LSU Health Sciences Center at Shreveport
GRAD Act Annual Report – Year 2

Submitted: April 20, 2012
Updated: June 6, 2012

TABLE OF CONTENTS

PERFORMANCE OBJECTIVE 1: STUDENT SUCCESS

Element 1a: Implement policies established by the institution's management board to achieve cohort graduation rate and graduation productivity goals that are consistent with institutional peers.

Narrative

School of Graduate Studies

Cohort sizes in the School of Graduate Studies are small; thus, each student greatly influences the retention rate calculation. The school requests an exemption in future years from reporting retention rates for cohorts less than 20. Alternatively, the school asks to use a three-year average for this measure to allow for an assessable count of students.

Although the School of Graduate Studies established a 75% first to second year retention rate target for the entering class of 2010-11, only seven out of thirteen students were retained to second year from that class. Four of the non-retained students proved to be academically successful during their first year; however, exigent circumstances and personal decisions affected their continuation. The following reasons/observations explain the six students that were not retained:

- One student's mentor accepted a faculty position at another university, and the student transferred to the same university to continue with mentor.
- Three students in good academic standing resigned for personal reasons.
- One student developed a serious medical condition shortly after admission and requested a leave of absence but eventually resigned from the school.
- One student did not maintain an adequate grade point average and resigned for personal reasons.

Standards for acceptance into the School of Graduate Studies include satisfactory scores on the Graduate Record Exam (GRE), a minimum of 2.5 grade point average (GPA) for undergraduate work, satisfactory interviews, and excellent letters of recommendation. Students enrolled in the School of Graduate Studies are required to maintain at least an overall GPA of 3.0. Students who do not achieve a 3.0 GPA are placed on academic probation. Students who have not improved their GPA to at least a 3.0 within 1 year after being placed on academic probation are dismissed from the program.

Some departments have developed academic support systems in which senior graduate students tutor first year graduate students who are "at risk" for academic probation. In addition, the Department of Pharmacology, Toxicology and Neuroscience has developed a review/refresher series of on-line tutorials and faculty generated quizzes in biochemistry targeted to students in the summer before their first year of Graduate School. Students who complete this series have proven to be more successful in passing their first year biochemistry courses than students who did not complete the series. Passing the biochemistry courses is essential in advancing from the first year to the second year of the program; thus, the review/refresher series is required for incoming students to the program.

Efforts to improve the quality of applicants to the Graduate School include ongoing programs at the high school and undergraduate level. Several programs are active on the LSUHSC-S campus:

1.) The Department of Pharmacology, Toxicology and Neuroscience received funding in 2007 from the American Society for Pharmacology and Therapeutics for Summer Undergraduate Research Fellowships (SURF). In this program, senior undergraduates from around the country spend a summer performing basic research in a laboratory in the department. The great majority of these students continue their education in graduate school, medical school, or MD/PhD programs.

2.) The National Institutes of Health funds the BioStart Academy program, which is a partnership that began in 2006 between Southwood High School in Shreveport and LSUHSC-S. Students participating in this program obtain research experience in a lab at LSUHSC-S as part of their high school program. The majority

of these students attend college, but because the program has only graduated two classes so far, data about additional education for these graduates is not yet available.

3.) The Science and Medicine Academic Research Training (SMART) program, initiated in 1997, is a partnership between LSUHSC-S and the Biomedical Research Foundation of Northwest Louisiana. The top 10-12 high school students in Caddo, Bossier, and DeSoto Parishes who are interested in science careers are chosen for this program. Students perform basic science research projects in the laboratories of LSUHSC-S faculty for a summer, and their entire senior year in high school. These students typically attend college and continue their education in medical school or graduate school. Of the SMART participants from 1997 to 2008, 18 out of 89 have enrolled in one of the schools at LSUHSC-S. In a recent survey of past SMART participants, 100% of the respondents indicated that they attend/attended college, and 99% specified that they graduated or intend to graduate college.

