

The  
**Economic  
Impact**  
of the  
**TEXAS A&M SYSTEM  
HEALTH SCIENCE CENTER**  
on the  
**STATE OF TEXAS**  
**2004-2005**



**OFFICE OF INSTITUTIONAL RESEARCH**

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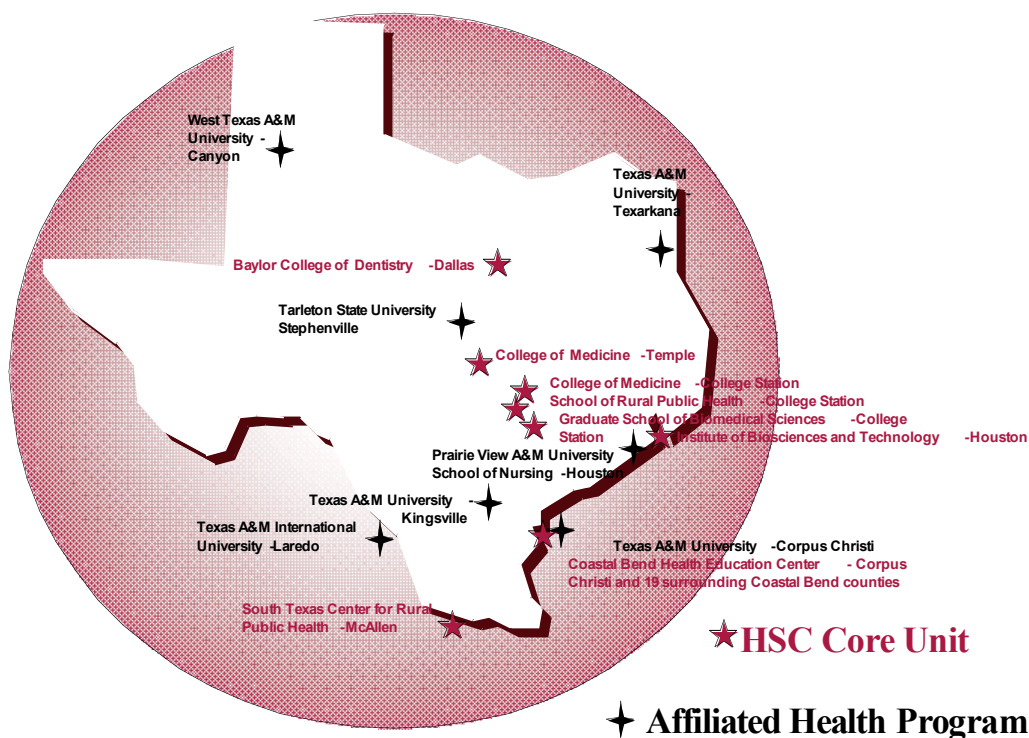
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## The Texas A&M System Health Science Center: An Overview

The Texas A&M System Board of Regents officially approved the establishment of the Texas A&M System Health Science Center in September 1997. The formal reorganization of existing components into a health science center was approved by the Texas Higher Education Coordinating Board on January 23, 1998 and the Health Science Center officially began operation on January 1, 1999. It is now one of the 21 institutions and agencies that make up the Texas A&M University System.

The Texas A&M System Health Science Center reaches across Texas through its five components: Baylor College of Dentistry in Dallas; the College of Medicine in College Station and Temple; the Graduate School of Biomedical Sciences; the Institute of Biosciences and Technology in Houston; and the School of Rural Public Health in College Station. Southern regions of the state are served by the A&M System Health Science Center through its Coastal Bend Health Education Center, which reaches the 19-county region surrounding Corpus Christi and Kingsville, and through the South Texas Center in McAllen.

Partnerships with the six nursing schools in the A&M System—Prairie View A&M University, Tarleton State University, Texas A&M International University, Texas A&M University-Corpus Christi, Texas A&M University-Texarkana and West Texas A&M University—are resulting in collaborations in nursing education and recruitment. Service to the state is extended through the Health Science Center's work with Texas Cooperative Extension and the Texas Agricultural Experiment Station.



