,511,921
Other	$7,987,126	$4,445,961	$721,040	$4,835,790
Total	$474,329,223	$150,686,533	$71,046,621	$85,347,711
Public Health-Related Institutions				
Research and Development	$421,089,885	$90,655,175	$8,082,427	$27,623,547
Other	$739	$3,934,959	$34,343	$20,727,675
Total	$421,090,624	$94,590,134	$8,116,770	$48,351,222
All Public Institutions				
Research and Development	$887,431,982	$236,895,747	$78,408,008	$108,135,468
Other	$7,987,865	$8,380,920	$755,383	$25,563,465
Totals	**$895,419,847**	**$245,276,667**	**$79,163,391**	**$133,698,933**

Table 3 - continued

Sources of Funds for Research and Other Research-Related Sponsored Programs, FY 2000			
	Private		Total
	Profit	Non-Profit	
Public Universities			
Research and Development	$53,545,799	$64,304,585	$881,270,555
Other	$72,148	$1,680,664	$19,742,729
Total	$53,617,947	$65,985,249	$901,013,284
Public Health-Related Institutions			
Research and Development	$57,761,725	$116,071,624	$721,284,383
Other	$8,454	$1,310,596	$26,016,766
Total	$57,770,179	$117,382,220	$747,301,149
All Public Institutions			
Research and Development	$111,307,524	$180,376,209	$1,602,554,938
Other	$80,602	$2,991,260	$45,759,495
Totals	**$111,388,126**	**$183,367,469**	**$1,648,314,433**

Figure 1

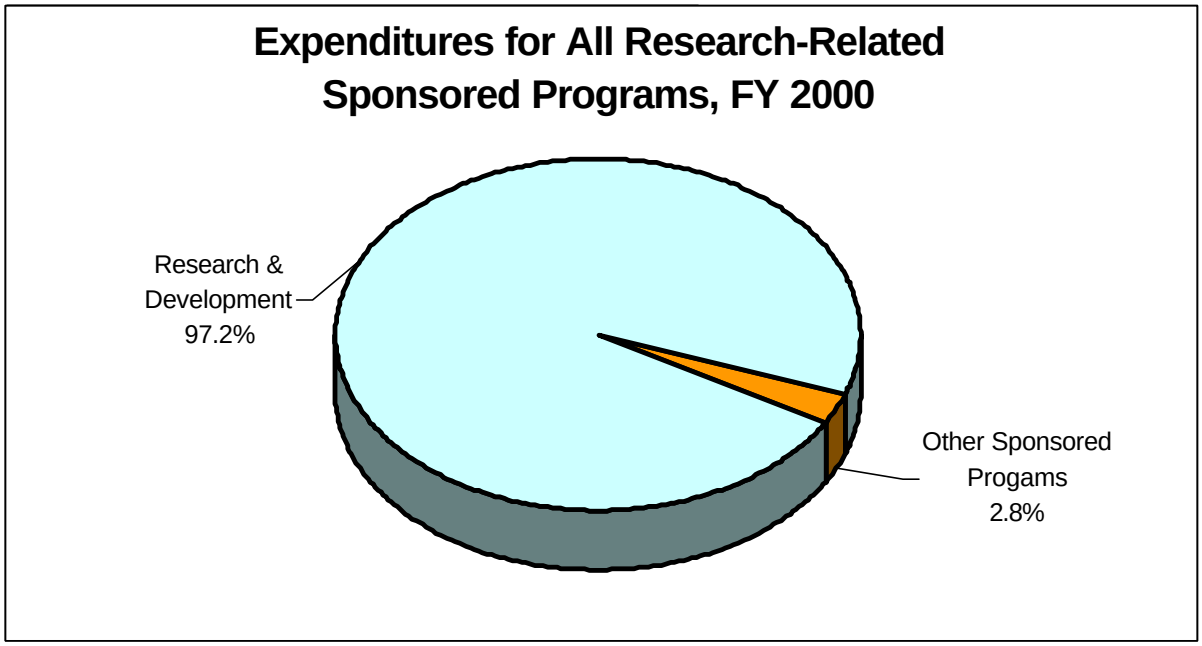
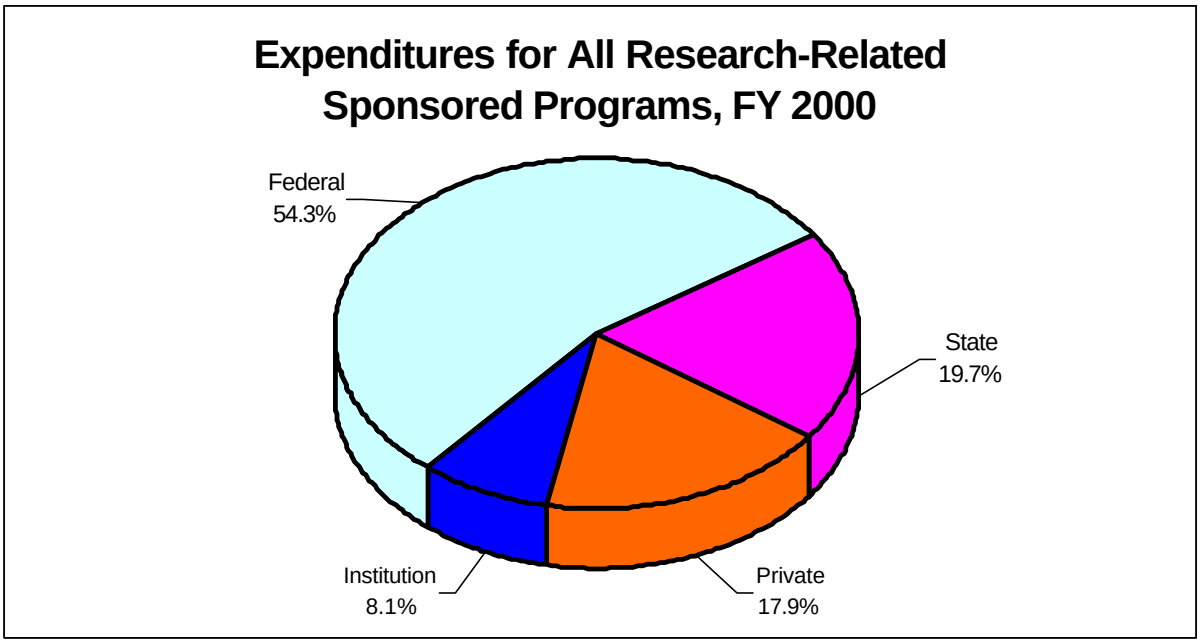


Figure 2



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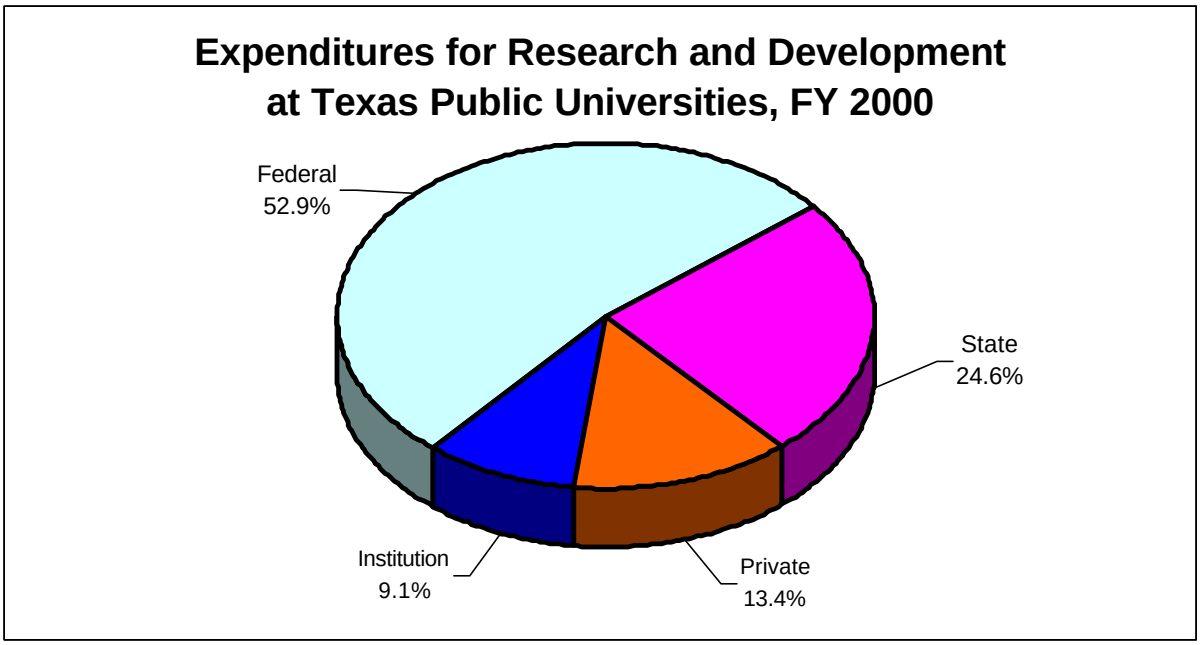


Figure 4

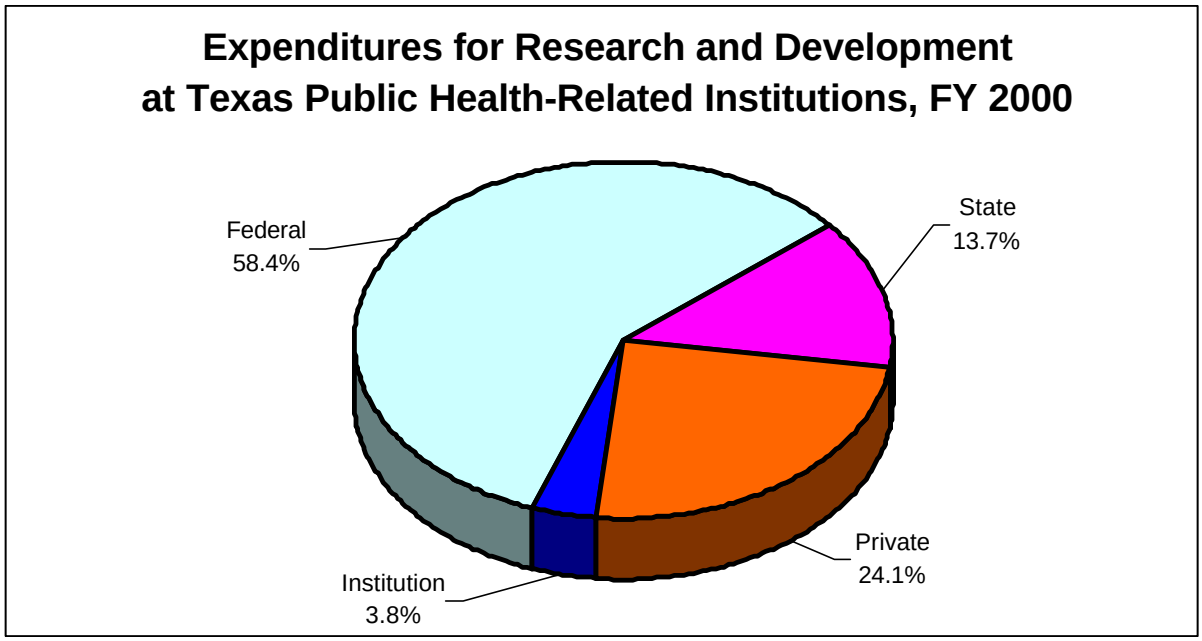


Table 4 indicates expenditures in the 16 different fields defined in Appendix A. The Coordinating Board's instructions directed institutions to assign project expenditures to only one field to avoid duplication.

For the most part, this table reflects expenditures in particular academic disciplines. Some inconsistency may result, however, as institutions strive to categorize a particular research project into only one field. For example, a college of agriculture could perform basic research in biological sciences and report expenditures in that field rather than in agricultural sciences.

Proportions of expenditures by discipline are shown in Figure 5. Medical and biological sciences account for slightly more than one-half of all research expenditures.

Table 4

Expenditures for Conduct of R&D by Field and Source of Funding, FY 2000

Texas Public Institutions of Higher Education

	Federal	State		Institution
		Appropriated	Contracts and Grants	
Agricultural Sciences	$18,961,362	$24,161,875	$3,343,409	$8,515,083
Biological and Other Life Sciences	$198,458,882	$66,359,010	$5,938,889	$23,473,599
Computer Science	$22,830,123	$4,564,818	$4,316,810	$3,448,001
Engineering	$126,003,441	$23,762,074	$36,295,947	$22,804,586
Environmental Sciences	$88,462,057	$12,520,542	$3,302,326	$4,844,874
Mathematical Sciences	$16,026,249	$5,048,879	$2,448,547	$901,590
Medical Sciences	$289,567,494	$57,792,051	$9,312,477	$21,140,922
Physical Sciences	$69,189,774	$17,783,402	$1,033,395	$5,008,236
Psychology	$8,174,898	$665,189	$1,294,074	$830,895
Social Sciences	$14,598,924	$8,581,236	$5,280,214	$4,536,393
Other Sciences	$5,702,280	$4,742,510	$591,323	$3,741,150
Arts and Humanities	$1,161,447	$855,816	$134,704	$2,243,813
Business Administration	$1,774,871	$1,943,106	$471,819	$935,199
Education	$21,045,789	$1,436,827	$3,208,311	$1,800,515
Law and Public Administration	$2,820,499	$633,906	$1,053,357	$43,598
Other Non-Science Activities	$2,653,892	$6,044,506	$382,406	$3,867,014
Totals	**$887,431,982**	**$236,895,747**	**$78,408,008**	**$108,135,468**

Table 4 - continued

Expenditures for Conduct of R&D by Field and Source of Funding, FY 2000 Texas Public Institutions of Higher Education			
	Private		Total
	Profit	Non-Profit	
Agricultural Sciences	$6,195,937	$7,687,900	$68,865,566
Biological and Other Life Sciences	$14,788,366	$40,665,692	$349,684,438
Computer Science	$2,310,220	$671,441	$38,141,413
Engineering	$25,168,095	$10,334,676	$244,368,819
Environmental Sciences	$4,543,334	$3,384,494	$117,057,627
Mathematical Sciences	$1,284,891	$1,506,291	$27,216,447
Medical Sciences	$48,344,258	$87,260,877	$513,418,079
Physical Sciences	$3,047,714	$11,628,097	$107,690,618
Psychology	$431,212	$670,669	$12,066,937
Social Sciences	$2,475,722	$4,953,770	$40,426,259
Other Sciences	$368,989	$3,348,801	$18,495,053
Arts and Humanities	$320,696	$1,024,595	$5,741,071
Business Administration	$1,170,994	$2,803,750	$9,099,739
Education	$602,952	$3,213,785	$31,308,179
Law and Public Administration	$195,110	$1,075,123	$5,821,593
Other Non-Science Activities	$59,034	$146,248	$13,153,100
Totals	**$111,307,524**	**$180,376,209**	**$1,602,554,938**

Figure 5

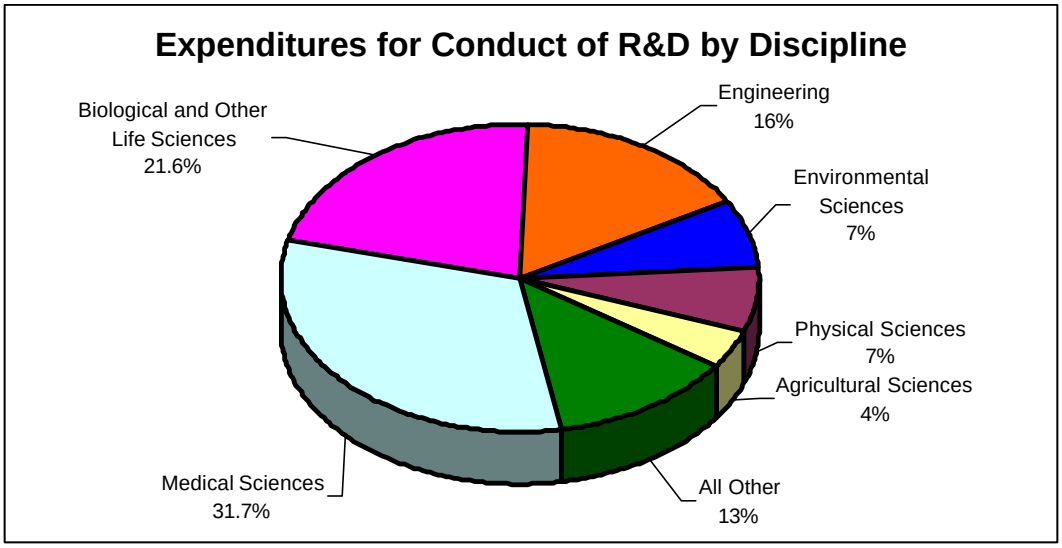


Table 5 shows research in nine different areas of special interest at public universities, and Table 6 shows research in six different areas of special interest at public health-related institutions. Double counting was allowed because many projects are relevant to two or more areas of research.