Measures

i. 1st to 2nd year retention rate by school		
	2010-11 Target	**2010-11 Actual**
School of Medicine	95%	96% (113/118)
School of Graduate Studies	75%	54% (7/13)
School of Allied Health Professions	86%	92% (139/151)†

†The majority of programs in the School of Allied Health Professions begins in the summer; thus, retention rate is based on the summer term. In addition, the summer term falls at the end of the academic year. The actual retention rate for the 2010-11 entering class (in which summer 2011 is included) will not be available till summer 2012; however, estimated figures have been provided.

iv. Same institution graduation rate by school		
	Year 2 Target	**Year 2 Actual**
School of Medicine	90%	95% (97/102)
School of Graduate Studies	n/a	n/a
School of Allied Health Professions	85%	87% (103/118)

ix. Median professional school entrance exam score
Not applicable to LSUHSC-S; the schools do not have direct impact on entrance exam performance; applicants who meet admission requirements are considered.

Element 1b: Increase the percentage of program completers at all levels each year.

Narrative

School of Allied Health Professions

In keeping with national standards, the Physical Therapy program in the School of Allied Health Professions transitioned from masters to doctorate (DPT) in summer 2006. As part of this transition, the program offered a part-time, post-professional track to previous graduates, allowing them to obtain the higher-level DPT degree. As a result, the number of program completers transiently increased, peaking in the baseline year 2008-09. Although the number of DPT graduates has gradually decreased since 2008-09, **the number of full-time, entry-level DPT completers has remained stable and at capacity (approximately 30/year) from 2008-09 to 2010-11**. Similarly, the Physician Assistant program transitioned from bachelor's to master's in summer 2010, and began offering a similar part-time track to previous graduates who desire to earn the higher degree. These program upgrades are expected to continue to produce an inflated number of degrees awarded, but at a diminishing rate, for several more years. As these transitions are accomplished, the part-time, post-professional tracks will be phased out, and the number of completers will stabilize at each

program's full-time, entry-level capacity. In addition, as the degree level shifts from bachelor's to master's for Physician Assistant, the number of degrees awarded will decrease at the lower level and increase at the higher level. Lastly, cohort sizes by award level are relatively small; thus, each student greatly influences percentage change.

Measures

School of Medicine i. Percentage change in completers by award level from baseline			
	2008-09 Baseline	**2010-11 Target**	**2010-11 Actual**
Professional	baseline (110)	0%	+2% (112)

School of Graduate Studies i. Percentage change in completers by award level from baseline			
	2008-09 Baseline	**2010-11 Target**	**2010-11 Actual**
Master's	baseline (1)	0%	0% (1)
Doctorates	baseline (8)	0%	+25% (10)

School of Allied Health Professions i. Percentage change in completers by award level from baseline			
	2008-09 Baseline	**2010-11 Target**	**2010-11 Actual**
Bachelor's	baseline (62)	-15%	-16% (52)*
Master's	baseline (27)	-19%	15% (31)
Professional	baseline (62)	-37%	-40% (37)†

*Actual within the allowable tolerance of target

†The number of full-time, entry-level physical therapy clinical doctorate graduates has remained stable and at capacity (approximately 30/year) from 2008-09 to 2010-11. The Physical Therapy program transitioned from master's to doctorate in summer 2006 and offered a part-time, post-professional track to previous graduates, allowing them to obtain the higher-level DPT degree. As a result, the number of completers at the professional level transiently increased, peaking in the baseline year. Cohort sizes by award level are relatively small; thus, each student greatly influences percentage change. Targets are met for all graduate levels combined.

Element 1c: Develop partnerships with high schools to prepare students for postsecondary education.

Not applicable to LSUHSC-S.

Element 1d: Increase passage rates on licensure and certification exams and workforce foundational skills.

Narrative

School of Medicine

The School of Medicine draws its applicants from Louisiana residents. Despite a smaller applicant pool, often with entry exam scores lower than the national median (school median MCAT: 28 vs. national median MCAT: 32), the institution's licensure pass rates are consistently competitive with national pass rates.