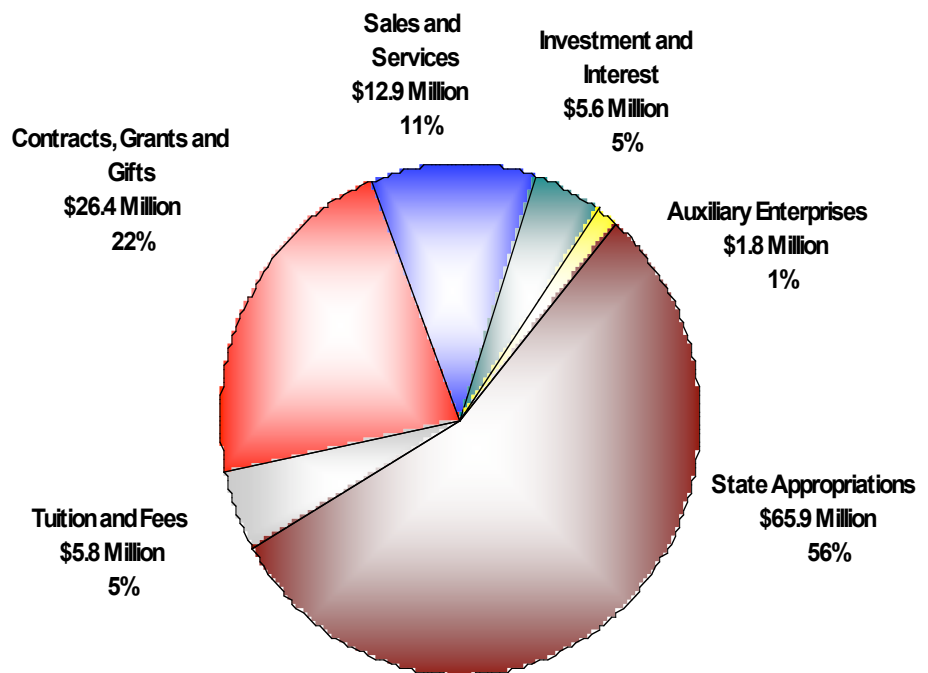
## Introduction

This economic impact study is part of an ongoing effort to quantify the economic influence of the Health Science Center, plus its students and alumni, on the state of Texas. It also documents the return on the investment that the citizens and the state of Texas have in the Health Science Center. The information supports that the Health Science Center remains an outstanding investment for Texas and its citizens because, not only is it a major educational institution, but it also serves as a major economic stimulus for the state economy.

## Revenues

There are several major sources of operating revenues for the A&M System Health Science Center, ranging from state appropriations to private donations. Total resources available to the Health Science Center and its various components exceeded \$118 million in fiscal year 2004 (September 1 through August 31) . Only 56 percent, or nearly \$66 million, of this amount was in the form of direct appropriations from the state of Texas. In fact, for each \$1 million in state funding, the Health Science Center generated an additional \$1.8 million from other sources. Payment of tuition and fees by students in the amount of \$5.8 million represents only 5 percent of total revenues.

### Health Science Center Revenue Sources Fiscal Year 2004



# HSC Expenditures

Health Science Center expenditures for fiscal year 2004 exceeded \$110 million, providing funds for salaries, operating expenses, and capital outlays. The balance of the FY2004 expenditures include a vast array of contracted services affecting all Texans. These services include patient care through HSC affiliated hospitals and clinics; contracts and research grants; and education of students.

## *HSC Spending for Current Operations*

Salaries & Wages	\$62,425,308
Benefits	\$12,962,970
Utilities	\$ 2,612,562
Scholarships	\$ 453,034
Operations & Maintenance	\$32,041,385

<b>Total Expenditures</b>	<b>\$110,495,259</b>
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As is common with higher education institutions, the largest category of spending is for personnel salaries. In fiscal year 2004, employee compensation (including salaries and fringe benefits) totaled over \$75 million—an amount that is \$10 million over the total state appropriations. Of this amount, an estimated \$46.8 million represents spendable income used by employees for housing, food, entertainment, transportation, and other living expenses. Resulting expenditures

and home purchases generate sales and property tax revenues for state and local governments. As a portion of the benefits included in employee compensation, the Health Science Center contributed \$3.6 million to various retirement plans and contributed an additional \$3.9 million to employee Social Security benefits. The total amount the HSC paid into retirement funds for fiscal year 2004 was over \$7.5 million.