Table 5

Expenditures for R&D Areas of Special Interest, FY 2000
Texas Public Universities

		State		
	Federal	Appropriated	Contracts and Grants	Institution
Aerospace Technology	$23,185,040	$1,148,760	$275,479	$442,199
Biotechnology	$24,425,709	$18,804,634	$1,053,519	$9,394,765
Energy	$29,500,594	$7,070,459	$1,615,304	$1,456,627
Environmental Science & Engineering	$44,511,140	$12,792,441	$3,422,018	$4,614,244
Food, Fiber, Agricultural Products	$11,066,277	$22,491,041	$2,237,978	$7,664,156
Manufacturing Technology	$4,558,929	$1,340,061	$2,430,312	$343,453
Materials Science	$16,255,545	$2,805,086	$3,750,269	$555,456
Microelectronics & Computer Technology	$31,634,096	$6,700,552	$1,552,232	$1,471,422
Water Resources	$3,557,004	$1,878,010	$1,206,240	$696,529
Totals	**$188,694,334**	**$75,031,044**	**$17,543,351**	**$26,638,851**

Table 5 - continued

Expenditures for R&D Areas of Special Interest, FY 2000
Texas Public Universities

	Private		Total
	Profit	Non-Profit	
Aerospace Technology	$568,413	$343,413	$25,963,304
Biotechnology	$2,280,595	$4,811,074	$60,770,296
Energy	$6,268,995	$2,632,075	$48,544,054
Environmental Science & Engineering	$18,779,425	$4,827,635	$88,946,903
Food, Fiber, Agricultural Products	$4,787,392	$7,324,228	$55,571,072
Manufacturing Technology	$767,880	$1,317,595	$10,758,230
Materials Science	$7,963,113	$3,476,242	$34,805,711
Microelectronics & Computer Technology	$6,323,728	$2,713,152	$50,395,182
Water Resources	$768,844	$2,272,542	$10,379,169
Totals	**$48,508,385**	**$29,717,956**	**$386,133,921**

Table 6

Expenditures for Conduct of R&D in Areas of Special Interest, FY 2000 Texas Public Health-Related Institutions				
	Federal	State		Institution
		Appropriated	Contracts and Grants	
Aging	$12,944,794	$1,713,882	$190,906	$55,146
Cancer Research	$113,269,295	$53,567,777	$607,010	$13,979,327
Cardiovascular Research	$33,598,299	$1,893,219	$321,870	$458,434
Child Health and Human Development	$12,860,115	$332,004	$1,132,337	$3,749,844
Mental Health	$6,843,578	$1,533,635	$6,863	$172,127
Substance Abuse	$10,614,168	$517,567	$174,677	$15,522
Totals	**$190,130,249**	**$59,558,084**	**$2,433,663**	**$18,430,400**

Table 6 - continued

Expenditures for Conduct of R&D in Areas of Special Interest, FY 2000 Texas Public Health-Related Institutions			
	Private		Total
	Profit	Non-Profit	
Aging	$741,575	$2,057,824	$17,704,127
Cancer Research	$21,971,123	$26,223,222	$229,617,754
Cardiovascular Research	$2,607,259	$10,350,765	$49,229,846
Child Health and Human Development	$729,645	$5,454,896	$24,258,841
Mental Health	$2,759,307	$4,613,570	$15,929,080
Substance Abuse	$9,513	$18,013	$11,349,460
Totals	**$28,818,422**	**$48,718,290**	**$348,089,108**

INSTITUTIONAL DATA - UNIVERSITIES

This section of the report contains detailed information on research expenditures reported by individual institutions. Statements related to data quality and applicability found on page 1 of this report also apply to the data shown in this section of the report.

Figure 6

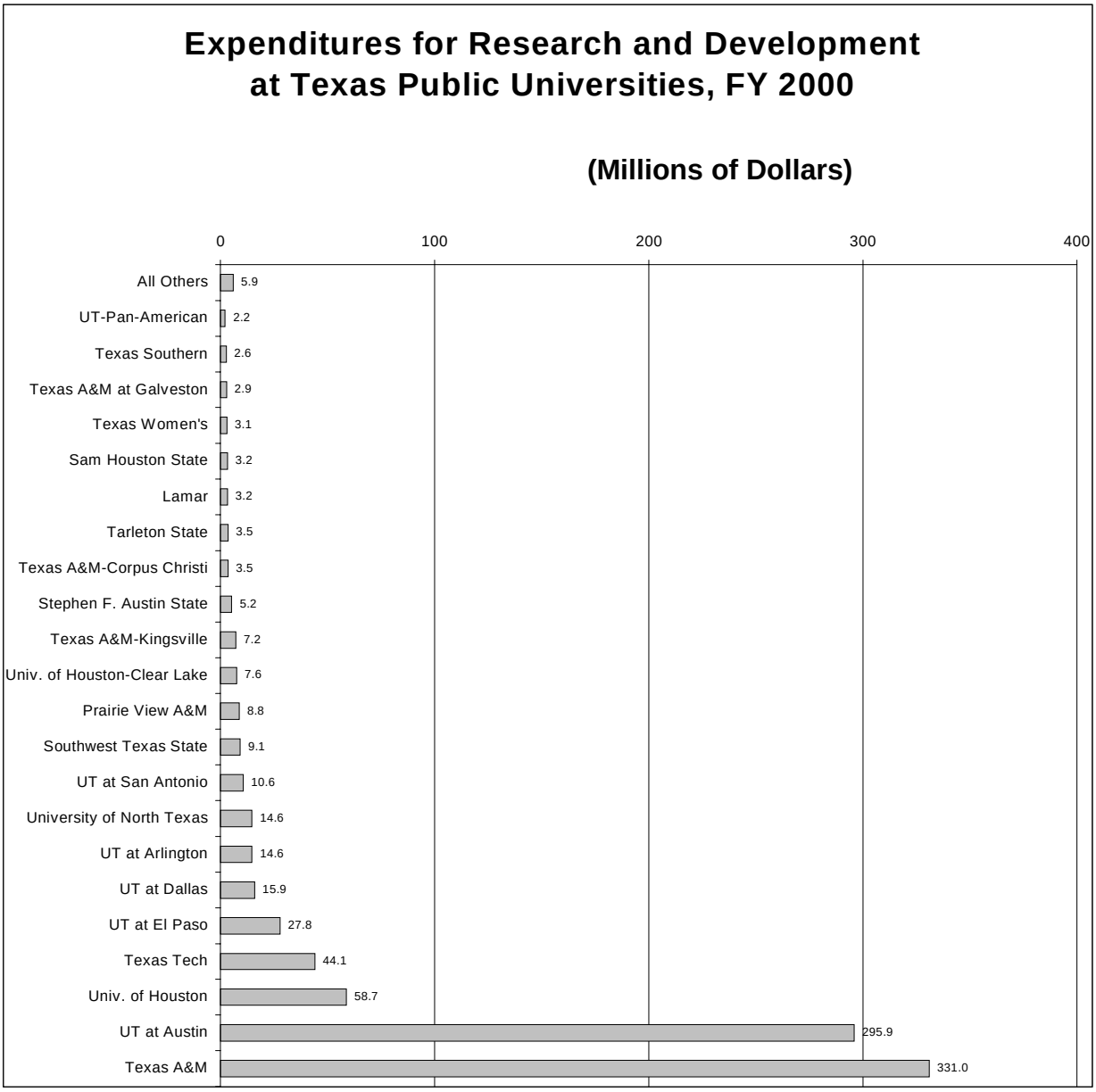


Table 7

Total Expenditures for Research and Other Research-Related Sponsored Programs by Source of Funds, FY2000

Institution	Federal		State			
			Appropriated		Contracts and Grants	
	R&D	Other	R&D	Other	R&D	Other
Midwestern State	$37,293	$0	$22,759	$0	$0	$0
Stephen F. Austin State	$521,123	$0	$0	$0	$560,913	$0
Texas A&M University System						
Prairie View A&M	$7,812,509	$261,715	$574,014	$0	$217,757	$0
Tarleton State	$1,425,780	$0	$1,921,487	$0	$8,740	$0
Texas A&M and Services	$150,341,703	$718,075	$66,725,921	$1,143,234	$29,741,735	$54,508
Texas A&M-Commerce	$175,163	$18,945	$68,638	$68,637	$9,795	$0
Texas A&M-Corpus Christi	$922,819	$103,817	$47,556	$559,881	$2,136,193	$282,487
Texas A&M at Galveston	$1,340,939	$0	$398,224	$395,076	$460,826	$0
Texas A&M International	$232,757	$0	$0	$0	$52,625	$0
Texas A&M-Kingsville	$2,050,146	$0	$2,635,982	$0	$439,511	$0
Texas A&M-Texarkana	$0	$0	$0	$0	$0	$0
West Texas A&M	$147,735	$0	$1,513,913	$644,625	$34,785	$0
Texas Southern	$2,002,349	$0	$0	$0	$425,537	$0
Texas State University System						
Angelo State	$37,445	$0	$411,366	$142,579	$30,596	$372,650
Lamar	$2,329,531	$146,210	$682,648	$152,844	$33,450	$1,208
Sam Houston State	$2,132,294	$6,494,178	$57,177	$0	$86,830	$10,187
Southwest Texas State	$6,460,981	$0	$1,422,240	$0	$0	$0
Sul Ross State	$228,234	$0	$400,845	$0	$83,314	$0
Sul Ross - Rio Grande	$0	$0	$0	$0	$0	$0
Texas Tech	$17,860,045	$0	$10,143,691	$0	$5,633,203	$0
Texas Woman's	$1,440,415	$2,519	$842,625	$697,551	$293,263	$0
University of Texas System						
UT at Arlington	$5,242,897	$0	$5,518,008	$0	$697,023	$0
UT at Austin	$185,190,446	$0	$26,042,380	$0	$24,081,197	$0
UT at Brownsville	$241,980	$70,338	$0	$0	$57,379	$0
UT at Dallas	$7,049,617	$0	$2,670,549	$0	$463,130	$0
UT at El Paso	$22,972,030	$0	$2,577,726	$0	$626,469	$0
UT-Pan American	$1,149,325	$0	$810,244	$0	$21,038	$0
UT of the Permian Basin	$233,075	$0	$386,493	$0	$45,497	$0
UT at San Antonio	$7,421,650	$0	$1,391,408	$466,347	$849,132	$0
UT at Tyler	$63,307	$0	$0	$0	$93,812	$0
University of Houston System						
Univ. of Houston	$24,887,466	$0	$17,045,632	$0	$1,924,814	$0
Univ. of Houston-Clear Lake	$6,647,437	$0	$301,477	$0	$244,880	$0
Univ. of Houston-Downtown	$441,926	$171,329	$146,402	$175,187	$0	$0
Univ. of Houston-Victoria	$0	$0	$0	$0	$0	$0
University of North Texas	$7,301,680	$0	$1,481,167	$0	$972,137	$0
Totals	**$466,342,097**	**$7,987,126**	**$146,240,572**	**$4,445,961**	**$70,325,581**	**$721,040**

Shading indicates the five highest in each category.

Table 7 - continued

Total Expenditures for Research and Other Research-Related Sponsored Programs by Source of Funds, FY2000

Institution	Institution		Private, Profit		Private, Non-Profit	
	R&D	Other	R&D	Other	R&D	Other
Midwestern State	$0	$0	$0	$0	$41,883	$5,888
Stephen F. Austin State	$1,422,807	$0	$294,652	$0	$2,374,613	$0
Texas A&M University System						
Prairie View A&M	$107,858	$343,173	$30,000	$0	$53,205	$0
Tarleton State	$27,991	$0	$120,056	$0	$0	$0
Texas A&M and Services	$44,261,129	$1,344,383	$19,062,130	$63,899	$20,895,353	$240,103
Texas A&M-Commerce	$26,872	$21,899	$0	$0	$133,686	$0
Texas A&M-Corpus Christi	$13,086	$9,653	$51,381	$0	$346,099	$473,852
Texas A&M at Galveston	$278,158	$0	$185,143	$0	$284,980	$184
Texas A&M International	$91,554	$0	$0	$0	$19,492	$0
Texas A&M-Kingsville	$0	$0	$1,589,734	$0	$448,498	$0
Texas A&M-Texarkana	$0	$0	$0	$0	$0	$0
West Texas A&M	$0	$0	$4,998	$0	$77,426	$0
Texas Southern	$24,501	$0	$62,334	$0	$81,274	$0
Texas State University System						
Angelo State	$0	$2,378	$35,797	$0	$9,782	$4,382
Lamar	$2,352	$136,671	$81,159	$0	$74,921	$63,494
Sam Houston State	$181,000	$0	$38,917	$4,492	$659,866	$875,805
Southwest Texas State	$201,256	$0	$0	$0	$1,043,424	$0
Sul Ross State	$0	$0	$0	$0	$84,015	$0
Sul Ross - Rio Grande	$0	$0	$0	$0	$0	$0
Texas Tech	$2,758,458	$0	$3,497,214	$0	$4,218,013	$0
Texas Woman's	$0	$0	$348,553	$0	$218,919	$0
University of Texas System						
UT at Arlington	$135,709	$0	$706,030	$0	$2,252,648	$0
UT at Austin	$20,496,402	$0	$21,018,116	$0	$19,072,746	$0
UT at Brownsville	$0	$9,201	$0	$0	$0	$16,956
UT at Dallas	$725,593	$2,373,808	$2,520,167	$0	$2,494,213	$0
UT at El Paso	$640,649	$589,761	$24,473	$0	$942,699	$0
UT-Pan American	$63,746	$0	$6,378	$0	$124,831	$0
UT of the Permian Basin	$106,781	$0	$0	$0	$40,127	$0
UT at San Antonio	$239,029	$0	$106,629	$0	$605,234	$0
UT at Tyler	$9,617	$4,863	$0	$0	$44,011	$0
University of Houston System						
Univ. of Houston	$5,908,634	$0	$2,960,830	$0	$6,002,516	$0
Univ. of Houston-Clear Lake	$259,550	$0	$121,461	$0	$22,785	$0
Univ. of Houston-Downtown	$0	$0	$0	$3,757	$0	$0
Univ. of Houston-Victoria	$0	$0	$0	$0	$0	$0
University of North Texas	$2,529,189	$0	$679,647	$0	$1,637,326	$0
Totals	**$80,511,921**	**$4,835,790**	**$53,545,799**	**$72,148**	**$64,304,585**	**$1,680,664**

Shading indicates the five highest in each category.

Table 7 - continued

Total Expenditures for Research and Other Research-Related Sponsored Programs by Source of Funds, FY2000

Institution	Total		
	R&D	Other	R&D and Other
Midwestern State	$101,935	$5,888	$107,823
Stephen F. Austin State	$5,174,108	$0	$5,174,108
Texas A&M University System			
Prairie View A&M	$8,795,343	$604,888	$9,400,231
Tarleton State	$3,504,054	$0	$3,504,054
Texas A&M and Services	$331,027,971	$3,564,202	$334,592,173
Texas A&M-Commerce	$414,154	$109,481	$523,635
Texas A&M-Corpus Christi	$3,517,134	$1,429,690	$4,946,824
Texas A&M at Galveston	$2,948,270	$395,260	$3,343,530
Texas A&M International	$396,428	$0	$396,428
Texas A&M-Kingsville	$7,163,871	$0	$7,163,871
Texas A&M-Texarkana	$0	$0	$0
West Texas A&M	$1,778,857	$644,625	$2,423,482
Texas Southern	$2,595,995	$0	$2,595,995
Texas State University System			
Angelo State	$524,986	$521,989	$1,046,975
Lamar	$3,204,061	$500,427	$3,704,488
Sam Houston State	$3,156,084	$7,384,662	$10,540,746
Southwest Texas State	$9,127,901	$0	$9,127,901
Sul Ross State	$796,408	$0	$796,408
Sul Ross - Rio Grande	$0	$0	$0
Texas Tech	$44,110,624	$0	$44,110,624
Texas Woman's	$3,143,775	$700,070	$3,843,845
University of Texas System			
UT at Arlington	$14,552,315	$0	$14,552,315
UT at Austin	$295,901,287	$0	$295,901,287
UT at Brownsville	$299,359	$96,495	$395,854
UT at Dallas	$15,923,269	$2,373,808	$18,297,077
UT at El Paso	$27,784,046	$589,761	$28,373,807
UT-Pan American	$2,175,562	$0	$2,175,562
UT of the Permian Basin	$811,973	$0	$811,973
UT at San Antonio	$10,613,082	$466,347	$11,079,429
UT at Tyler	$210,747	$4,863	$215,610
University of Houston System			
Univ. of Houston	$58,729,892	$0	$58,729,892
Univ. of Houston-Clear Lake	$7,597,590	$0	$7,597,590
Univ. of Houston-Downtown	$588,328	$350,273	$938,601
Univ. of Houston-Victoria	$0	$0	$0
University of North Texas	$14,601,146	$0	$14,601,146
Totals	**$881,270,555**	**$19,742,729**	**$901,013,284**

Shading indicates the five highest in each category.