USMLE Step 1 Preparation

In 2007, the School of Medicine formed a committee to develop and institute an action plan to improve USMLE Step 1 outcomes. An extensive review of academic performance data from past medical students who failed this exam on the first attempt was completed, and a formula was developed to identify students "at risk" for USMLE Step 1 failure. The formula was applied to student data from several previous classes and demonstrated an excellent predictive value for identifying students who had poor Step 1 performance. Since USMLE Step 1 must be passed prior to entry into the third year of medical school, the formula is applied to the academic performance data of all second year students. Students identified as "high-risk" are enrolled in an intensive study course designed to better prepare them for the Step 1 exam, while low-risk students are allowed to use a study method of their choosing. Each subsequent class is evaluated yearly to determine the number of students needing the intensive study course.

USMLE Step 2 Preparation

Curricular revision aimed at increasing the quality and breadth of clinical experience provided to students has been made with the intent of further improving the quality of graduating physicians. The third and fourth year curricula have been reviewed and modified to provide students with increased patient contact and faculty interaction. In addition, the incorporation of clinical curricula from the institution's Clinical Skills Center (CSC) has provided an important way in which all medical students receive training in aspects of clinical medicine appropriate for their year and a means by which their performance of clinical skills can be evaluated. These efforts not only serve to improve the overall patient care performance of these future physicians but provide for them an enlarged foundation of clinical knowledge that directly impacts success with USMLE Step 2. High first-time pass rates, which have been comparable or better than the national average, for the two components of USMLE Step 2 reflect the successful implementation of the School of Medicine's clinical curriculum enhancements.

School of Allied Health Professions

The School of Allied Health Professions has instituted various methods across all programs to increase passage rates on licensure and certification exams and improve workforce foundational skills. These include early identification of students needing remediation, individual student counseling, study groups, practice examinations, clinical practice skill development, and interactive teaching by faculty on clinical rotations. Examples of student success initiatives include the following:

- The Program in Physical Therapy offers a National Board Exam Preparation Course the month prior to graduation each year. In addition, all students take a mock-licensure exam in the semester prior to graduation in order to identify areas requiring additional review.

- The Physician Assistant (PA) program has taken several actions to improve pass rates on the PA certification exam. One such modification was the conversion from written course exams to electronic format exams, which exposes the students to the test format in which they will later take their actual certification exam. The Physician Assistant program also subscribes to a national peer-reviewed database of certification exam practice questions for students to use as a study aid.

Measures

School of Medicine i. Passage rates of licensure exams				
	2011 AY Graduates			
	School Pass Rate	National Pass Rate	School Pass Rate / National Pass Rate Target	School Pass Rate / National Pass Rate Actual
USMLE Step 1	95% (110/116)	93%	95%	102%
USMLE Step 2 CK	95% (106/112)	97%	96%	98%
USMLE Step 2 CS	97% (110/113)	98%	96%	99%

School of Allied Health Professions i. Passage rates of licensure exams			
	2011 AY Graduates		
	School Pass Rate Target	School Pass Rate Actual	National Pass Rate
Medical Technology	94%	100% (15/15)	84%
Cardiopulmonary Science (CRT)	90%	100% (1/1)	57%
Physician Assistant	80%	100% (35/35)	91%
Communication Disorders	98%	100% (13/13)	86%
Occupational Therapy	98%	100% (15/15)	84%
Physical Therapy	90%	89% (25/28)*	87%

*Actual within the allowable tolerance of target

PERFORMANCE OBJECTIVE 2: ARTICULATION AND TRANSFER

Element 2a: Phase in increased admission standards and other necessary policies by the end of the 2012 Fiscal Year in order to increase student retention and graduation rates.

Not applicable to LSUHSC-S.

Element 2b: Provide feedback to community colleges and technical college campuses on the performance of associate degree recipients enrolled at the institution.

Not applicable to LSUHSC-S.

Element 2c: Develop referral agreements with community colleges and technical college campuses to redirect students who fail to qualify for admission into the institution.

Not applicable to LSUHSC-S.

Element 2d: Demonstrate collaboration in implementing articulation and transfer requirements provided in R.S. 17:3161 through 3169.

Not applicable to LSUHSC-S.

PERFORMANCE OBJECTIVE 3: WORKFORCE AND ECONOMIC DEVELOPMENT

Element 3a: Eliminate academic program offerings that have low student completion rates as identified by the Board of Regents or are not aligned with current strategic workforce needs of the state, region, or both as identified by the Louisiana Workforce Commission and Louisiana Economic Development.