## ***Capital Improvements***

In fiscal year 2004, the Health Science Center spent \$1.4 million on capital improvements including construction projects and equipment purchases. The need for capital construction is driven by growth in health services (clinical space), research (laboratory space), and enrollment (classroom space). It is also driven by the need to renew and upgrade aging infrastructure (such as dental examination chairs in the teaching clinic).

A large portion of the 2004 expenditures went toward the construction of the new School of Rural Public Health building in College Station, which will cost a total of \$14.3 million to complete. In addition to the construction of new facilities, the Health Science Center also spent a total of \$416,080 in 2004 on leased space for offices and classrooms. These expenditures demonstrate the commitment of the Health Science Center to meeting the needs of its growing student enrollment, plus they also have a significant impact on the local economies.

## ***Future Construction Expenditures***

The state supports capital construction primarily through authorization of tuition revenue bonds (TRBs). Over the next five years, the Health Science Center is projected to spend an estimated \$57.2 million on construction projects, therefore it has requested legislative approval of new TRBs for FY 2006. These funds will support a \$50 million expansion project at the College of Medicine, plus a \$7.2 million upgrade project at the Baylor College of Dentistry.

## ***Direct Purchases***

Direct purchases include all expenditures other than salaries, benefits, and capital improvements. The Health Science Center spent \$31.8 million on direct purchases, which is approximately 30 percent of total expenditures from current operating funds. In fiscal year 2004, an estimated \$1.9 million of those expenditures went toward Historically Underutilized Businesses (HUB), representing 12.4 percent of total direct purchases.



## ***Student Spending***

During the 2004 school year, Health Science Center students spent an estimated \$12.6 million off-campus on goods such as housing, food, transportation, clothing, health services, books and supplies. Students also provided revenue to the Health Science Center in the form of payments for tuition and fees, equipment rental, and textbook purchases.

### **Total Spending by All Students FY 2004**

Books and Supplies	\$1,569,161
Housing	\$8,134,392
Meals	\$ 588,000
Transportation	\$1,538,208
Personal Expenses	\$2,342,592
<u>Tuition and Fees</u>	<u>\$7,046,577</u>

**Total Student Spending \$21,218,930**



## ***Visitor Spending***

During the 2004 academic year, an estimated 2170 people visited the various Health Science Center campuses. They came for a variety of reasons including commencement ceremonies and special events. Their expenditures totaled approximately \$355,500. This money works its way into the state economy through purchases of food, lodging, and transportation. This does not include the thousands of annual patient visits to HSC health care facilities and visitors to hospitalized patients.

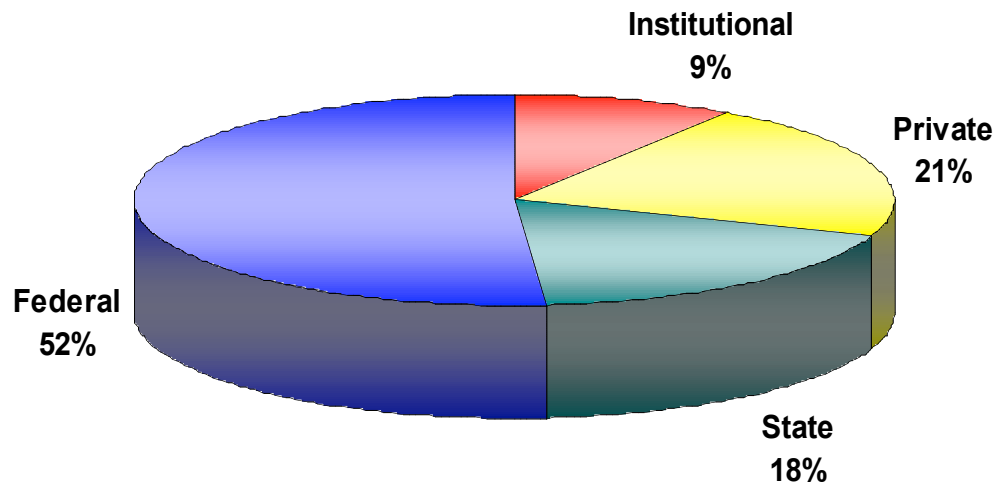
## Out-of-State Revenues

Institutions of higher education are a significant “export industry”—a major provider of research and education services to students and companies beyond Texas. These services generate additional sources of outside funds which are spent within the regions surrounding the Health Science Center campuses. In fiscal year 2004, the Health Science Center accounted for more than \$30.2 million in out-of-state revenues that came from federal funds for research and financial aid.