Table 8

Federal R&D Expenditures/FTE Faculty Ratio, FY 2000
Texas Public Universities

Institution	Federal R&D Expenditures	FTE Faculty*	Federal R&D Expenditures/FTE
Midwestern State	$37,293	131.67	$283.23
Stephen F. Austin State	$521,123	343.64	$1,516.48
Texas A&M University System			
Prairie View A&M	$7,812,509	147.84	$52,844.35
Tarleton State	$1,425,780	140.35	$10,158.75
Texas A&M and Services	$150,341,703	1,565.35	$96,043.51
Texas A&M-Commerce	$175,163	164.16	$1,067.03
Texas A&M-Corpus Christi	$922,819	173.92	$5,306.00
Texas A&M at Galveston	$1,340,939	30.45	$44,037.41
Texas A&M International	$232,757	100.00	$2,327.57
Texas A&M-Kingsville	$2,050,146	199.87	$10,257.40
Texas A&M-Texarkana	$0	25.00	$0.00
West Texas A&M	$147,735	143.67	$1,028.29
Texas Southern	$2,002,349	209.80	$9,544.08
Texas State University System			
Angelo State	$37,445	145.02	$258.21
Lamar	$2,329,531	216.87	$10,741.60
Sam Houston State	$2,132,294	299.09	$7,129.27
Southwest Texas State	$6,460,981	499.09	$12,945.52
Sul Ross State	$228,234	64.42	$3,542.91
Sul Ross - Rio Grande	$0	21.00	$0.00
Texas Tech	$17,860,045	750.89	$23,785.17
Texas Woman's	$1,440,415	272.41	$5,287.67
University of Texas System			
UT at Arlington	$5,242,897	481.51	$10,888.45
UT at Austin	$185,190,446	1,532.51	$120,841.26
UT at Brownsville	$241,980	70.05	$3,454.39
UT at Dallas	$7,049,617	240.41	$29,323.31
UT at El Paso	$22,972,030	374.00	$61,422.54
UT-Pan American	$1,149,325	270.02	$4,256.44
UT of the Permian Basin	$233,075	62.25	$3,744.18
UT at San Antonio	$7,421,650	285.31	$26,012.58
UT at Tyler	$63,307	119.54	$529.59
University of Houston System			
Univ. of Houston	$24,887,466	774.96	$32,114.52
Univ. of Houston-Clear Lake	$6,647,437	154.42	$43,047.77
Univ. of Houston-Downtown	$441,926	148.29	$2,980.15
Univ. of Houston-Victoria	$0	31.75	$0.00
University of North Texas	$7,301,680	633.53	$11,525.39
Totals	**$466,342,097**	**10,823.06**	**$43,087.82**

* FTE Faculty indicates number of full-time equivalents for tenured and tenure-track faculty for fall of 1999.
Shading indicates the five highest in each category.

Table 9

Expenditures for Conduct of R&D by Field, FY2000
Texas Public Universities

Institution	Agricultural Sciences	Biological and Other Life Sciences	Computer Science	Engineering	Environmental Sciences	Mathematical Sciences
Midwestern State	$0	$683	$37,293	$0	$0	$0
Stephen F. Austin State	$3,837,481	$361,870	$411,421	$0	$11,633	$0
Texas A&M University System						
Prairie View A&M	$3,608,310	$0	$482,986	$3,202,549	$1,610	$84,300
Tarleton State	$9,517	$101,164	$0	$0	$3,342,018	$15,112
Texas A&M and Services	$43,455,251	$67,179,889	$9,248,077	$92,649,647	$60,506,910	$3,941,893
Texas A&M-Commerce	$210,911	$753	$6,285	$17,945	$0	$1,608
Texas A&M-Corpus Christi	$0	$165,270	$12,979	$1,887,519	$884,595	$0
Texas A&M at Galveston	$0	$114,275	$0	$43,448	$2,618,289	$0
Texas A&M International	$0	$41,982	$38,048	$0	$245,988	$2,316
Texas A&M-Kingsville	$3,990,354	$1,153,395	$775	$971,928	$603,205	$0
Texas A&M-Texarkana	$0	$0	$0	$0	$0	$0
West Texas A&M	$1,392,655	$70,173	$0	$158,082	$15,283	$5,148
Texas Southern	$0	$1,341,119	$144,043	$62,090	$129,140	$0
Texas State University System						
Angelo State	$391,655	$54,767	$0	$0	$0	$8,500
Lamar	$0	$24,603	$0	$627,308	$1,896,582	$19,496
Sam Houston State	$19,382	$210,167	$0	$0	$776,910	$24,671
Southwest Texas State	$27,331	$940,447	$9,671	$19,602	$666,306	$322,015
Sul Ross State	$222,461	$174,083	$0	$0	$61,934	$0
Sul Ross - Rio Grande	$0	$0	$0	$0	$0	$0
Texas Tech	$10,800,747	$2,831,455	$601,146	$12,063,076	$6,708,853	$922,157
Texas Woman's	$0	$1,689,066	$0	$0	$0	$3,786
University of Texas System						
UT at Arlington	$0	$991,394	$1,317,207	$5,899,817	$516,948	$118,926
UT at Austin	$113,355	$26,156,847	$17,265,806	$100,649,645	$29,757,608	$15,018,398
UT at Brownsville	$27,478	$0	$0	$0	$48,374	$0
UT at Dallas	$0	$2,265,596	$1,432,137	$2,117,813	$1,141,047	$76,988
UT at El Paso	$0	$2,246,215	$1,365,271	$5,910,442	$3,865,573	$123,780
UT-Pan American	$10,349	$242,953	$6,408	$434,159	$24,701	$3,371
UT of the Permian Basin	$0	$0	$114,458	$0	$52,314	$0
UT at San Antonio	$0	$5,086,471	$887,633	$687,531	$48,214	$75,849
UT at Tyler	$4,900	$59,259	$0	$41,416	$6,222	$3,111
University of Houston System						
Univ. of Houston	$0	$5,269,084	$3,787,409	$9,244,841	$1,248,686	$723,465
Univ. of Houston-Clear Lake	$0	$95,624	$331,334	$6,193,841	$165,988	$94,387
Univ. of Houston-Downtown	$0	$0	$505,295	$0	$25,813	$35,581
Univ. of Houston-Victoria	$0	$0	$0	$0	$0	$0
University of North Texas	$7,239	$1,024,547	$66,407	$159,769	$1,653,209	$448,944
Totals	**$68,129,376**	**$119,893,151**	**$38,072,089**	**$243,042,468**	**$117,023,953**	**$22,073,802**

Shading indicates the five highest in each category.

Table 9 - continued

Expenditures for Conduct of R&D by Field, FY2000
Texas Public Universities

Institution	Medical Sciences	Physical Sciences	Psychology	Social Sciences	Other Sciences
Midwestern State	$2,633	$27,887	$0	$3,179	$0
Stephen F. Austin State	$414	$231,551	$518	$12,267	$0
Texas A&M University System					
Prairie View A&M	$327,459	$580,900	$0	$355,363	$0
Tarleton State	$0	$5,427	$0	$6,272	$0
Texas A&M and Services	$18,475,124	$12,075,781	$2,474,859	$12,716,168	$1,696,120
Texas A&M-Commerce	$0	$6,653	$2,836	$819	$80,950
Texas A&M-Corpus Christi	$145,774	$3,776	$0	$41,732	$0
Texas A&M at Galveston	$0	$153,221	$0	$15,997	$0
Texas A&M International	$148	$0	$0	$0	$809
Texas A&M-Kingsville	$0	$103,980	$0	$0	$119,434
Texas A&M-Texarkana	$0	$0	$0	$0	$0
West Texas A&M	$0	$85,241	$0	$4,563	$0
Texas Southern	$0	$379,763	$0	$0	$125,723
Texas State University System					
Angelo State	$7,369	$36,582	$0	$0	$0
Lamar	$0	$217,733	$3,814	$135	$0
Sam Houston State	$0	$193,768	$15,000	$462,358	$10,000
Southwest Texas State	$600,738	$3,461,969	$7,147	$19,995	$119,614
Sul Ross State	$0	$0	$0	$327,628	$0
Sul Ross - Rio Grande	$0	$0	$0	$0	$0
Texas Tech	$0	$4,389,713	$256,137	$3,956,289	$203,795
Texas Woman's	$1,117,416	$59,834	$620	$48,548	$126,549
University of Texas System					
UT at Arlington	$193,805	$2,512,185	$302,787	$189,078	$0
UT at Austin	$11,924,277	$53,594,173	$3,420,633	$13,309,649	$2,488,760
UT at Brownsville	$0	$0	$0	$50,065	$0
UT at Dallas	$710,712	$4,286,382	$1,189,621	$2,177,902	$0
UT at El Paso	$480,258	$1,696,973	$802,154	$554,658	$2,955,874
UT-Pan American	$692,876	$166,783	$53,935	$95,857	$0
UT of the Permian Basin	$2,292	$46,769	$574	$0	$7,896
UT at San Antonio	$0	$152,581	$0	$2,711,911	$0
UT at Tyler	$32,598	$300	$5,747	$7,243	$7,215
University of Houston System					
Univ. of Houston	$4,730,462	$16,795,897	$2,691,843	$975,381	$4,500,541
Univ. of Houston-Clear Lake	$0	$105,779	$50,698	$909	$28,852
Univ. of Houston-Downtown	$0	$21,639	$0	$0	$0
Univ. of Houston-Victoria	$0	$0	$0	$0	$0
University of North Texas	$41,458	$2,543,891	$788,014	$2,375,358	$0
Totals	**$39,485,813**	**$103,937,131**	**$12,066,937**	**$40,419,324**	**$12,472,132**

Shading indicates the five highest in each category.

Table 9 - continued

Expenditures for Conduct of R&D by Field, FY2000
Texas Public Universities

Institution	Arts and Humanities	Business Administration	Education	Law and Public Administration	Other Non-Sciences	Total
Midwestern State	$5,083	$23,293	$1,884	$0	$0	$101,935
Stephen F. Austin State	$127,443	$16,128	$64,260	$99,122	$0	$5,174,108
Texas A&M University System						
Prairie View A&M	$0	$255	$151,611	$0	$0	$8,795,343
Tarleton State	$0	$7,806	$3,957	$0	$12,781	$3,504,054
Texas A&M and Services	$354,762	$2,411,411	$3,399,440	$428,082	$14,557	$331,027,971
Texas A&M-Commerce	$14,453	$0	$31,225	$0	$39,716	$414,154
Texas A&M-Corpus Christi	$0	$0	$375,489	$0	$0	$3,517,134
Texas A&M at Galveston	$1,206	$0	$0	$1,834	$0	$2,948,270
Texas A&M International	$18,234	$33,245	$8,930	$0	$6,728	$396,428
Texas A&M-Kingsville	$0	$7,387	$5,785	$0	$207,628	$7,163,871
Texas A&M-Texarkana	$0	$0	$0	$0	$0	$0
West Texas A&M	$1,150	$6,177	$19,967	$0	$20,418	$1,778,857
Texas Southern	$16,764	$0	$0	$3,550	$393,803	$2,595,995
Texas State University System						
Angelo State	$7,071	$9,000	$0	$0	$10,042	$524,986
Lamar	$0	$0	$0	$0	$414,390	$3,204,061
Sam Houston State	$25,000	$23,000	$44,886	$1,340,942	$10,000	$3,156,084
Southwest Texas State	$417,377	$83,189	$1,797,725	$90,860	$543,915	$9,127,901
Sul Ross State	$0	$0	$74	$0	$10,228	$796,408
Sul Ross - Rio Grande	$0	$0	$0	$0	$0	$0
Texas Tech	$85,704	$769,170	$436,139	$86,243	$0	$44,110,624
Texas Woman's	$20,776	$0	$77,180	$0	$0	$3,143,775
University of Texas System						
UT at Arlington	$65,516	$104,891	$495,221	$202,148	$1,642,392	$14,552,315
UT at Austin	$2,631,012	$2,313,113	$8,973,318	$2,540,412	$5,744,281	$295,901,287
UT at Brownsville	$0	$0	$173,442	$0	$0	$299,359
UT at Dallas	$178,190	$325,312	$21,569	$0	$0	$15,923,269
UT at El Paso	$6,716	$430,890	$6,988,326	$147,948	$208,968	$27,784,046
UT-Pan American	$19,632	$333,011	$86,660	$4,867	$0	$2,175,562
UT of the Permian Basin	$24,698	$384,537	$67,188	$0	$111,247	$811,973
UT at San Antonio	$139,847	$442,661	$380,384	$0	$0	$10,613,082
UT at Tyler	$12,443	$27,814	$2,479	$0	$0	$210,747
University of Houston System						
Univ. of Houston	$863,879	$838,772	$2,892,661	$658,389	$3,508,582	$58,729,892
Univ. of Houston-Clear Lake	$26,371	$177,755	$81,013	$0	$245,039	$7,597,590
Univ. of Houston-Downtown	$0	$0	$0	$0	$0	$588,328
Univ. of Houston-Victoria	$0	$0	$0	$0	$0	$0
University of North Texas	$428,943	$330,922	$4,515,249	$217,196	$0	$14,601,146
Totals	**$5,492,270**	**$9,099,739**	**$31,096,062**	**$5,821,593**	**$13,144,715**	**$881,270,555**

Shading indicates the five highest in each category.

Table 10

Expenditures for Conduct of R&D by Area of Special Interest, FY 2000
Texas Public Universities

Institution	Aerospace Technology	Biotechnology	Energy	Environmental Sciences	Food, Fiber, Agricultural Products
Midwestern State	$0	$0	$0	$0	$0
Stephen F. Austin State	$0	$355,524	$0	$3,774,819	$3,737,183
Texas A&M University System					
Prairie View A&M	$143,530	$0	$132,079	$58,978	$484,103
Tarleton State	$0	$0	$0	$2,982,431	$0
Texas A&M and Services	$2,050,770	$36,473,663	$5,772,919	$9,130,999	$32,076,912
Texas A&M-Commerce	$0	$0	$17,945	$0	$140,686
Texas A&M-Corpus Christi	$0	$0	$2,781	$576,332	$0
Texas A&M at Galveston	$0	$0	$0	$718,960	$0
Texas A&M International	$0	$0	$0	$245,988	$0
Texas A&M-Kingsville	$181,624	$1,037,262	$105,231	$1,240,497	$4,000,463
Texas A&M-Texarkana	$0	$0	$0	$0	$0
West Texas A&M	$0	$0	$158,112	$186,391	$1,249,533
Texas Southern	$0	$0	$255,441	$129,140	$0
Texas State University System					
Angelo State	$0	$0	$0	$0	$391,655
Lamar	$2,352	$0	$196,315	$2,317,436	$0
Sam Houston State	$0	$0	$60,131	$401,821	$19,382
Southwest Texas State	$32,566	$0	$0	$0	$3,239
Sul Ross State	$0	$0	$0	$38,500	$0
Sul Ross - Rio Grande	$0	$0	$0	$0	$0
Texas Tech	$2,098,979	$3,149,689	$4,844,673	$14,221,617	$10,315,333
Texas Woman's	$0	$0	$0	$0	$321,202
University of Texas System					
UT at Arlington	$921,666	$0	$1,079,632	$438,853	$0
UT at Austin	$9,060,164	$14,541,592	$29,627,050	$44,370,682	$2,608,484
UT at Brownsville	$0	$0	$0	$20,044	$0
UT at Dallas	$1,135,882	$1,914,690	$574,296	$1,129,913	$0
UT at El Paso	$865,369	$858,737	$210,759	$4,747,237	$9,413
UT-Pan American	$0	$0	$0	$24,701	$10,349
UT of the Permian Basin	$0	$0	$58,508	$17,749	$19,303
UT at San Antonio	$467,754	$0	$0	$48,214	$0
UT at Tyler	$0	$0	$0	$0	$0
University of Houston System					
Univ. of Houston	$2,409,034	$2,219,740	$5,116,603	$1,195,883	$33,867
Univ. of Houston-Clear Lake	$6,448,457	$0	$0	$165,988	$0
Univ. of Houston-Downtown	$145,157	$0	$0	$25,813	$0
Univ. of Houston-Victoria	$0	$0	$0	$0	$0
University of North Texas	$0	$219,399	$331,579	$737,917	$149,965
Totals	**$25,963,304**	**$60,770,296**	**$48,544,054**	**$88,946,903**	**$55,571,072**

Shading indicates the five highest in each category.