Narrative

Health care plays a vital role in the economic stability and well being of Louisiana. To assure that Louisiana has an adequate supply of health care professionals to fill present and future positions, LSUHSC-S educates and trains learners for careers in needed health care and health science occupations. All programs at LSUHSC-S are aligned with current or strategic workforce needs of the state and/or region as identified by the Louisiana Workforce Commission and Louisiana Economic Development, including the Fostering Innovation through Research in Science and Technology in Louisiana (FIRST Louisiana) core industry of health care.

The Director of Institutional Planning serves on the State Council of Workforce and Economic Development Officers, which provides guidance, strategies, and policies to support workforce development efforts at Louisiana's higher education institutions. In addition, the council facilitates dialogue among colleges and universities, business and industry, state and federal governmental representatives, Louisiana Economic Development, Louisiana Workforce Commission, etc.

School of Allied Health Professions

The Dean of the School of Allied Health Professions at LSUHSC-S serves as the LSU System representative on the Louisiana Health Works Commission, which functions directly with the Louisiana Workforce Commission to study and make recommendations on supply and demand issues related to the health professions. Using the knowledge gained from these commissions, LSUHSC-S strives to meet the projected demands by fostering programs best suited to the state's needs. Recent data presented by the commissions on workforce growth in Louisiana indicate that all six academic programs in the LSUHSC-S School of Allied Health Professions (Physical Therapy, Occupational Therapy, Speech-language Pathology, Physician Assistant, Respiratory Therapy and Clinical Laboratory Science) are predicted to have high annual growth rates in the state ranging from 30% to 100%.

Compelling evidence over the past several years indicates that additional graduates will be needed to fill high demand positions. Consequently, the School of Allied Health Professions has partnered with the Louisiana Health Works Commission and the Louisiana Board of Regents to increase enrollment in key programs that were functioning at capacity. This was accomplished through a capitation arrangement with the Board of Regents in which the School was provided with additional funding on a per student basis for each new student admitted over the baseline number to these key programs. This agreement allowed the school to increase the entering class size of the Physical Therapy Program and the Physician Assistant Program by six students each, and the Clinical Laboratory Science Program by twelve students. Recent state budgetary constraints have severely curtailed the capitation program, but the school remained committed to the students enrolled and has utilized funding from tuition increases to maintain the higher numbers.

School of Graduate Studies

The LSU Board of Supervisors and the University of Louisiana Board of Supervisors approved a proposal for a PhD program in Bioinformatics and Computational Biology as a cooperative effort among LSUHSC-S, LSU-S and Louisiana Tech in 2009. It currently awaits final approval by the Board of Regents. The U.S. Bureau of Labor Statistics includes bioinformatics biological scientist (doctoral degree) on the list of "fastest growing occupations" between 2008-2018 in its Occupational Outlook Handbook (2009-2010 edition), with an anticipated 19% growth nationwide and 11% growth for Louisiana.

As part of the Board of Regents low-completer review in 2011, the School of Graduate Studies proposed to consolidate the five master's programs in its five basic science departments into a single master's program to be known as the Biomedical Sciences Master's Program. Students would enroll in the currently offered core courses in their first year and complete laboratory rotations in three different laboratories of faculty in the five basic science departments. At the end of their first year, the students would choose a research advisor/mentor in one of the basic science departments. The students would then complete the additional course/program requirements for the master's in that department and receive the Master's in Biomedical Sciences.

A track in Human Clinical Anatomy (that began in August 2010) provides another option for the students in the Master's in Biomedical Sciences Program who choose a mentor in the Department of Cellular Biology and Anatomy. They will assist in teaching anatomy to medical students in their second year, thus, be trained to become anatomy instructors when they have completed the requirements of the master's degree. A national shortage of anatomy instructors is evident for medical schools, allied health and nursing schools, and graduate schools, so this program track will provide well-trained instructors that will fill a growing need in the State as well as elsewhere in the country.