### ***Research Support***

In fiscal year 2004, the Health Science Center’s components had a combined total for sponsored research expenditures of over \$58.4 million. Of this amount, the state provided \$10.5 million, and federal grants and contracts exceeded \$30.2 million. Federal research awards have averaged \$28 million per year over the last five years, increasing from \$14.5 million in 2000 to \$37 million in 2004. Awards represent funds available for use, whereas expenditures represent the actual spending of the funds awarded. Because of the time lag between the commitment of dollars and the actual expenditure of those dollars, award figures give an indication of the amount of expenditures to expect over the next one to two years.

#### **Sponsored Research Funding Sources**



### ***Federal Student Financial Aid***

During the 2004 school year, \$1.3 million in financial aid was dispersed to students at the Health Science Center campuses. Federal financial aid, which is considered an out-of-state source, totaled \$38,225. Financial aid awards from state sources totaled \$875,214 and from private funds totaled \$455,341.

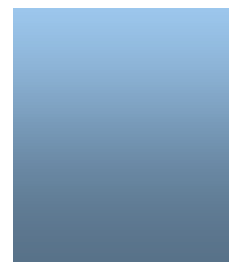
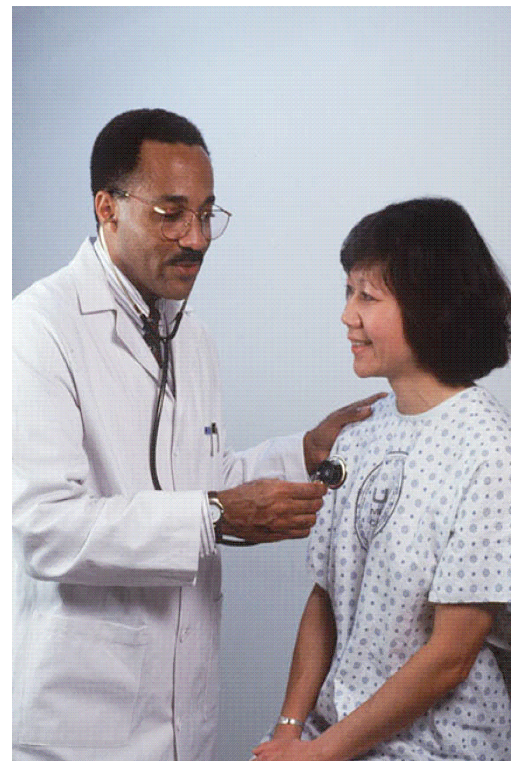
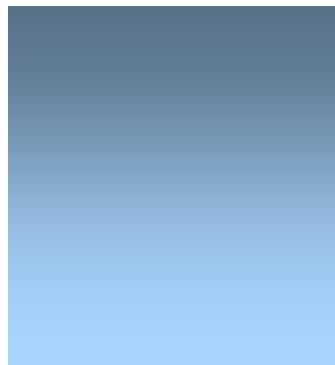


# Expenditures

The Health Science Center, its related organizations, employees, students, and visitors spent an estimated \$130 million in fiscal year 2004. Of the total amount, approximately \$126 million was spent within the state of Texas.

## Total Direct Expenditures

HSC Salaries & Benefits	\$75,388,278
Operating Expenditures	\$31,823,210
Capital Expenditures	\$ 1,408,347
Student Spending	\$21,218,930
Visitor Spending	\$ 355,500
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<b>Total</b>	<b>\$130,194,265</b>