Table 10 - continued

Expenditures for Conduct of R&D by Area of Special Interest, FY 2000 Texas Public Universities					
Institution	Manufacturing Technology	Materials Science	Microelectronics and Computer Technology	Water Resources	Total
Midwestern State	$0	$0	$0	$0	$0
Stephen F. Austin State	$0	$0	$487,784	$2,505,213	$10,860,523
Texas A&M University System					
Prairie View A&M	$0	$43,699	$0	$0	$862,389
Tarleton State	$0	$0	$0	$0	$2,982,431
Texas A&M and Services	$2,286,319	$2,705,068	$4,334,466	$2,975,148	$97,806,264
Texas A&M-Commerce	$0	$4,973	$0	$11,026	$174,630
Texas A&M-Corpus Christi	$271,111	$0	$8,366	$0	$858,590
Texas A&M at Galveston	$0	$0	$0	$0	$718,960
Texas A&M International	$0	$0	$0	$0	$245,988
Texas A&M-Kingsville	$0	$264,672	$20,832	$87,350	$6,937,931
Texas A&M-Texarkana	$0	$0	$0	$0	$0
West Texas A&M	$0	$82,034	$0	$10,875	$1,686,945
Texas Southern	$0	$0	$144,043	$0	$528,624
Texas State University System					
Angelo State	$0	$0	$0	$0	$391,655
Lamar	$44,873	$0	$31,777	$27,214	$2,619,967
Sam Houston State	$49,187	$0	$0	$314,958	$845,479
Southwest Texas State	$0	$243,146	$0	$161,306	$440,257
Sul Ross State	$0	$0	$0	$0	$38,500
Sul Ross - Rio Grande	$0	$0	$0	$0	$0
Texas Tech	$2,918,688	$5,447,378	$2,585,759	$1,793,064	$47,375,180
Texas Woman's	$0	$0	$0	$0	$321,202
University of Texas System					
UT at Arlington	$224,472	$68,589	$1,277,074	$234,790	$4,245,076
UT at Austin	$902,674	$18,189,055	$28,320,933	$1,756,826	$149,377,460
UT at Brownsville	$0	$0	$0	$7,434	$27,478
UT at Dallas	$0	$0	$3,421,851	$43,088	$8,219,720
UT at El Paso	$1,293,022	$1,911,906	$3,886,841	$31,826	$13,815,110
UT-Pan American	$364,495	$0	$6,408	$0	$405,953
UT of the Permian Basin	$0	$0	$110,963	$745	$207,268
UT at San Antonio	$0	$0	$887,633	$30,261	$1,433,862
UT at Tyler	$0	$0	$0	$0	$0
University of Houston System					
Univ. of Houston	$977,977	$4,894,081	$3,828,191	$6,350	$20,681,726
Univ. of Houston-Clear Lake	$0	$0	$331,334	$0	$6,945,779
Univ. of Houston-Downtown	$145,157	$0	$99,494	$0	$415,621
Univ. of Houston-Victoria	$0	$0	$0	$0	$0
University of North Texas	$1,280,255	$951,110	$611,433	$381,695	$4,663,353
Totals	**$10,758,230**	**$34,805,711**	**$50,395,182**	**$10,379,169**	**$386,133,921**

Shading indicates the five highest in each category.

INSTITUTIONAL DATA – HEALTH-RELATED INSTITUTIONS

This section of the report contains detailed information on research expenditures reported by individual health-related institutions. Statements related to data quality and applicability found on page 1 of this report also apply to the data shown in this section of the report.

Figure 7

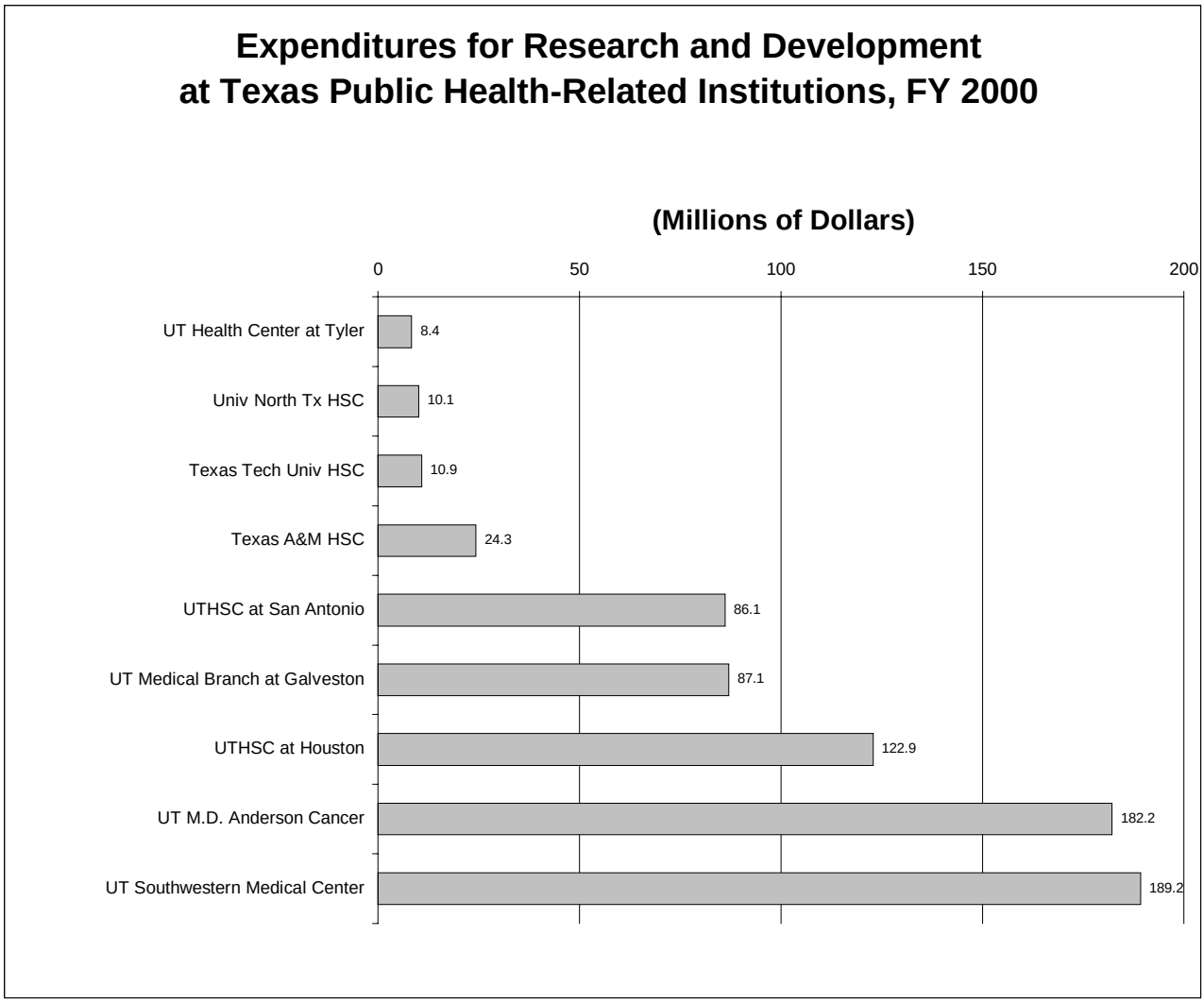


Table 11

Total Expenditures for Sponsored Programs by Source of Funds, FY 2000						
Institution	Federal		State			
			Appropriated		Contracts and Grants	
	R&D	Other	R&D	Other	R&D	Other
Texas A&M HSC	$14,320,534	$0	$5,743,395	$0	$662,950	$0
Texas Tech Univ HSC	$4,178,058	$0	$2,630,584	$0	$215,916	$0
Univ North Tx HSC	$5,798,287	$739	$1,090,765	$0	$170,350	$0
UT M.D. Anderson Cancer	$81,871,561	$0	$50,656,382	$0	$11,050	$0
UTMB at Galveston	$61,356,467	$0	$7,449,621	$3,934,959	$1,138,229	$0
UTHSC at Houston	$82,991,431	$0	$7,007,655	$0	$2,764,926	$0
UT Health Center at Tyler	$2,807,980	$0	$2,060,626	$0	$0	$0
UTHSC at San Antonio	$58,600,224	$0	$5,676,305	$0	$138,365	$0
UT Southwestern Medical Center	$109,165,343	$0	$8,339,842	$0	$2,980,641	$34,343
Totals	**$421,089,885**	**$739**	**$90,655,175**	**$3,934,959**	**$8,082,427**	**$34,343**

Shading indicates the five highest in each category.

Table 11 - continued

Total Expenditures for Sponsored Programs by Source of Funds, FY 2000						
Institution	Institution		Private, Profit		Private, Non-Profit	
	R&D	Other	R&D	Other	R&D	Other
Texas A&M HSC	$903,801	$0	$535,377	$0	$2,168,966	$0
Texas Tech Univ HSC	$1,650,526	$0	$747,740	$0	$1,445,676	$13,539
Univ North Tx HSC	$966,217	$0	$1,416,421	$8,454	$688,713	$11
UT M.D. Anderson Cancer	$10,629,171	$3,933,849	$20,271,456	$0	$18,756,870	$0
UTMB at Galveston	$486,485	$1,852,595	$6,146,413	$0	$10,569,052	$935,942
UTHSC at Houston	$987,790	$0	$13,029,328	$0	$16,133,041	$0
UT Health Center at Tyler	$2,619,344	$0	$459,020	$0	$455,438	$0
UTHSC at San Antonio	$4,063,114	$0	$295,264	$0	$17,301,162	$0
UT Southwestern Medical Center	$5,317,099	$14,941,231	$14,860,706	$0	$48,552,706	$361,104
Totals	**$27,623,547**	**$20,727,675**	**$57,761,725**	**$8,454**	**$116,071,624**	**$1,310,596**

Shading indicates the five highest in each category.

Table 11 - continued

Total Expenditures for Sponsored Programs by Source of Funds, FY 2000			
Institution	Total		
	R&D	Other	Total
Texas A&M HSC	$24,335,023	$0	$24,335,023
Texas Tech Univ HSC	$10,868,500	$13,539	$10,882,039
Univ North Tx HSC	$10,130,753	$9,204	$10,139,957
UT M.D. Anderson Cancer	$182,196,490	$3,933,849	$186,130,339
UTMB at Galveston	$87,146,267	$6,723,496	$93,869,763
UTHSC at Houston	$122,914,171	$0	$122,914,171
UT Health Center at Tyler	$8,402,408	$0	$8,402,408
UTHSC at San Antonio	$86,074,434	$0	$86,074,434
UT Southwestern Medical Center	$189,216,337	$15,336,678	$204,553,015
Totals	**$721,284,383**	**$26,016,766**	**$747,301,149**

Shading indicates the five highest in each category.

Table 12

Expenditures for Conduct of R&D by Field, FY 2000 Texas Public Health-Related Institutions					
Institution	Agricultural Sciences	Biological and Other Life Sciences	Computer Sciences	Engineering	Environmental Sciences
Texas A&M HSC	$0	$1,540,284	$69,324	$0	$0
Texas Tech Univ HSC	$0	$3,465,630	$0	$0	$0
Univ North Tx HSC	$0	$7,747,820	$0	$0	$0
UT M.D. Anderson Cancer	$0	$76,020,786	$0	$0	$0
UTMB at Galveston	$0	$36,917,258	$0	$1,326,351	$0
UTHSC at Houston	$0	$19,705,273	$0	$0	$0
UT Health Center at Tyler	$736,190	$0	$0	$0	$33,674
UTHSC at San Antonio	$0	$0	$0	$0	$0
UT Southwestern Medical Center	$0	$84,394,236	$0	$0	$0
Totals	**$736,190**	**$229,791,287**	**$69,324**	**$1,326,351**	**$33,674**

Shading indicates the five highest in each category.

Table 12 - continued

Expenditures for Conduct of R&D by Field, FY 2000 Texas Public Health-Related Institutions				
Institution	Mathematical Sciences	Medical Sciences	Physical Sciences	Social Sciences
Texas A&M HSC	$0	$22,663,517	$46,578	$6,935
Texas Tech Univ HSC	$0	$7,402,870	$0	$0
Univ North Tx HSC	$0	$2,170,816	$0	$0
UT M.D. Anderson Cancer	$5,142,645	$97,326,150	$3,706,909	$0
UTMB at Galveston	$0	$48,653,857	$0	$0
UTHSC at Houston	$0	$103,208,898	$0	$0
UT Health Center at Tyler	$0	$7,632,544	$0	$0
UTHSC at San Antonio	$0	$86,074,434	$0	$0
UT Southwestern Medical Center	$0	$98,799,180	$0	$0
Totals	**$5,142,645**	**$473,932,266**	**$3,753,487**	**$6,935**

Shading indicates the five highest in each category.

Table 12 - continued

Expenditures for Conduct of R&D by Field, FY 2000 Texas Public Health-Related Institutions					
Institution	Other Sciences	Arts and Humanities	Education	Other Non-Sciences	Total
Texas A&M HSC	$0	$0	$0	$8,385	$24,335,023
Texas Tech Univ HSC	$0	$0	$0	$0	$10,868,500
Univ North Tx HSC	$0	$0	$212,117	$0	$10,130,753
UT M.D. Anderson Cancer	$0	$0	$0	$0	$182,196,490
UTMB at Galveston	$0	$248,801	$0	$0	$87,146,267
UTHSC at Houston	$0	$0	$0	$0	$122,914,171
UT Health Center at Tyler	$0	$0	$0	$0	$8,402,408
UTHSC at San Antonio	$0	$0	$0	$0	$86,074,434
UT Southwestern Medical Center	$6,022,921	$0	$0	$0	$189,216,337
Totals	**$6,022,921**	**$248,801**	**$212,117**	**$8,385**	**$721,284,383**

Shading indicates the five highest in each category.

Table 13

Expenditures for Research and Development by Area of Special Interest, FY 2000 Texas Public Health-Related Institutions				
Institution	Aging	Cancer Research	Cardiovascular Research	Child Health and Human Development
Texas A&M HSC	$40,299	$1,684,516	$4,123,138	$1,246,805
Texas Tech Univ HSC	$1,168,355	$988,913	$298,634	$0
Univ North Tx HSC	$442,593	$71,078	$1,334,919	$31,349
UT M.D. Anderson Cancer	$0	$182,196,490	$0	$0
UTMB at Galveston	$5,645,678	$6,611,836	$1,092,980	$1,946,481
UTHSC at Houston	$2,501,885	$2,752,832	$9,899,697	$10,156,313
UT Health Center at Tyler	$0	$21,980	$0	$0
UTHSC at San Antonio	$4,664,124	$14,002,815	$5,745,540	$3,678,092
UT Southwestern Medical Center	$3,241,193	$21,287,294	$26,734,938	$7,199,801
Totals	**$17,704,127**	**$229,617,754**	**$49,229,846**	**$24,258,841**

Shading indicates the five highest in each category.