School of Medicine and Other Postgraduate Training Programs at LSUHSC-S

Since Louisiana has large areas in which the population has limited access to health care, one of the most pressing requirements is an adequate supply of primary care physicians. LSUHSC-S has initiated several educational and training programs aimed at meeting those needs. A Health Professional Shortage Area (HPSA) map is provided in Appendix 4 and illustrates the many medically underserved parishes of Louisiana. Appendix 5, from a recent American Association of Medical Colleges (AAMC) report, demonstrates the high retention of LSUHSC-S graduates in-state and practicing in underserved areas as benchmarked against all US medical schools.

LSUHSC-S Primary Care Internal Medicine Residency Program

In addition to the categorical Internal Medicine training program at LSUHSC-S, the institution began a program to specifically train internists in the practice of Primary Care Internal Medicine. Recognizing that a great percentage of traditional Internal Medicine residents choose to enter specialty fellowship training after graduation, the LSUHSC-S Department of Internal Medicine determined that the need for community internists was not being met and began the Primary Care Internal Medicine Program in 2008.

LSUHSC-S Family Medicine Residency Program

The primary mission of the LSUHSC-S Family Medicine Residency Program is to train residents capable of practicing in rural settings. In addition to providing an excellent foundation in the practice of primary care medicine, the program has emphasized training in a variety of procedural skills for over 20 years to help accomplish this goal. To function in rural areas, physicians must be prepared to perform a number of treatments and diagnostic studies that, in urban areas, might be done by a specialist. The Department of Family Medicine has maintained a rural training track for over 10 years. The Emergency Medicine/Family Medicine Program is intended to prepare graduates to effectively staff emergency departments as well as practice family medicine in rural communities.

LSUHSC-S Area Health Education Centers (AHEC)

AHEC is a national organization with a primary mission to enhance access to quality health care, particularly primary and preventive care, by improving the supply and distribution of healthcare professionals through community/academic educational partnerships. In keeping with the overall AHEC mission and its application to Louisiana, the AHEC Program Office at LSUHSC-S and its two centers focus on introducing students to the practice of medicine in the rural and underserved areas of the state. The program plays an active role in the training of LSUHSC-S medical students and also offers programs for high school and college level students.

Measures

Summary of program review	
	2010-11
i. Number of programs eliminated	0[1]
ii. Number of programs modified or added	1[2]

[1]As part of the Board of Regents low-completer review in 2010-2011, the institution proposed the consolidation of the five master's programs in the School of Graduate Studies into a single master's program to be known as the Biomedical Sciences Master's Program beginning in 2011-12.
[2]Physician Assistant Program began transition from bachelor's to masters in 2010-11.

Programs aligned with workforce and economic development needs	
	2010-11
iii. Percent of programs aligned with workforce and economic development needs	100%
• Number of program offerings	18
• Number of programs aligned with workforce and economic development needs	18

Element 3b: Increase use of technology for distance learning to expand educational offerings.

Narrative

School of Medicine

As is prevalent in most medical schools, students in the School of Medicine must interact in person with faculty, students, patients, etc. in most curricular activities (e.g. clinical clerkships, small group discussions, lectures, problem-based learning, standardized patient experiences, etc.); therefore, distance learning is not a viable delivery option for the M.D. Program.

School of Graduate Studies

The Introduction to Bioinformatics course (BCH 290, 3 credit hours) provided by the School of Graduate Studies is offered to students at four universities in Louisiana including LSUHSC-S, LSU-S, Louisiana Tech, and Southern University in Baton Rouge. Fifty percent of the lectures in the course are given at LSUHSC-S and 50% are given at LSU-S, and the Access Grid System connects all four campuses. Students register on their respective campuses for course credit in their institutional programs. The course is taught in the spring of alternate years.

The NIH-funded INBRE program supports Access Grid, allowing graduate students, postdoctoral fellows and faculty at LSUHSC-S to participate in a Bioinformatics Affinity Group Journal Club with students and others at Louisiana Tech, ULM, LSU-BR, LSU-S, LSUHSC-NO and SUBR. These interactive Journal Clubs are important in student learning as well as development of oral communication skills. Students from multiple departments participate in this course.

Students in the School of Graduate Studies must perform scientific research as part of their degree requirements, and this aspect of training cannot be provided through distance learning. No courses in the School of Graduate Studies are offered 100% through distance education.