## Impact on the State Economy

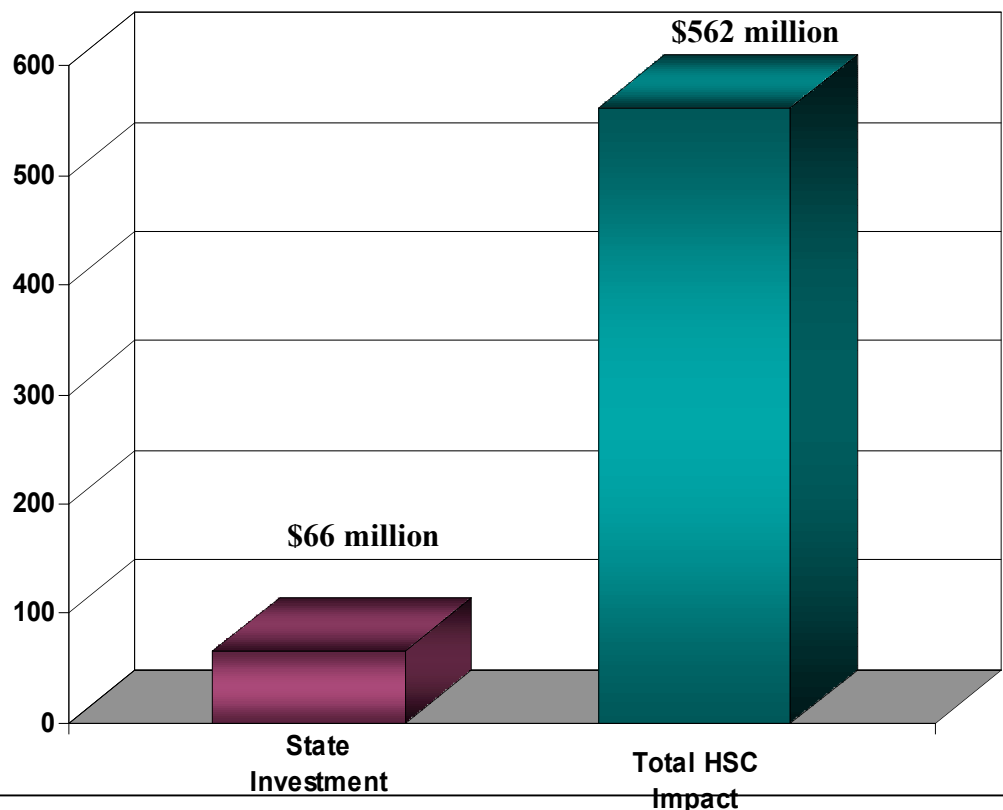
Texas regions where HSC campuses are located receive multiple benefits, including short-run economic benefits, from having a higher education institution in their backyard. The Health Science Center purchases goods and services from businesses who, in turn, employ more citizens then purchase goods and services from other local businesses.

Direct economic impact is defined as the dollar amount spent by HSC and its faculty, staff, and students. This spending results in money flowing into the local economy, creating a direct increase on local incomes. The indirect, or secondary impacts that result as new dollars flow into the area and are re-spent are a function of the value of the “multiplier effect.” This refers to the amplified effect of an initial economic stimulus after all of the secondary effects of the stimulus have worked their way through an economy.

Direct HSC expenditures for fiscal year 2004 totaled \$130 million from all sources. State appropriations represent 51% of this total and play a critical role in funding the core educational mission of the Health Science Center. When the indirect multiplier impact of new dollars is added to the HSC direct expenditures, the total annual impact to the Texas state economy is \$562 million. This total impact is more than 8.5 times the state’s investment of \$66 million.

<b>Total HSC Direct Expenditures</b>	<b>\$130,194,265</b>
<b>Addition of Multiplier Effect</b>	<b><u>\$432,244,959</u></b>
<b>Total Impact</b>	<b><u>\$562,439,224</u></b>

### Return on State Investment (in millions)



## Employment Impact

The State of Texas invests in higher education in order to develop the human capital of the state. These investments result in long-term economic benefits including: productivity and earnings gains of an educated workforce, new knowledge creation, a supply of skilled professionals to meet labor market demands, and an improvement in the general quality of life. The Health Science Center and its affiliated hospitals make up two sectors of the economy that have added jobs and provided stable employment during economic downturns.

Health Science Center campuses are located in several Texas regions including Bryan/College Station, Dallas, Houston, Temple, Corpus Christi, and McAllen. During 2004, these campuses provided employment to 434 faculty, 828 staff, and 390 students. In addition to direct employment, the Health Science Center is also indirectly responsible for a large number of jobs in businesses around the state which provide goods and services to the HSC, its employees, and students. On average, for every on-campus job, an additional 1.5 jobs are added because of institution-related spending. Therefore, the combined employment impact of the Health Science Center on the state of Texas in 2004 was 4,130 jobs.