Table 13 - continued

Expenditures for Research and Development by Area of Special Interest, FY 2000 Texas Public Health-Related Institutions			
Institution	Mental Health	Substance Abuse	Total
Texas A&M HSC	$65,703	$768,512	$7,928,973
Texas Tech Univ HSC	$1,168,355	$602,573	$4,226,830
Univ North Tx HSC	$0	$1,021,717	$2,901,656
UT M.D. Anderson Cancer	$0	$0	$182,196,490
UTMB at Galveston	$2,084,328	$1,335,959	$18,717,262
UTHSC at Houston	$4,246,536	$3,068,549	$32,625,812
UT Health Center at Tyler	$0	$0	$21,980
UTHSC at San Antonio	$1,353,068	$3,614,268	$33,057,907
UT Southwestern Medical Center	$7,011,090	$937,882	$66,412,198
Totals	**$15,929,080**	**$11,349,460**	**$348,089,108**

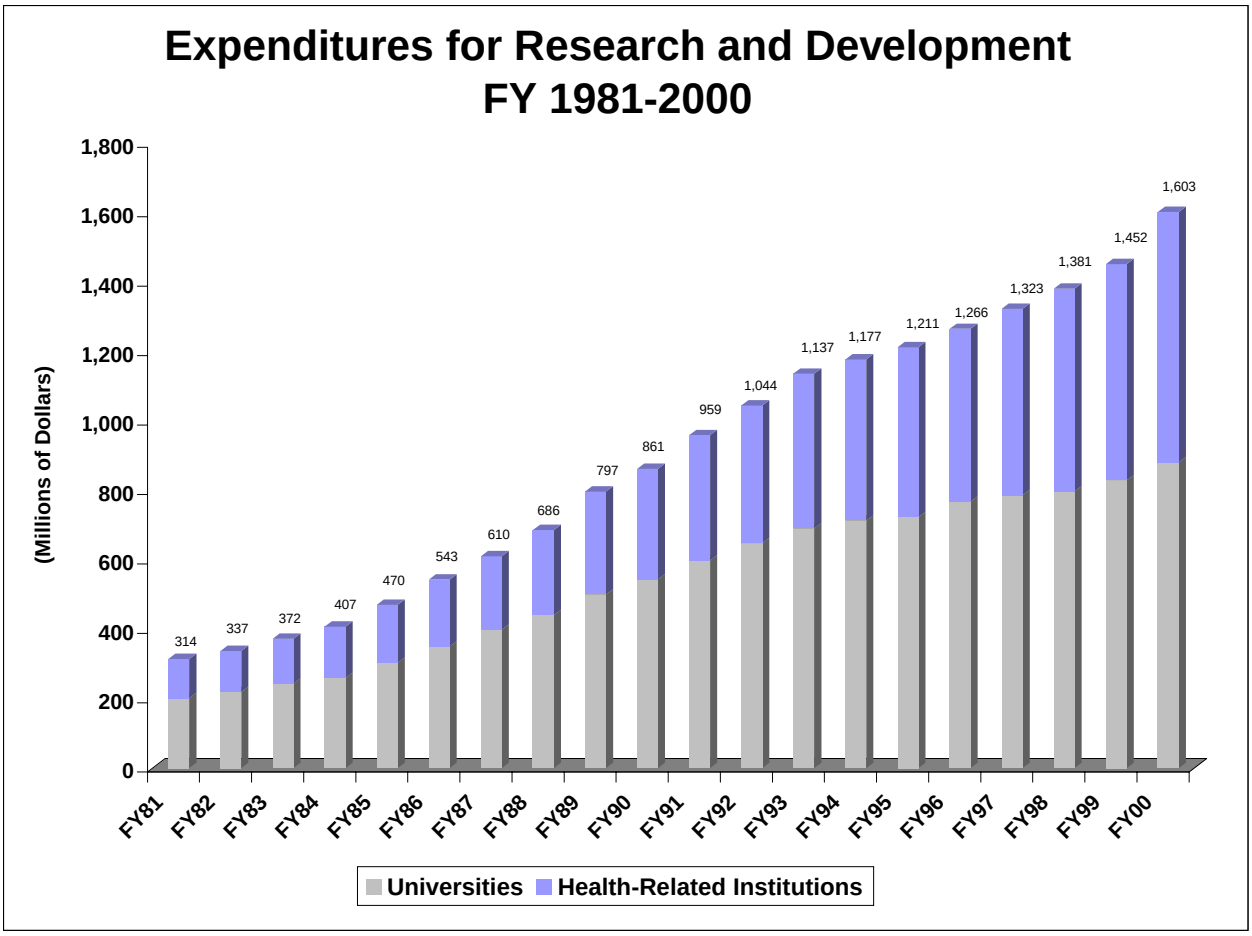
Shading indicates the five highest in each category.

HISTORICAL DATA

Much of the data in this report will not allow accurate comparisons with data contained in reports prior to 1990. Since then, many individual data items have been more rigorously defined.

Total research expenditures is the statistic allowing the most accurate long-term comparison. However, because a more precise and more conservative definition of research activity was adopted, research expenditures for Fiscal Years 1990 through 2000 are probably understated when compared to expenditures reported in previous years. Figure 8 graphs total research and development expenditures since 1981.

Figure 8



Sixteen institutions reported $28,184,125 in income from research-related intellectual property, representing a 36 percent increase over the $20,696,725 earned in Fiscal Year 1999 and a 103 percent increase since 1997. Table 14 shows the income received at each institution and the number of intellectual properties producing income. In Fiscal Year 2000, 182 new patents or copyrights were issued to Texas public higher education institutions.

Table 14

Intellectual Property Income
Texas Public Universities and Health-Related Institutions

Institution	FY 1997		FY 1998		FY 1999		FY 2000	
	Income	N*	Income	N*	Income	N*	Income	N*
Texas A&M and Services	$4,010,887	113	$4,466,679	131	$5,262,289	152	$6,008,531	129
Sam Houston State	$0	0	$1,500	1	$1,500	1	$1,500	1
Texas Tech University	$118,847	5	$77,782	6	$175,000	91	$475,000	41
UT at Arlington	$50,962	2	$97,189	2	$89,254	2	$73,017	2
UT at Austin	$2,112,342	237	$2,027,908	163	$1,929,390	165	$1,919,356	180
UT at Dallas	$123,710	11	$94,007	6	$48,725	4	$39,169	17
UT at El Paso	$5,044	1	$19,854	1	$42,470	19	$21,354	1
University of Houston	$75,409	18	$80,178	9	$120,831	40	$1,900,000	21
Subtotals	**$6,497,201**	**387**	**$6,865,097**	**319**	**$7,669,459**	**474**	**$10,437,927**	**392**
Texas A&M HSC**	---	---	---	---	---	---	$39,162	2
Texas Tech Univ HSC	$630	1	$0	0	$0	0	$30,000	1
Univ North Tx HSC	$0	0	$0	0	$381,242	1	$1,200,000	7
UT M.D. Anderson***	$740,000	119	$3,416,603	119	$3,169,420	60	$4,001,093	43
UTMB at Galveston	$180,832	15	$139,294	22	$406,939	22	$955,744	42
UTHSC at Houston	$311,703	10	$341,959	9	$343,050	7	$725,413	16
UT Health Ctr at Tyler	$0	0	$0	0	$600	5	$0	0
UTHSC at San Antonio	$2,843,988	17	$2,360,481	23	$3,863,467	28	$2,162,647	125
UT Southwestern Med Ctr	$3,301,766	142	$3,904,254	130	$4,862,549	109	$8,632,139	134
Subtotals	**$7,378,919**	**304**	**$10,162,591**	**303**	**$13,027,267**	**232**	**$17,746,198**	**370**
Totals	**$13,876,120**	**691**	**$17,027,668**	**622**	**$20,696,725**	**706**	**$28,184,125**	**762**

*N=number of intellectual properties (patents, copyrights, and licensing agreements) producing income.
**TAMU College of Medicine combined with TAMUS Baylor College of Dentistry to form Texas A&M HSC in FY 2000.
***In 1999, this institution removed licensing-related research funding from intellectual property reported for FY91-98. Corrected data for previous reports include: FY 1991 - $111,000; FY 1992 - $362,000; FY 1993 - $201,310; FY 1994 - $150,049; FY 1995 - $131,000

Table 15 on the following page shows total research and development expenditures at Texas public universities over the past four years. Table 16 shows federal research and development expenditures and the ratio of federal-to-state research and development expenditures over the past four years. Tables 17 and 18 show similar data for health-related institutions. One-year and five-year changes in federal expenditures for research and development for the different disciplines are shown in Table 19.

Table 15

Expenditures for Research and Development Texas Public Universities					
Institution	FY 1997	FY 1998	FY 1999	FY 2000	Percent Change*
Midwestern State	$42,362	$163,939	$106,729	$101,935	140.63%
Stephen F. Austin State	$4,996,332	$4,081,908	$4,790,743	$5,174,108	3.56%
Texas A&M University System					
Prairie View A&M	$9,858,828	$9,952,339	$9,218,584	$8,795,343	-10.79%
Tarleton State	$2,587,483	$3,414,779	$3,464,450	$3,504,054	35.42%
Texas A&M and Services	$312,578,077	$335,200,654	$334,890,628	$331,027,971	5.90%
Texas A&M-Commerce	$384,638	$519,102	$490,899	$414,154	7.67%
Texas A&M-Corpus Christi	$1,543,154	$991,483	$838,596	$3,517,134	127.92%
Texas A&M at Galveston	$2,666,538	$3,048,955	$3,060,639	$2,948,270	10.57%
Texas A&M International	$53,575	$139,748	$418,575	$396,428	639.95%
Texas A&M-Kingsville	$6,119,017	$7,465,352	$6,618,986	$7,163,871	17.08%
Texas A&M-Texarkana	$0	$0	$0	$0	NA
West Texas A&M	$1,526,907	$2,630,689	$1,492,382	$1,778,857	16.50%
Texas Southern	$3,867,189	$3,291,677	$2,954,923	$2,595,995	-32.87%
Texas State University System					
Angelo State	$509,516	$601,619	$510,809	$524,986	3.04%
Lamar	$3,001,499	$3,706,891	$3,740,574	$3,204,061	6.75%
Sam Houston State	$5,692,419	$2,181,736	$4,550,751	$3,156,084	-44.56%
Southwest Texas State	$3,842,183	$5,239,186	$5,661,303	$9,127,901	137.57%
Sul Ross State	$313,429	$603,936	$620,550	$796,408	154.10%
Sul Ross - Rio Grande	$6,947	$7,500	$9,058	$0	-100.00%
Texas Tech	$33,640,423	$39,400,079	$40,104,672	$44,110,624	31.12%
Texas Woman's	$2,308,034	$2,423,907	$2,258,921	$3,143,775	36.21%
University of Texas System					
UT at Arlington	$28,519,577	$20,294,157	$13,589,868	$14,552,315	-48.97%
UT at Austin	$258,088,337	$249,812,376	$265,121,990	$295,901,287	14.65%
UT at Brownsville	$53,443	$73,874	$56,104	$299,359	460.15%
UT at Dallas	$15,008,478	$13,589,349	$13,676,687	$15,923,269	6.10%
UT at El Paso	$17,315,076	$14,789,490	$27,754,725	$27,784,046	60.46%
UT-Pan American	$2,110,574	$1,986,602	$2,296,623	$2,175,562	3.08%
UT of the Permian Basin	$454,021	$875,818	$752,051	$811,973	78.84%
UT at San Antonio	$5,986,882	$7,669,758	$7,914,116	$10,613,082	77.27%
UT at Tyler	$448,265	$677,505	$88,010	$210,747	-52.99%
University of Houston System					
Univ. of Houston	$44,589,826	$48,331,934	$52,200,984	$58,729,892	31.71%
Univ. of Houston-Clear Lake	$3,156,359	$2,065,679	$6,347,244	$7,597,590	140.71%
Univ. of Houston-Downtown	$989,881	$1,212,506	$701,508	$588,328	-40.57%
Univ. of Houston-Victoria	$13,465	$18,537	$0	$0	-100.00%
University of North Texas	$13,336,410	$10,744,671	$12,891,033	$14,601,146	9.48%
Totals	**$785,609,144**	**$797,207,735**	**$829,193,715**	**$881,270,555**	**12.18%**

* Percent change for 2000, relative to 1997; NA indicates not applicable

Table 16

Federal Expenditures for Research and Development
Texas Public Universities

Institution	FY 1997		FY 1998		FY 1999		FY 2000	
	Federal R&D Dollars	Fed/ State Ratio	Federal R&D Dollars	Fed/ State Ratio	Federal R&D Dollars	Fed/ State Ratio	Federal R&D Dollars	Fed/ State Ratio
Midwestern State	$5,624	0.44	$103,994	7.01	$42,359	4.91	$37,293	1.64
Stephen F. Austin State	$2,288,456	32.29	$1,125,175	7.65	$775,560	5.00	$521,123	0.93
Texas A&M University System								
Prairie View A&M	$9,428,834	65.61	$9,609,905	48.74	$8,773,141	37.20	$7,812,509	9.87
Tarleton State	$1,070,161	0.73	$1,374,861	0.77	$1,531,022	0.84	$1,425,780	0.74
Texas A&M and Services	$141,960,304	1.66	$140,487,243	1.56	$145,366,594	1.52	$150,341,703	1.56
Texas A&M-Commerce	$114,325	1.49	$133,728	0.95	$118,668	1.07	$175,163	2.23
Texas A&M-Corpus Christi	$826,440	2.33	$498,475	2.78	$383,507	2.24	$922,819	0.42
Texas A&M at Galveston	$1,347,941	2.84	$1,354,356	1.96	$1,384,321	1.77	$1,340,939	1.56
Texas A&M International	$5,520	0.26	$44,932	0.86	$101,124	0.35	$232,757	4.42
Texas A&M-Kingsville	$1,602,996	0.57	$1,873,600	0.51	$1,770,786	0.59	$2,050,146	0.67
Texas A&M-Texarkana	$0	NA	$0	NA	$0	NA	$0	NA
West Texas A&M	$72,145	0.05	$118,864	0.05	$99,996	0.08	$147,735	0.10
Texas Southern	$3,707,347	75.67	$2,879,874	14.61	$2,431,236	6.67	$2,002,349	4.71
Texas State University System								
Angelo State	$1,864	0.00	$80,922	0.19	$10,583	0.02	$37,445	0.08
Lamar	$1,758,158	1.56	$2,844,284	3.69	$2,914,687	3.96	$2,329,531	3.25
Sam Houston State	$4,974,014	9.72	$1,537,418	3.23	$3,557,061	5.73	$2,132,294	14.81
Southwest Texas State	$1,448,596	1.11	$1,587,078	0.72	$3,444,132	2.67	$6,460,981	4.54
Sul Ross State	$147,979	1.30	$144,983	0.38	$74,277	0.17	$228,234	0.47
Sul Ross - Rio Grande	$0	NA	$0	NA	$0	NA	$0	NA
Texas Tech	$13,383,042	1.07	$16,153,476	1.13	$17,219,633	1.25	$17,860,045	1.13
Texas Woman's	$1,326,470	2.01	$1,497,582	2.35	$1,306,319	1.63	$1,440,415	1.27
University of Texas System								
UT at Arlington	$21,083,328	4.55	$12,016,400	2.26	$6,289,004	1.34	$5,242,897	0.84
UT at Austin	$157,336,911	4.23	$149,656,912	4.09	$159,245,662	4.10	$185,190,446	3.69
UT at Brownsville	$0	0.00	$0	0.00	$21,857	0.64	$241,980	4.22
UT at Dallas	$6,371,163	4.02	$7,729,020	3.66	$7,192,600	3.96	$7,049,617	2.25
UT at El Paso	$13,855,019	6.98	$11,009,110	5.90	$23,871,116	7.54	$22,972,030	7.17
UT-Pan American	$1,029,730	1.08	$1,234,879	2.08	$1,077,255	1.11	$1,149,325	1.38
UT of the Permian Basin	$307,224	2.70	$321,389	0.82	$155,219	0.39	$233,075	0.54
UT at San Antonio	$4,229,496	3.64	$5,195,954	2.98	$5,480,519	3.25	$7,421,650	3.31
UT at Tyler	$285,812	2.59	$425,552	28.85	$22,519	1.82	$63,307	0.67
University of Houston System								
Univ. of Houston	$22,838,362	1.59	$23,708,230	1.68	$23,479,128	1.39	$24,887,466	1.31
Univ. of Houston-Clear Lake	$3,023,031	55.12	$1,435,583	21.80	$5,565,256	11.18	$6,647,437	12.17
Univ. of Houston-Downtown	$900,094	NA	$1,048,769	NA	$563,024	4.11	$441,926	3.02
Univ. of Houston-Victoria	$942	0.08	$0	0.00	$0	NA	$0	NA
University of North Texas	$5,521,724	2.12	$4,319,951	3.03	$5,200,725	2.59	$7,301,680	2.98
Totals	**$422,253,052**	**2.43**	**$401,552,499**	**2.20**	**$429,468,890**	**2.22**	**$466,342,097**	**2.15**

*NA indicates "not applicable" (no state research and development funds expended).