School of Allied Health Professions

The Cardiopulmonary Science Program has a consortium agreement with Bossier Parish Community College (BPCC) to teach on that campus as well as use technology for distance learning to teach students residing in the Monroe and Alexandria region. The students in Monroe and Alexandria have a weekly lab performed at

their site with a clinical instructor and all clinical rotations are completed in their respective areas. Upon completion these students will receive an Associate Degree in Respiratory Therapy from BPCC.

Measures

Distance Learning	
	2010-11*
i. Number of course sections offered during the reporting year with 50% and with 100% instruction through distance education, reported separately for:	
• Number of course sections with 50% to 99% instruction through distance education	0
• Number of course sections with 100% instruction through distance education	0
ii. Number of students enrolled in courses during the reporting year with 50% and with 100% instruction through distance education, reported separately for:	
• Number of students (duplicated) enrolled in courses with 50% to 99% instruction through distance education	0
• Number of students (duplicated) enrolled in courses with 100% instruction through distance education	0
iii. Number of programs offered through 100% distance education, by award level	0

*The Introduction to Bioinformatics course (BCH 290, 3 credit hours) is taught in the School of Graduate Studies, and fifty percent of the lectures in the course are given at LSUHSC-S and 50% are given at LSU-S. The Access Grid System connects these two campuses as well as Louisiana Tech and Southern University in Baton Rouge. The course is taught in the spring of alternate years; it was not offered in spring 2011.

Element 3c: Increase research productivity especially in key economic development industries and technology transfer at institutions to levels consistent with the institution's peers.

Note: Special narrative required for this element. The narrative (up to 7 pages) should include at a minimum descriptions of:

- *Context for research reporting for the current year: how alignment of Research & Development activities with key economic development industries was determined, sources of reported data and information, method for isolating data related to key economic areas, and any other critical factors in approaching specific GRAD Act reporting requirements.*
- *Research productivity and technology transfer activities related to Louisiana's key economic development industries that have taken place during the reporting year; provide any relevant metrics to demonstrate impact*
- *Collaborations during the reporting year with Louisiana Economic Development, Louisiana Association of Business and Industry, industrial partners, chambers of commerce, and other economic development organizations to align Research & Development activities with Louisiana's key economic development industries, discuss any changes from previous year.*
- *Business innovations and new companies (startups) and companies formed during previous years and continuing (surviving startups) resulting from institutional research and/or partnerships related to Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) awards.*
- *Using most recent data available, research productivity and technology transfer efforts in comparison with peer institutions, provide any relevant metrics to demonstrate comparisons.*

  Note: Louisiana's key economic development industries include but are not limited to the key industry sectors identified in the Fostering Innovation through Research in Science and Technology in Louisiana (FIRST Louisiana) plan as well as LED's Blue Ocean targeted industry sectors. The following list provides FIRST Louisiana core industry sectors with related Blue Ocean sections in parentheses:

  - *Petrochemical (ultra-deep water oil & gas; unconventional natural gas; enhanced oil recovery)*
  - *Energy & Environmental (next generation automotive; energy efficiency; renewable energy; nuclear power; water management; ultra-deep water oil & gas; enhanced oil recovery)*

- *Transport, Construction & Manufacturing (next-generation automotive; pharmaceutical manufacturing; renewable energy; nuclear power; water management)*
- *Information Technology & Services (digital media/software development)*
- *Arts & Media (digital media/software development)*
- *Agricultural & Wood Products (water management; renewable energy)*
- *Health Care (Specialty research hospital; obesity/diabetes research and treatment; pharmaceutical manufacturing; digital media/software development: health care IT)*