Faculty	434
Staff	828
<u>Students</u>	<u>390</u>
<u>Total Direct Employment</u>	<u>1,652</u>
Indirect Employment	2,478
<b>Total Employment Impact</b>	<b>4,130</b>



## Future Earnings Impact

The Health Science Center contributes most significantly to the long-term development of Texas by providing graduates equipped to participate in today's knowledge-intensive economy. There is a consistent positive correlation between the percentage of college graduates within the state and the per capita income for the state. For example, the most current data from the U.S. Census Bureau indicates that the average salary for a Texan with at least a bachelor's degree is \$59,781 per year, compared to the average salary of \$27,603 earned by a Texan with only a high school diploma.

Another way to examine the value of an educational investment is to calculate the present value of future earnings gains and subtract the current costs of the investment. The result is a number referred to as the "Net Present Value" of the future additional earnings by graduates, which also represents future increased productivity to the Texas economy. According to the State Comptroller's Office, the current net present value (NPV) of a bachelor's degree in Texas is \$185,900; a master's degree is \$89,889; a doctoral degree is \$330,916; and a professional degree is \$680,302. An estimate of the Health Science Center's aggregate future earnings impact from its 295 degrees awarded in 2004 alone would be \$138 million.

Degrees Awarded		NPV	Earnings Impact
Bachelor's	27	\$ 185,900	\$ 5,019,300
Master's	78	\$ 89,889	\$ 7,011,342
Doctoral	9	\$330,916	\$ 2,978,244
Professional	181	\$680,302	\$123,134,662
<b>Total Future Earnings Impact for 2004</b>			<b>\$138,143,548</b>





## Health Care Impact

The components of the Health Science Center have unique impacts beyond education. The Health Science Center and its affiliated hospitals serve Texas and their regions by providing health care services, including uncompensated health care. The gross charges for medical services performed by the Health Science Center faculty in 2004 totaled over \$450 million. An additional \$6.7 million in medical services were provided for which payments were not collectible.

The Health Science Center campuses also play a vital role in their communities. For example, dental students provide educational programs to 7,500 K-12 children and adolescents every year. Medical students staff and manage a clinic for indigent patients in Central Texas, and have a “health care circus” to distribute vaccines to children. Community education programs on diabetes prevention and asthma management are provided by HSC employees to residents in a 19-county area in the Coastal Bend region. These programs all contribute to the individual and social health of Texas citizens by providing low-cost, or free health care services.





## Conclusion

The findings of this report document the major economic impact the A&M System Health Science Center had on the state during fiscal year 2004. The elements of this economic impact include direct expenditures by the Health Science Center (\$110 million), its students (\$21 million) and its visitors (\$355,000). These expenditures had a multiplier effect on the state economy which resulted in a total economic impact of over \$562 million and an employment impact of 4,130 jobs. Through the educational process, the future earnings impact of graduates was over \$138 million. In addition, HSC students and faculty have had a major impact on the quality of health care of Texans.

The A&M System Health Science Center has a special responsibility to the citizens and the state of Texas for the investment they have made in this institution, the faculty, staff, and students. The Health Science Center believes that it has handled this investment wisely, as demonstrated by the information contained in this report. With support of state leaders, the Health Science Center has taken that investment and added to it in order to enrich the educational opportunities for students and to create opportunities for faculty. The Health Science Center's ultimate goal is to provide trained health care professionals and scientists to meet the needs of the state of Texas and its citizens.

## Methodology

The economic benefits derived from the Health Science Center were estimated in six important categories of expenditure: current operations, capital improvements, construction expenditures, direct purchases, spending by students, and spending by visitors. Revenues and expenditures for the Health Science Center are quantified from financial records, and expenditures by students and visitors are estimated using information available from a variety of sources. The economic impact estimates are based upon input-output models and use standard multipliers as cited by the State of Texas Comptroller's Office.

## References

The main sources of information used in this report were as follows:

- 1) Health Science Center Annual Financial Report, Fiscal Year 2004
- 2) U.S. Census Bureau Database, 2000
- 3) Special Report: The Impact of the State Higher Education System on the Texas Economy, published by Carole Keeton Strayhorn, Texas Comptroller of Public Accounts, April 18, 2005
- 4) Health Science Center Statistical Fact Book 2004-2005