Table 17

Expenditures for Research and Development
Texas Public Health-Related Institutions

Institution	FY 1997	FY 1998	FY 1999	FY 2000	Percent Change*
TAMU College of Medicine	$4,372,595	$5,234,246	$6,957,100	---	---
TAMUS Baylor College of Dentistry	$2,245,922	$2,358,952	$2,848,344	---	---
Texas A&M HSC**	---	---	---	$24,335,023	---
Texas Tech Univ HSC	$7,293,378	$8,126,026	$8,945,802	$10,868,500	49.02%
Univ North Tx HSC	$7,257,431	$8,741,658	$9,688,816	$10,130,753	39.59%
UT M.D. Anderson Cancer	$129,578,261	$141,260,451	$155,126,397	$182,196,490	40.61%
UTMB at Galveston	$69,102,931	$76,604,190	$83,236,093	$87,146,267	26.11%
UTHSC at Houston	$95,638,639	$102,443,780	$106,703,163	$122,914,171	28.52%
UT Health Center at Tyler	$6,282,452	$7,588,544	$8,256,219	$8,402,408	33.74%
UTHSC at San Antonio	$74,695,676	$78,146,072	$77,247,996	$86,074,434	15.23%
UT Southwestern Medical Center	$140,589,359	$153,711,130	$163,518,455	$189,216,337	34.59%
Totals	**$537,056,644**	**$584,215,049**	**$622,528,385**	**$721,284,383**	**34.30%**

* Percent change for 2000, relative to 1997; --- indicates not applicable

**TAMU College of Medicine combined with TAMUS Baylor College of Dentistry to form Texas A&M HSC in FY2000.

Table 18

Federal Expenditures for Research and Development
Texas Public Health-Related Institutions

Institution	FY 1997		FY 1998		FY 1999		FY 2000	
	Federal R&D Dollars	Fed/ State Ratio	Federal R&D Dollars	Fed/ State Ratio	Federal R&D Dollars	Fed/ State Ratio	Federal R&D Dollars	Fed/ State Ratio
TAMU College of Medicine	$3,787,196	NA	$3,334,453	4.26	$3,385,338	2.50	---	---
TAMUS Baylor College of Dentistry	$841,584	3.86	$1,336,823	5.57	$1,480,612	4.54	---	---
Texas A&M HSC**	---	---	---	---	---	---	$14,320,534	2.24
Texas Tech Univ HSC	$2,916,655	1.50	$3,079,069	1.13	$3,360,508	1.30	$4,178,058	1.47
Univ North Tx HSC	$5,272,622	16.60	$5,644,989	14.58	$5,370,431	9.15	$5,798,287	4.60
UT M.D. Anderson Cancer	$49,701,904	1.04	$63,073,959	1.31	$69,412,772	1.37	$81,871,561	1.62
UTMB at Galveston	$42,006,133	3.89	$48,588,233	4.22	$55,061,209	5.68	$61,356,467	7.14
UTHSC at Houston	$67,205,688	11.63	$70,895,807	10.93	$72,684,140	10.61	$82,991,431	8.49
UT Health Center at Tyler	$1,215,622	0.73	$1,799,884	0.87	$2,297,638	0.61	$2,807,980	1.36
UTHSC at San Antonio	$53,477,559	7.50	$55,843,751	8.54	$54,128,757	8.06	$58,600,224	10.08
UT Southwestern Medical Center	$89,357,005	12.81	$97,199,674	17.35	$99,994,840	18.23	$109,165,343	9.64
Totals	**$315,781,968**	**3.82**	**$350,796,642**	**4.15**	**$367,176,245**	**4.18**	**$421,089,885**	**4.26**

* --- indicates not applicable

**TAMU College of Medicine combined with TAMUS Baylor College of Dentistry to form Texas A&M HSC in FY2000.

Table 19

Federal Expenditures for Research and Development by Field Texas Public Universities and Health-Related Institutions					
Field	FY 2000	FY 1999	One-Year Change	FY 1995	Five-Year Change
Agricultural Sciences	$18,961,362	$20,834,133	-8.99%	$16,552,512	14.55%
Biological and Other Life Sciences	$198,458,882	$175,637,665	12.99%	$73,998,913	168.19%
Computer Science	$22,830,123	$17,444,987	30.87%	$11,520,972	98.16%
Engineering	$126,003,441	$130,020,542	-3.09%	$98,261,026	28.23%
Environmental Sciences	$88,462,057	$72,773,515	21.56%	$81,209,812	8.93%
Mathematical Sciences	$16,026,249	$6,130,370	161.42%	$5,701,225	181.10%
Medical Sciences	$289,567,494	$247,785,566	16.86%	$250,902,921	15.41%
Physical Sciences	$69,189,774	$74,617,855	-7.27%	$74,664,364	-7.33%
Psychology	$8,174,898	$7,799,677	4.81%	$6,607,983	23.71%
Social Sciences	$14,598,924	$16,464,312	-11.33%	$12,153,262	20.12%
Other Sciences	$5,702,280	$2,466,478	131.19%	$525,411	985.30%
Arts and Humanities	$1,161,447	$977,851	18.78%	$1,319,482	-11.98%
Business Administration	$1,774,871	$2,945,289	-39.74%	$5,311,860	-66.59%
Education	$21,045,789	$18,344,451	14.73%	$10,582,517	98.87%
Law and Public Administration	$2,820,499	$882,011	219.78%	$449,871	526.96%
Other Non-Science Activities	$2,653,892	$1,520,432	74.55%	$2,042,259	29.95%
Totals	**$887,431,982**	**$796,645,135**	**11.40%**	**$651,804,390**	**36.15%**

NATIONAL COMPARISONS

This section of the report is based on data provided by the National Science Foundation. It is not entirely consistent with data provided in earlier sections of the report because it is based on an earlier year, because reporting requirements are somewhat different, and because the federal reports do not differentiate between state-funded and independent institutions.

The National Science Foundation makes three reports available, and each provides somewhat different information:

- *Federal Obligations for Science and Engineering* shows federal obligations for grants and contracts awarded to higher education science and engineering programs by federal agencies during the fiscal year. Funds obligated in any given year may be expended over a number of years, so obligations will be somewhat different from expenditures. This report includes support for a number of programs that are not necessarily research and development programs such as science education programs and assistantship support for engineering students. The amount of support is reported by the agencies. This report is being used in *Closing the Gaps* to measure progress toward the research goal.

- *Federal Obligations for Research and Development in Science and Engineering* includes only federal funds obligated during the year to support, directly or indirectly, basic and applied research and development in science and engineering disciplines at higher education institutions. The amount of support is again reported by the agencies.

- *Federally Financed Research and Development Expenditures* summarizes federal funds expenditures by higher education institutions to support research and development in any given year. This report is based on data reported by institutions and summarized by the National Science Foundation.

Some of the highlights of the 1998 survey of federal research and development <u>expenditures</u> include the following:

- The top five states in federal research and development expenditures were:
  California – $2 billion
  New York – $1.2 billion
  Maryland – $1 billion
  Massachusetts – $990 million
  Texas – $908 million

- Texas ranked first in state- and local government-funded expenditures.

- Texas ranked third in total R&D expenditures.

- For other sources of R&D expenditures, Texas ranked second in institutional, third in industrial, and third in all other sources.

- Texas was among the top five states for all of the different types of sources.
- In Texas, life sciences accounted for 61 percent of the R&D expenditures, followed by engineering (16 percent) and physical sciences (9 percent).

Table 20

Top Five States in Federal Research and Development (R&D) Expenditures Selected Science and Engineering Fields, FY1998

Rank	Life Sciences	$	Engineering	$	Physical Sciences	$	Environmental Sciences	$
1	California	1.0B	California	341M	California	302M	California	141M
2	New York	790M	Maryland	260M	Maryland	168M	Massachusetts	94M
3	Pennsylvania	542M	Massachusetts	180M	Massachusetts	164M	**Texas**	**75M**
4	**Texas**	**541M**	Pennsylvania	140M	New York	136M	Colorado	74M
5	Massachusetts	409M	New York	128M	**Texas**	**110M**	Maryland	62M

Source: National Science Foundation, WebCASPAR Database System, 03/08/2001

Table 21 shows the ranking of all states in federal R&D obligations and federally financed R&D expenditures for 1998. Texas ranks sixth in federal obligations for science and engineering and for research and development in science and engineering. Texas ranks fifth in research and development expenditures from federal sources. Patterns in R&D support over time for the top six states are shown in Figures 9 and 10. California and New York are the uncontested leaders in federal research support to the states.

Table 21

State Rank in Federal Obligations and Federally Financed R&D (Dollars in Thousands)

	Federal Obligations for Science and Engineering to Colleges and Universities		Federal Obligations for R&D in Science and Engineering to Colleges and Universities		Federally Financed R&D Expenditures at Colleges and Universities	
State	FY 1998	Rank	FY 1998	Rank	FY 1998	Rank
California	$2,320,650	1	$2,063,079	1	$2,025,622	1
New York	$1,308,451	2	$1,154,936	2	$1,223,899	2
Maryland	$992,768	3	$827,086	5	$1,014,239	3
Pennsylvania	$961,528	4	$881,525	3	$876,192	6
Massachusetts	$939,126	5	$854,425	4	$989,696	4
Texas	$845,965	6	$729,967	6	$908,051	5
North Carolina	$603,062	7	$518,993	7	$516,682	8
Illinois	$575,025	8	$498,679	8	$587,540	7
Michigan	$510,168	9	$450,411	9	$474,341	9
Colorado	$432,229	10	$372,241	12	$332,402	14
Washington	$431,776	11	$374,178	11	$390,672	11
Ohio	$428,175	12	$385,251	10	$445,549	10

Table 21 - continued

State Rank in Federal Obligations and Federally Financed R&D (Dollars in Thousands)						
	Federal Obligations for Science and Engineering to Colleges and Universities		Federal Obligations for R&D in Science and Engineering to Colleges and Universities		Federally Financed R&D Expenditures at Colleges and Universities	
State	FY 1998	Rank	FY 1998	Rank	FY 1998	Rank
Florida	$388,166	13	$333,533	13	$355,892	13
Georgia	$353,350	14	$276,133	15	$370,620	12
Missouri	$341,454	15	$300,550	14	$278,271	18
Wisconsin	$314,640	16	$275,789	16	$300,185	15
Connecticut	$291,633	17	$266,541	17	$262,948	19
Virginia	$284,310	18	$244,857	18	$294,479	16
Alabama	$263,195	19	$229,285	19	$282,113	17
New Jersey	$256,814	20	$225,963	20	$227,954	20
Minnesota	$230,314	21	$201,588	21	$207,551	24
Tennessee	$229,579	22	$185,764	24	$207,822	23
Indiana	$222,459	23	$194,622	22	$214,189	21
Arizona	$218,241	24	$187,288	23	$203,434	25
Oregon	$205,623	25	$170,373	25	$210,170	22
Iowa	$185,909	26	$156,307	26	$167,294	26
Utah	$165,549	27	$147,366	27	$165,319	28
Louisiana	$161,415	28	$133,247	28	$144,762	30
District of Columbia	$146,930	29	$127,125	29	$165,715	27
New Mexico	$141,869	30	$96,959	31	$152,458	29
South Carolina	$137,136	31	$115,827	30	$112,845	31
Kansas	$101,723	32	$83,094	32	$80,443	35
Mississippi	$99,575	33	$75,868	33	$79,772	36
Oklahoma	$95,886	34	$73,265	34	$86,723	33
Kentucky	$94,281	35	$65,437	36	$83,785	34
New Hampshire	$79,682	36	$69,566	35	$70,966	38
Rhode Island	$74,965	37	$62,663	37	$77,737	37
Hawaii	$74,294	38	$59,945	38	$86,886	32
Nebraska	$66,661	39	$49,835	39	$62,578	39
Arkansas	$64,146	40	$46,840	40	$41,204	41
West Virginia	$49,687	41	$22,569	46	$25,301	47
Montana	$47,224	42	$34,570	42	$38,497	42
Vermont	$46,682	43	$39,269	41	$32,124	44
Delaware	$41,037	44	$34,247	43	$36,422	43
Nevada	$36,607	45	$30,274	44	$45,496	40
Alaska	$35,945	46	$29,541	45	$31,632	45
North Dakota	$34,853	47	$22,168	47	$23,191	48
Idaho	$24,741	48	$17,792	48	$25,444	46
Maine	$23,886	49	$16,331	49	$13,981	50
Wyoming	$19,950	50	$16,161	50	$17,806	49
South Dakota	$18,090	51	$8,747	51	$11,702	51

SOURCE: National Science Foundation, WebCASPAR Database System, 03/08/2001

Figure 9

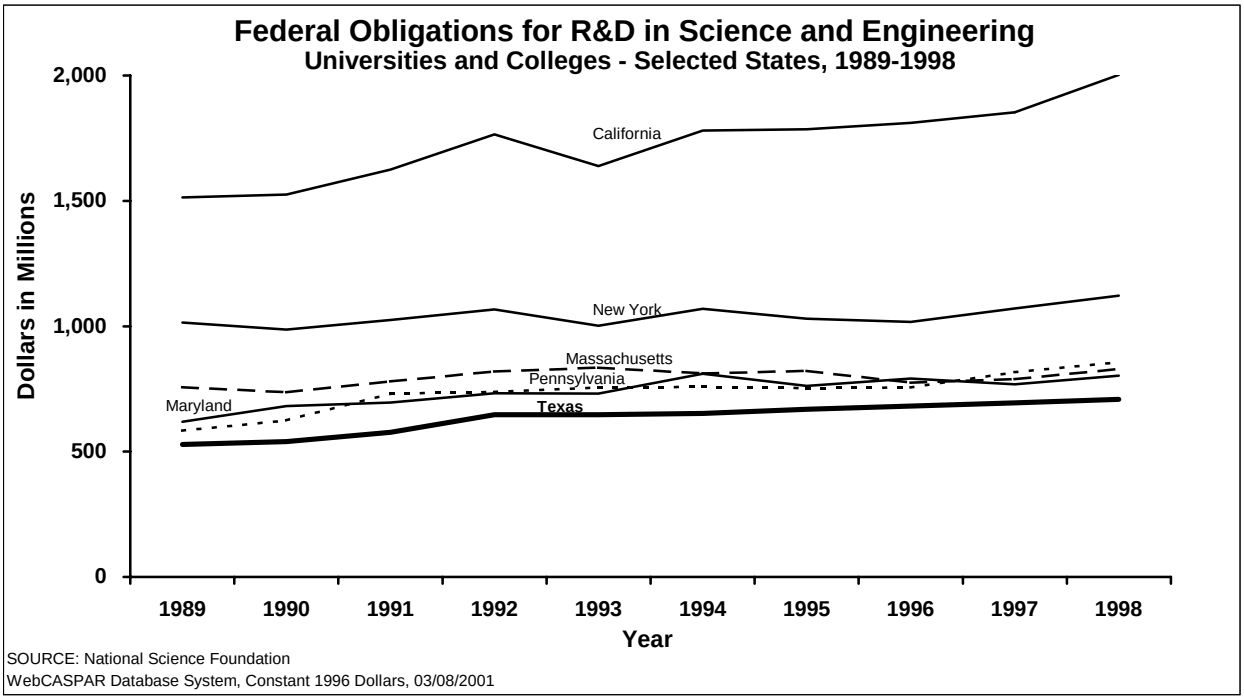


Figure 10

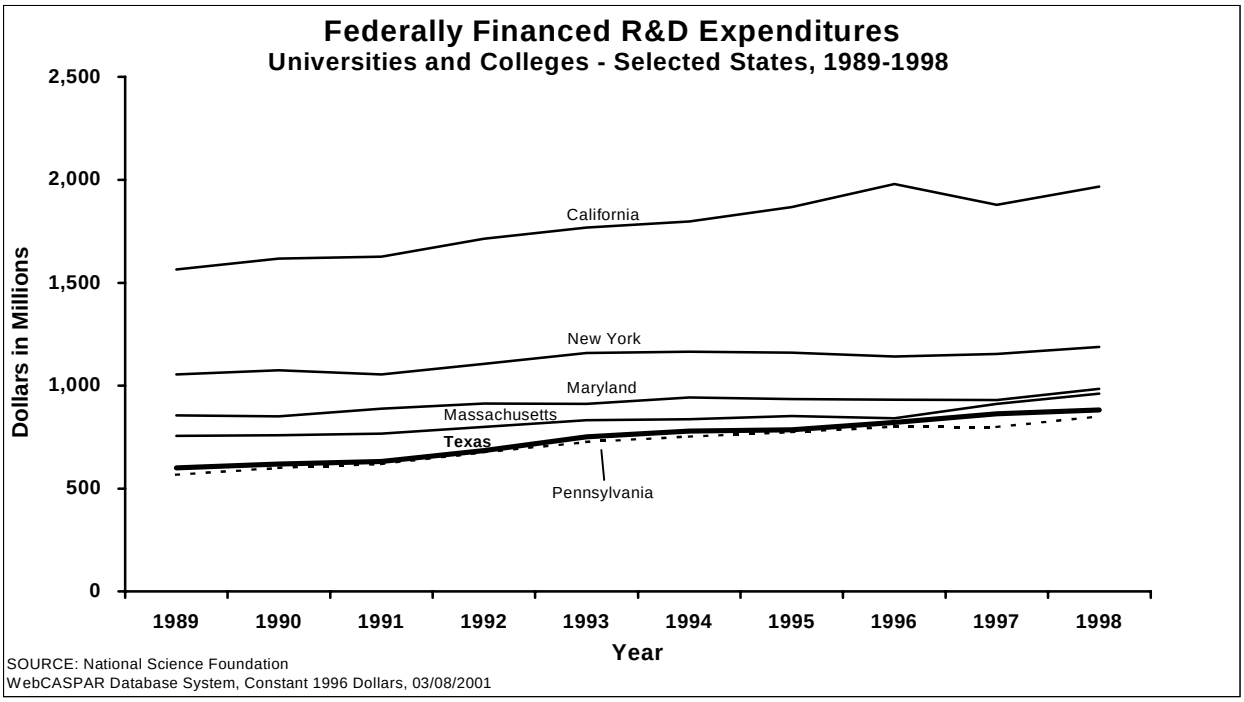


Table 22 shows federal obligations and federally financed R&D expenditures for Texas higher education institutions for FY 1998. The table includes public and independent institutions. In all cases, the top five institutions account for 60-65 percent of the total federal support.