Narrative

One of Louisiana's top economic development goals is expanding research, clinical trials, and treatment opportunities. The Center of Molecular and Tumor Virology at LSUHSC-S, funded through an NIH COBRE grant, is one major area of research, which includes both basic and clinical science investigations of molecular mechanisms involved in virally-induced pathogenesis. Another major research area at the university is an NIH funded program project grant on the Role of the Microcirculation in Intestinal Inflammation. Investigators working on this project are studying inflammatory bowel diseases, such as colitis and Crohn's Disease in order to develop better treatments for these debilitating conditions. Researchers at the LSUHSC-S Feist-Weiller Cancer Center perform investigations into molecular mechanisms of cancer initiation and metastases as well as conduct clinical trails on new cancer treatments. Other areas of basic and clinical research in the neurosciences include Parkinson's Disease, Alzheimer's Disease, other neurodegenerative diseases, Multiple Sclerosis, drug abuse and olfactory processing. Other investigators are studying diabetes, stroke, asthma, rheumatoid arthritis, kidney disease, pulmonary disease, hepatitis, sickle cell disease, preeclampsia, and cystic fibrosis. In addition, LSUHSC-S conducts numerous clinical trials in diabetes, cancer, heart disease, behavioral and cognitive disorders, and inflammatory diseases as well as other conditions, which are supported by the pharmaceutical industry, foundations, and the National Institutes of Health.

As part of its mission, LSUHSC-S supports the region and the state in economic growth and prosperity by utilizing research and knowledge to engage in productive partnerships with the private sector. Ongoing partnerships between LSUHSC-S and several start-up companies are active. The intellectual property developed at LSUHSC-S was exclusively licensed to these companies, and the companies are working on commercializing these technologies. For example, Requisite Biomedical is developing a drug delivery device and if their commercialization efforts are successful, LSUHSC-S could potentially receive ownership in the company. Dr. Nicholas Goeders at LSUHSC-S was awarded an NIH grant that subcontracts to Embera Pharmaceuticals to develop new drug combination formulations for treatment of drug addiction. TheraVasc has been granted a license to commercial several patents that originated at LSUHSC-S for use of novel agents in treating ischemic diseases. In addition, established companies have licensed LSUHSC-S developed technologies. For example, Applied Biosystems, Fermentas, TriLink and New England BioLabs have licensed technology developed at LSUHSC-S for the synthesis and use of anti-reverse mRNA cap analogs ARCA. A Shreveport company, Indigeaux, has licensed the LSUHSC-S patent for a gum that slowly releases curcumin to treat upper aerodigestive diseases and head and neck problems.

All research and development activities at LSUHSC-S are related to Louisiana's key economic industry of health care. The Shreveport and Monroe metropolitan areas support two medical hubs in North Louisiana, which provide health care for the northern half of the state, east Texas, west Mississippi and southern Arkansas. With 59 hospitals, an academic medical center (LSUHSC-S), and 5,122 beds combined, the healthcare sector in the region employs approximately 25,000 professionals, who have brought national recognition to the region. The healthcare industry is one of the largest employers in North Louisiana and an economic driver for the region.

The Community Foundation of NW Louisiana is managing the funds from an endowment obtained from donations dedicated to support the Research Core Facility (RCF). The RCF consists of state-of-the-art instruments that are utilized by clinical and basic scientists for biomedical research. This research supports Louisiana's key economic development industry of health care.

The Director of Institutional Planning serves on the State Council of Workforce and Economic Development Officers, which provides guidance, strategies, and policies to support workforce development efforts at

Louisiana's higher education institutions. In addition, the council facilitates dialogue among colleges and universities, business and industry, state and federal governmental representatives, Louisiana Economic Development, Louisiana Workforce Commission, etc.

Comparison data to other U.S. universities, hospitals, and research institutions published in the Association of University Technology Managers (AUTM) U.S. Licensing Activity Survey FY2010 is provided in Appendix 6. LSUHSC-S data is consolidated with the LSU System.