Table 22

Federal Obligations and Federally Financed R&D by Texas Institutions, FY 1998 (Dollars in Thousands)

Institution	Federal Obligations for Science and Engineering	Federal Obligations for R&D in Science and Engineering	Federally Financed R&D Expenditures
Abilene Christian	$137	$137	$162
Alamo Community Coll. Dist.	$493	$33	---
Amarillo Coll.	$220	---	---
Austin Coll.	$28	---	---
Austin Community Coll.	$145	---	---
Baylor-Dentistry	---	---	$1,337
Baylor-Medicine	$134,066	$115,247	$110,610
Baylor Univ.	$118	$69	$522
Central Texas Coll.	$147	---	---
El Paso Community Coll.	$96	$96	---
Houston Community Coll.	$161	---	---
Jarvis Christian Coll.	$244	$89	$55
Lamar	$5,278	$4,924	$2,307
Laredo Community Coll.	$110	---	---
Lubbock Christian	$55	$55	---
McMurry	$2	$2	---
Midwestern State	$70	$70	---
Mountain View Coll.	$60	---	---
Our Lady of the Lake	$937	$570	---
Paul Quinn Coll.	$57	---	---
Prarie View A&M	$10,995	$6,651	$9,612
Rice	$25,659	$23,302	$34,772
Sam Houston State	$1,847	$1,739	$2,527
South Texas Community Coll.	$195	---	---
Southern Methodist	$6,947	$6,947	$4,836
Southwest Texas Junior Coll.	$100	---	---
Southwest Texas State	$2,290	$1,783	$1,116
St Edward's	$165	$165	---
St Mary's	$377	$24	---
Stephen F. Austin State	$579	$318	$1,125
Sul Ross State	$19	---	$156
Tarleton State	$6,164	$6,097	$1,483
Texas A&M and Services	$65,365	$43,983	$144,938
Texas A&M International	$2,534	$2,502	---

Shading indicates the five highest in each category.

Table 22 - continued

Federal Obligations and Federally Financed R&D by Texas Institutions, FY 1998 (Dollars in Thousands)			
Institution	Federal Obligations for Science and Engineering	Federal Obligations for R&D in Science and Engineering	Federally Financed R&D Expenditures
Texas A&M System Office	$10,587	$10,175	---
Texas A&M-Commerce	$26	---	$122
Texas A&M-Corpus Christi	$65	$27	---
Texas A&M-Kingsville	$1,049	$699	$1,874
Texas Christian	$2,596	$2,581	$2,493
Texas Southern	$890	$428	$2,504
Texas State Tech Coll., All Campuses	$548	---	---
Texas Tech	$14,407	$12,551	$17,481
Texas Wesleyan University	$180	---	---
Texas Woman's	$2,110	$1,371	$1,485
Trinity	$817	$635	$723
Univ. North Tx HSC	---	---	$5,645
Univ. of Dallas	$37	$37	$441
Univ. of Houston	$19,783	$18,878	$22,018
Univ. of Houston System Administration	$241	$165	---
Univ. of Houston-Clear Lake	$46	$25	$1,266
Univ. of Houston-Downtown	$985	$700	$850
Univ. of the Incarnate Word	$515	$215	---
University of North Texas	$6,799	$5,318	$2,621
UT at Arlington	$4,570	$3,837	$11,294
UT at Austin	$129,131	$107,370	$165,082
UT at Dallas	$4,163	$3,651	$8,115
UT at El Paso	$12,258	$3,686	$10,758
UT at San Antonio	$11,401	$4,467	$5,112
UT at Tyler	$371	$371	---
UT M.D. Anderson Cancer	$67,891	$65,741	$63,074
UT of the Permian Basin	$100	---	---
UT Southwestern Medical Center	$96,585	$92,375	$97,200
UT System Office	$4,715	$4,689	---
UTHSC at Houston	$81,295	$77,780	$70,446
UTHSC at San Antonio	$52,942	$49,605	$51,954
UTMB at Galveston	$51,081	$47,356	$48,588
UT-Pan American	$1,798	$425	$1,233
West Texas A&M	$50	$6	$114
Wiley Coll.	$273	---	---
Texas Total	**$845,965**	**$729,967**	**$908,051**

SOURCE: National Science Foundation, WebCASPAR Database System, 03/08/2001

Shading indicates the five highest in each category.

Figure 11 shows federal obligations to Texas higher education institutions for research and development in science and engineering by federal agency. The National Institutes of Health have a long history of providing most of the federal research support to Texas higher education institutions.

Figure 11

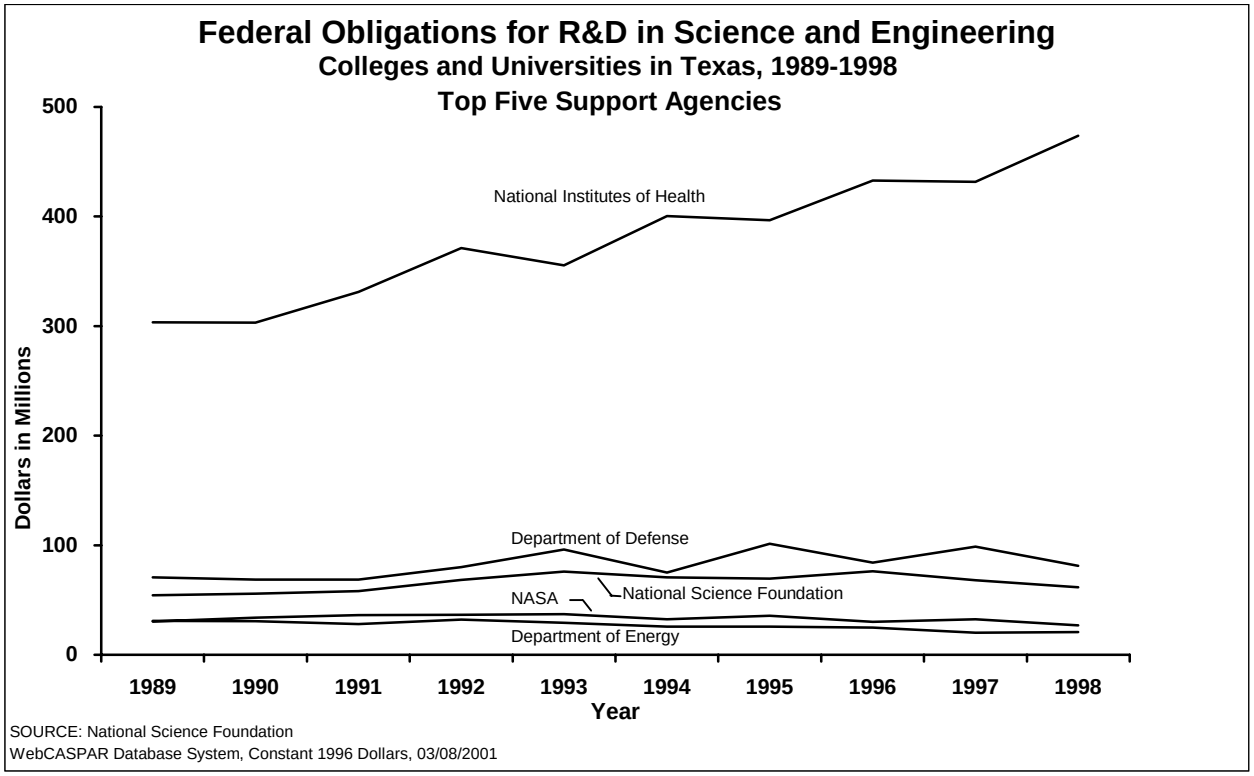


Table 23 shows federal obligations to the most federal research-intensive Texas higher education institutions for federal agencies providing the most support. The National Institutes of Health provide most of the federal support at health-related institutions. The Department of Defense and the National Science Foundation provide most of the federal support for The University of Texas at Austin. The Department of Agriculture, the National Science Foundation, and the National Institutes of Health provide support for Texas A&M University. The National Science Foundation and the National Institutes of Health provide most of the federal support for Rice University. The University of Houston receives most of its federal support from the National Institutes of Health, the Department of Defense, and the National Science Foundation. Texas Tech University receives most of its support from the Department of Commerce ($3,602,000; included under all other in Table 23), the National Institutes of Health, and the Department of Defense.

Table 23

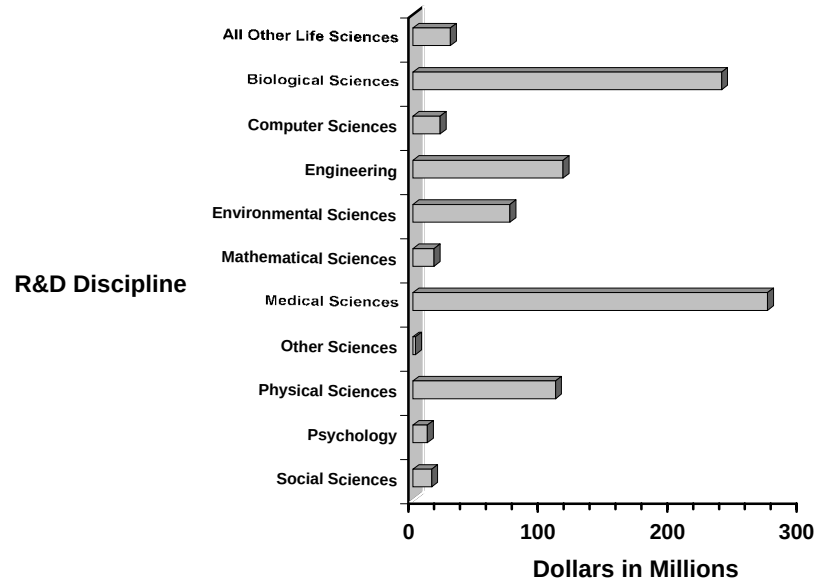
Texas Universities and Colleges with Federal Science and Engineering R&D Obligations of more than $10 Million By Support Agency (Dollars in Thousands), FY 1998

Institution	National Institutes of Health	Dept. of Defense	National Science Foundation	NASA	Dept. of Energy	Dept. of Agriculture	All Other Federal Agencies	Total of All Federal Agencies
Baylor-Medicine	$109,952	$323	$913	$1,189	$387	$436	$2,047	$115,247
UT at Austin	$20,320	$42,164	$25,925	$7,931	$9,185	$190	$1,655	$107,370
UT Southwestern Med Center	$85,398	$2,443	$358	$2,379	$844	$0	$953	$92,375
UTHSC at Houston	$68,191	$5,734	$174	$0	$0	$50	$3,631	$77,780
UT M.D. Anderson Cancer	$62,210	$2,355	$455	$196	$0	$0	$525	$65,741
UTHSC at San Antonio	$46,269	$2,170	$296	$232	$0	$0	$638	$49,605
UTMB at Galveston	$43,833	$764	$691	$275	$683	$0	$1,110	$47,356
Texas A&M and Services	$8,382	$2,898	$10,271	$4,789	$2,611	$12,073	$2,959	$43,983
Rice	$5,024	$2,527	$10,781	$2,699	$2,070	$1	$200	$23,302
Univ. of Houston	$5,426	$5,304	$4,947	$1,954	$1,042	$0	$205	$18,878
Texas Tech	$3,030	$2,681	$1,188	$604	$536	$383	$4,129	$12,551
Texas A&M System Office	$7,022	$1,383	$0	$86	$1,441	$188	$55	$10,175

SOURCE: National Science Foundation, WebCASPAR Database System, 03/08/2001

Figure 12 shows federally financed research and development expenditures at Texas public and private higher education institutions by scientific discipline. Most of the expenditures are made in medical and biological sciences.

Figure 12



SOURCE: National Science Foundation
WebCASPAR Database System, 03/08/2001

APPENDIX A – RESEARCH EXPENDITURES SURVEYS

THECB - Survey of Research Expenditures, FY 2000
Public Universities and Health-Related Institutions
About the On-Line Form

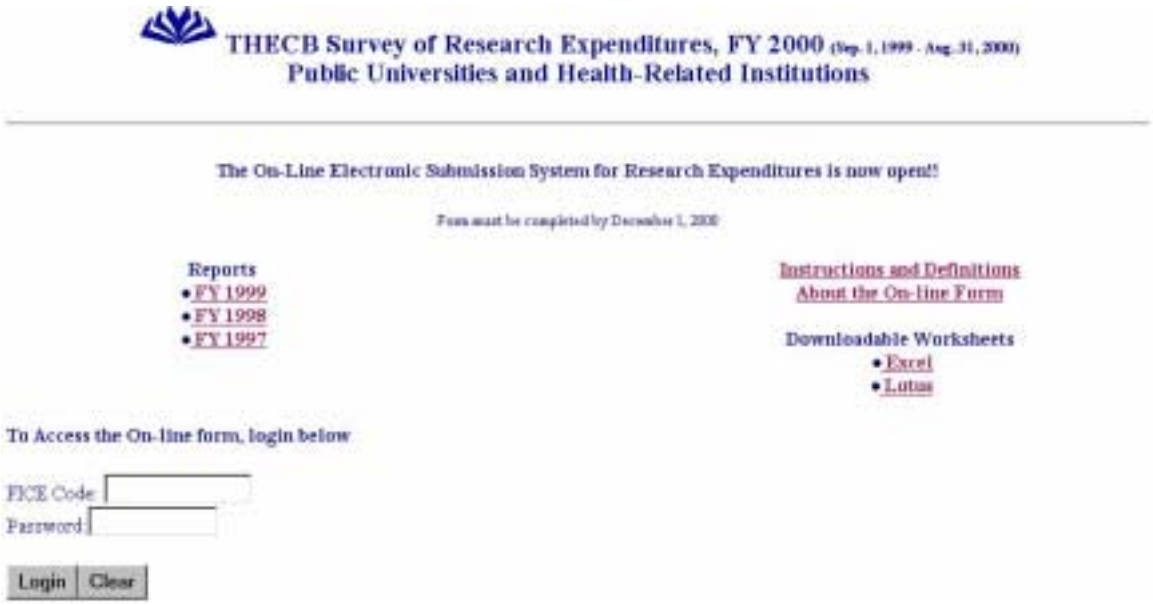
The survey should be completed by using the on-line form by December 1, 2000

The on-line form will be used to submit your institution's FY2000 research expenditure data. The login page for the form has an instructions page and links to previous expenditures reports. Blank Lotus and Excel worksheets can be downloaded here, but the information still must be entered into the on-line form.

The on-line form consists of six parts, easily navigated with the buttons on the bottom of each web page. The whole form is saved when clicking on the "Total" buttons, going from page to page or clicking the "Save and Logoff" buttons. Using the "Reload Last Save" button will return information changed on a particular page before any other buttons are clicked on. Clicking underlined row or column labels will open a viewable definition for that item, and full instructions and definitions are accessible from the bottom of any page. Use whole dollar amounts, as the system will truncate decimals. The system will ignore any characters (dollar signs, commas, etc.) typed into entry blocks in parts 2-6. Click on any "Total" button to calculate column and row totals which are clearly marked in yellow.

The FICE code for your institution will be used to log in to the system, and please safeguard the provided password and authorization code. The password may be issued to individuals for completion of the form. When the form is ready for final submission, the final approval authority (usually the highest research executive at the institution) clicks the "Submit to THECB" button in part 6 and enters name, title and the authorization code.

Using the print button before final authorization will produce a draft printout of all forms. After final authorization, your data cannot be accessed or altered, but a printout of the final version can be produced. If you have questions or need assistance, contact information is located at the bottom of each web page or you may call Dale Cherry or Linda Domelsmith at 512-427-6150.



THECB Survey of Research Expenditures, FY 2000 (Sep. 1, 1999 - Aug. 31, 2000)
Part 1 of 6 - Contact Information

First Name: **Last Name:**
Title:

Institution: ISA Texas University
Address:
University Ave.
College Town, TX 78727
Phone Number: E-mail:

THECB Survey of Research Expenditures, FY 2000 (Sep. 1, 1999 - Aug. 31, 2000)
Part 2 of 6 - Expenditures for Conduct of R&D by Field

ISA Texas University

Sources of Funds(use whole dollar amounts)

	Federal	State		Institution Controlled	Private		Total
		Appropriated	Contract/Grants		Profit	Non-Profit	
1. Agricultural Sciences	0	0	0	0	0	0	$0
2. Biological and Other Life Sciences	0	0	0	0	0	0	$0
3. Computer Science	0	0	0	0	0	0	$0
4. Engineering	0	0	0	0	0	0	$0
5. Environmental Sciences	0	0	0	0	0	0	$0
6. Mathematical Sciences	0	0	0	0	0	0	$0
7. Medical Sciences	0	0	0	0	0	0	$0
8. Physical Sciences	0	0	0	0	0	0	$0
9. Psychology	0	0	0	0	0	0	$0
10. Social Sciences	0	0	0	0	0	0	$0
11. Other Sciences not classified above	0	0	0	0	0	0	$0
12. Arts and Humanities	0	0	0	0	0	0	$0
13. Business Administration	0	0	0	0	0	0	$0
14. Education	0	0	0	0	0	0	$0
15. Law and Public Administration	0	0	0	0	0	0	$0
16. Other Non-Science Activities not classified above	0	0	0	0	0	0	$0
Total Expenditures for Conduct of R&D Total	$0	$0	$0	$0	$0	$0	$0

THECB Survey of Research Expenditures, FY 2000 (Sep. 1, 1999 - Aug. 31, 2000)
Part 3 of 6 - Details for Total Expenditures for Conduct of R&D
ISA Texas University

1. Expenditures for R&D, as defined in this report, that are reported on Annual Financial Report Exhibit C - Current Funds Expenditures, expenditure category Research	0
2. Indirect costs associated with figure reported in line 1	0
3. Expenditures for Conduct of R&D made by institution's research foundation or 501(C)3 corporation on behalf of the institution and not reported on institution's Annual Financial Report, including indirect costs not reported in line 2	0
4. Pass-throughs to other institutions of higher education for conduct of R&D	0
Sum of 1 through 4	$0
Sum of 1 through 4 MUST equal "Total Expenditures for Conduct of R&D" from Part 2	$0

Save and Logoff | Back to Part 2 | Go to Part 4 | Print | Reload Last Save

THECB Survey of Research Expenditures, FY 2000 (Sep. 1, 1999 - Aug. 31, 2000)
Part 4 of 6 - Total Expenditures for Research-Related Activities
ISA Texas University

Sources of Funds(use whole dollar amounts)

	Federal	State		Institution Controlled	Private		Total
		Appropriated	Contract/Grants		Profit	Non-Profit	
1. Expenditures for Activities Reported as Research on Exhibit C of Annual Financial Report, but not meeting the narrow definition of R&D used in this report	0	0	0	0	0	0	$0
2. Other Research-related expenditures (noncurrent fund expenditures, etc.)	0	0	0	0	0	0	$0
3. Total Expenditures for Conduct of R&D (from Part 2)	$0	$0	$0	$0	$0	$0	$0
Total Expenditures for Research-Related Activities (Sum of 1-3) Total	$0	$0	$0	$0	$0	$0	$0

Save and Logoff | Back to Part 3 | Go to Part 5 | Print | Reload Last Save

Part 5 for Public Universities

THECB Survey of Research Expenditures, FY 2000 (Sep. 1, 1999 - Aug. 31, 2000)

Part 5 of 6 - Expenditures for Conduct of R&D in Areas of Special Interest

(funds may be reported in more than one area)

ISA Texas University

Sources of Funds(use whole dollar amounts)

	Federal	State		Institution Controlled	Private		Total
		Appropriated	Contract/Grants		Profit	Non-Profit	
1. Aerospace Technology	0	0	0	0	0	0	$0
2. Biotechnology	0	0	0	0	0	0	$0
3. Energy	0	0	0	0	0	0	$0
4. Environmental Sciences	0	0	0	0	0	0	$0
5. Food, Fiber, Agricultural Products	0	0	0	0	0	0	$0
6. Manufacturing Technology	0	0	0	0	0	0	$0
7. Materials Science	0	0	0	0	0	0	$0
8. Microelectronics and Computer Technology	0	0	0	0	0	0	$0
9. Water Resources	0	0	0	0	0	0	$0
Total Expenditures for Conduct of R&D in Areas of Special Interest (Sum of categories above) Total	$0	$0	$0	$0	$0	$0	$0

Save and Logoff | Back to Part 4 | Go to Part 6 | Print | Reload Last Save

Part 5 for Public Health Institutions

THECB Survey of Research Expenditures, FY 2000 (Sep. 1, 1999 - Aug. 31, 2000)

Part 5 of 6 - Expenditures for Conduct of R&D in Areas of Special Interest

(funds may be reported in more than one area)

ISA Texas Health Institution

Sources of Funds(use whole dollar amounts)

	Federal	State		Institution Controlled	Private		Total
		Appropriated	Contract/Grants		Profit	Non-Profit	
1. Aging	0	0	0	0	0	0	$0
2. Cancer Research	0	0	0	0	0	0	$0
3. Cardiovascular Research	0	0	0	0	0	0	$0
4. Child Health and Human Development	0	0	0	0	0	0	$0
5. Mental Health	0	0	0	0	0	0	$0
6. Substance Abuse	0	0	0	0	0	0	$0
Total Expenditures for Conduct of R&D in Areas of Special Interest (Sum of categories above) Total	$0	$0	$0	$0	$0	$0	$0

Save and Logoff | Back to Part 4 | Go to Part 6 | Print | Reload Last Save

THECB Survey of Research Expenditures, FY 2000 (Sep. 1, 1999 - Aug. 31, 2000)
Part 6 of 6 - Intellectual Property
ISA Texas University

1. Number of patents or copyrights obtained by the institution under terms of the institution's intellectual property policy during fiscal year 2000	0
2. Total revenue derived in fiscal year 2000 from royalties, licensing, or other transactions related to intellectual property resulting from research. Do not include revenue from licensing of logos, mascots, or other items not related to research.	0
3. Total number of different intellectual properties from which revenue was derived in fiscal year 2000.	0

Save and Logoff | Back to Part 5 | Submit to THECB | Print | Reload Last Save

THECB Survey of Research Expenditures, FY 2000
Public Universities and Health-Related Institutions
Instructions and Definitions for Survey

The survey should be completed by using the on-line form by December 1, 1999

About This Survey

This is an annual survey conducted by the Texas Higher Education Coordinating Board. It is mandated by the Texas Legislature, and it is the basis for an annual report of research expenditures at Texas institutions of higher education.

The report is widely used by institutions of higher education and other state agencies, and excerpts from the report are widely reported in the press. In addition, the data provides the basis for many far-reaching policy and management decisions. It is critical that the data be reported accurately and completely.

This report should be consistent with the Annual Financial Report (AFR) of the institution. Refer to College and University Business Administration, NACUBO.

The report includes only separately budgeted and accounted for expenditures and does not include research done by faculty members as a regular part of their academic duties.

The data collection form and definitions are modeled after similar forms used by the National Science Foundation in an effort to provide comparability of data with national data and to reduce the data collection efforts of the institutions.

Blank Lotus 1-2-3 and Excel worksheets can be downloaded here, but the information is required to be entered into the on-line form.

General Concepts and Definitions

A. Research and Development (R&D) activities are defined as follows:

1. Research is systematic study directed toward fuller scientific knowledge or understanding of the subject studies.

2. Development is systematic use of 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.

Exclusions from research and development:
- Training of scientific manpower
- Mapping and surveys
- Routine product testing
- Quality Control
- Experimental production
- Collection of general purpose statistics (statistics not collected as part of a specific R&D project)

NOTE: Certain activities may or may not be classified as research and development depending upon circumstances. Examples of such activities are given below in section B, Reporting Guidelines for R&D versus Non-R&D Activities.

B. Selected financial terms

Fiscal Year 2000 - The 12-month accounting period ending August 31, 2000.

Expenditures - All amounts of money paid out by your institution to support R&D activities. Include funds "passed through" to other institutions of higher education. Include earned indirect costs and fringe benefits. Do not include non-monetary awards.

Federal Funds - All Federal monies used in support of the R&D activities of your institution. These include reimbursements, contracts, grants, and any identifiable amounts spent from Federal programs including Federal monies passed through state agencies.

State Sources - Include all expenditures of funds appropriated by the State of Texas not included in institutionally controlled funds listed in paragraph 5 below. Included in this category are state appropriated "Special Items" and state contracts and grants such as ATP and ARP funds, interagency contracts, contracts with Texas local governments, etc.

Institutionally Controlled - Include expenditures of funds that are locally controlled. This would include PUF and AUF funds, other local funds, etc.

Private - Include expenditures of funds from both for-profit and not-for-profit corporations and individuals. Also, include in this category funds from agencies from other states.

Definitions for Specific Items

(Numbering corresponds to line number for on-line data collection form)

Expenditures for conduct of R&D - All expenditures except those for R&D plant. (Part 2, Total of 1-16)

Expenditures for other research-related activities - Reported as research on the AFR but not meeting the narrower definitions of R&D required in this report. Externally-funded activities that cannot be classified as R&D using the definitions appearing in A, above, are included. Do not include projects funded with "development" funds unless they are related to research activities. (Part 4, Line 1)

Notes: Reporting Guidelines for R&D versus Non-R&D Activities:

Economic studies - To be classified as research, the activities under this heading should be systematic and intensive. They should not include program planning, implementation, and

evaluation unless these activities are designed as a fairly rigorous research effort. For example, a study to determine the impact of proposed tax changes on State revenues, or on Statewide employment, consumption, or industrial output could be reported as economic research. But the collection of economic data on tax revenues, personal income, or industrial output would be reported as economic research only if collected as part of the research project.

Evaluation - Evaluation qualifies as research when it is part of a specific research undertaking. Evaluation conducted separately from a research project is considered research when it involves scientific method and hypothesis testing procedures with fairly rigorous standards. Evaluation activities that do not involve systematic design and testing should not be included.

Demonstration - Demonstration activities that are part of research or development (i.e., that are intended to prove or to test whether a technology or method does, in fact, work) should be included. Demonstration intended to make available information about new technologies or methods should not be included. For example, an educational demonstration on new teaching methods should be reported as an R&D activity if the demonstration is established as an experiment to produce new information, is accomplished within a definite time period, and is accompanied by a thorough evaluation. An educational demonstration to apply or exhibit new teaching methods, or a demonstration without a scheduled termination or a thorough evaluation, should not be reported as an R&D activity.

Collection of statistical data - The collection of statistics is an R&D activity only if conducted as part of a specific research or development program. For example, the regular collection and publication of statistics on the incidence of various diseases within a State by a State health department is general purpose data collection and not research or development. The data gathering is not part of a research program and is designed for use by a range of persons, such as practicing physicians, public health officials, and school officials. If the data on incidence of diseases are gathered as part of a project on the origin and nature of particular diseases, however, or to establish generalizations on why certain individuals or groups contract certain diseases, this would be research.

Satellite information - Photographs and tapes purchased from Federal agencies (or others) sponsoring satellite operations are not considered research and development unless they are used primarily in support of a research or development program. Tapes and photographs that are stored in documentation centers or used primarily for the formulation of regulations are excluded from this survey.

Technology transfer - Technology transfer involves the adoption, and perhaps adaptation, of new techniques or products that have already been brought to a usable condition. The adoption and use of a technology is not research and development, but the adaptation of a technology to meet unique regional or local needs could involve R&D activities. For example, a new method of treating water to make it potable is developed in one State. If another State adopts the same treatment process, the adoption costs for facilities, equipment, personnel, etc., are not R&D expenditures. However, if further systematic, intensive study is required by the second State to modify the treatment process to adapt it to unique local conditions, the costs of modification and adaptation could be R&D expenditures.

Agricultural sciences deal with the production of food and fiber. They include work in plant sciences, animal sciences, aquaculture, agricultural economics, and other topics related to the agricultural enterprise. (Part 2, Line 1)

Biological sciences are those life sciences (apart from medical sciences and agricultural sciences described above) that deal with the origin, development, structure, function, and interaction of living things. Examples of biological sciences are as follows: anatomy; animal sciences; bacteriology; biochemistry; biogeography; biophysics; ecology; embryology; entomology; evolutionary biology; genetics; immunology; microbiology; molecular biology; nutrition and metabolism; parasitology; pathology;

pharmacology; physical anthropology; physiology; plant sciences; radiobiology; systematics. (Part 2, Line 2)

Computer science is concerned with the application of mathematical methods to automated information systems, the development of computer technology, and advanced applications of computers. (Part 2, Line 3)

Engineering is concerned with studies directed toward developing engineering principles or toward making specific principles usable in engineering practice. Engineering fields include aeronautical, astronautical, chemical, civil, electrical, mechanical, metallurgy and materials, and engineering not elsewhere classified, such as agricultural, bioengineering, biomedical, industrial, nuclear, ocean and systems. (Part 2, Line 4)

Environmental sciences (terrestrial and extraterrestrial) are concerned with the gross, non-biological properties (with one exception) of the areas of the solar system that directly or indirectly affect man's survival and welfare. They comprise the fields of atmospheric sciences, geological sciences, and oceanography. The one exception is that expenditures for studies pertaining to life in the sea or other bodies of water are to be reported as support of oceanography and not biology. (Part 2, Line 5)

Mathematical sciences employ logical reasoning with the aid of symbols and are concerned with the development of methods of operation employing such symbols. (Part 2, Line 6)

Medical sciences are concerned with the causes, effects, prevention, or control of abnormal conditions in man or his environment as they relate to health. Included are the clinical medical sciences, which are concerned with the study of the origins, diagnosis, or treatment of a particular disease in living human subjects under controlled conditions, and other medical sciences. Examples of the medical sciences are as follows: internal medicine; neurology; ophthalmology; preventive medicine and public health; psychiatry; radiology; surgery; veterinary medicine; dentistry; physical medicine and rehabilitation; podiatry. (Part 2, Line 7)

Physical sciences are concerned with the understanding of the material universe and its phenomena. They comprise the fields of astronomy, chemistry; physics, and physical sciences not elsewhere classified. (Part 2, Line 8)

Psychology deals with behavior, mental processes, and individual and group characteristics and abilities. Examples of disciplines within psychology are as follows: experimental psychology; animal behavior; clinical psychology; comparative psychology; ethnology; social psychology; educational personnel, vocational psychology and testing; industrial and engineering psychology; development and personality. (Part 2, Line 9)

Social sciences are directed toward an understanding of the behavior of social institutions and groups and of individuals as members of a group. These include anthropology, economics, history, linguistics, political sciences, and sociology. (Part 2, Line 10)

Other sciences not elsewhere classified is a category to be used for multidisciplinary and interdisciplinary projects and cannot be classified within one of the broad fields of science listed above. (Part 2, Line 11)

Arts and humanities include topics such as art, music, history, languages, religion, and other aspects of man's culture and heritage. (Part 2, Line 12)

Business administration deals with the management and operation of business enterprises. It includes work in management, marketing, accounting, and related topics. (Part 2, Line 13)

Education includes research related to any aspect of education. This includes elementary, secondary, and higher education; educational policy; education administration; etc. (Part 2, Line 14)

Law and public administration includes research related to legal systems and to public policy at the federal, state, or local levels. (Part 2, Line 15)

Other non-science activities should include all non-science disciplines not appropriately categorized above. (Part 2, Line 16)

Areas of Special Interest - This section is intended to provide information on expenditures in areas of special interest to the public. The list is not all-inclusive. The totals in Part 5 will not normally be equal to the "Total Expenditures for Conduct of R&D" found in Part 2. Further, expenditures may overlap two or more categories (e.g., a given project may be reported both as materials science and microelectronics or as mental health and substance abuse). Institutions may need to use ad hoc estimators to come up with these numbers. (Part 5)

Intellectual property includes patents, copyrights, and licensing agreements. (Part 6)

APPENDIX B – INSTITUTIONAL CONTACTS

The following list contains the institutional representatives who submitted the data for this report. They may be contacted directly for additional information regarding research activities on individual campuses.

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