Measures

Research Productivity and Technology Transfer Measures 2010-11	
Faculty (FTE) holding (serving as principal and/or co-principal investigators) active research and development grants/contracts.	91.55
Total number of research/instructional faculty (FTE) at the institution during the reporting year. Include all FTE faculty, tenure and non-tenure track including physicians whose job responsibilities include expectations for scholarly productivity.	247.63
Total number of Basic Science research/instructional faculty (FTE) at the institution during the reporting year.	72.55
i. a. Percent of above research/instructional faculty (FTE) at the institution holding active research and development grants/contracts	37% (91.55/247.63)
i. b. Percent of above Basic Science research/instructional faculty (FTE) at the institution holding active research and development grants/contracts	68% (49.55/72.55)
ii. a. Percent of research/instructional faculty (FTE) holding active research and development grants/contracts in Louisiana's key economic development industries	37% (91.55/247.63)
ii. a. Percent of Basic Science research/instructional faculty (FTE) holding active research and development grants/contracts in Louisiana's key economic development industries	68% (49.55/72.55)
iii. Dollar amount of research and development expenditures, reported annually, based on a five-year rolling average, by source (federal, industry, institution, other). Include all expenditures from S&E and non S&E grants/contracts as reported annually to the NSF. (Five-year average of FY2005-06 through FY2009-10). • Federal: • Other: • Total:	 $13,661,000 $16,770,600 $30,431,600
iv. Dollar amount of research and development expenditures in Louisiana's key economic development industries, reported annually, based on a five year average (Five-year average of FY2005-06 through FY2009-10). These data will be supplemented with the narrative report demonstrating how research activities align with Louisiana's key economic development industries.	$30,431,600
v. Number of intellectual property measures (patents, disclosures, licenses, options, new start-ups, surviving start-ups, etc.) which are the result of the institution's research productivity and technology transfer efforts reported by: total count of the number of disclosures, licenses and options awarded; the number of patents awarded; the number of new companies (start-ups) formed; and the number of companies formed during previous years and continuing (surviving start-ups). • Patent applications filed: • Patents issued: • Disclosures: • Licenses/options executed: • New start-ups:	 2 1 10 2 0

• Surviving start-ups since 2005:	5

Element 3d: To the extent that information can be obtained, demonstrate progress in increasing the number of students in jobs and in increasing the performance of associate degree recipients who transfer to institutions that offer academic undergraduate degrees at the baccalaureate level or higher.

Narrative

Medical students participate in the National Resident Match Program in their fourth year; and 100% matched in 2010-11 with the vast majority matching into their field of choice. Graduates of the School of Allied Health Professions and the School of Graduate Studies are tracked by formal survey and word of mouth, and nearly 100% are employed in their field of study.

LSUHSC-S does not offer associate degrees; therefore, progress related to the performance of associate degree recipients who transfer to institutions that offer baccalaureate degrees or higher is not applicable.

Measures

iii. Placement rates of graduates		
	2010-11 Target	**2010-11 Actual**
School of Medicine	97%	100% (112/112)
School of Allied Health Professions	95%	99% (119/120)
School of Graduate Studies	89%	91% (10/11)

iv. Placement rates of graduates in postgraduate training		
	2010-11 Target	**2010-11 Actual**
School of Medicine	97%	100% (112/112)
School of Allied Health Professions	n/a	n/a
School of Graduate Studies	78%	82% (9/11)

PERFORMANCE OBJECTIVE 4: INSTITUTIONAL EFFICIENCY AND ACCOUNTABILITY

Element 4a: Eliminate remedial education course offerings and developmental study programs unless such courses or programs cannot be offered at a community college in the same geographical area.

Not applicable to LSUHSC-S.

Element 4b: Eliminate associate degree program offerings unless such programs cannot be offered at a community college in the same geographic area or when the Board of Regents has certified educational or workforce needs.

Not applicable to LSUHSC-S.

Element 4c: Upon entering the initial performance agreement, adhere to a schedule established by the institution's management board to increase nonresident tuition amounts that are not less than the average tuition amount charged to Louisiana residents attending peer institutions in other Southern Regional Educational Board states and monitor the impact of such increases on the institution. However, for each public historically black college or university, the nonresident tuition amounts shall not be less than the average tuition amount charged to Louisiana residents attending public historically black colleges and universities in other Southern Regional Education Board states.

Narrative

Granting Resources and Autonomy for Diplomas (GRAD) Act is legislation enacted to support the state's public postsecondary education institutions in remaining competitive and increasing their overall effectiveness and efficiency. Institutions should achieve specific, measureable performance objectives aimed at improving college completion and at meeting the state's current and future workforce and economic development needs. Institutions will be granted limited operational autonomy and flexibility in exchange for achieving such objectives.

Pursuant to the provisions of Act 741 of the 2010 Legislative Session, the LSU Board of Supervisors at its meeting of July 16, 2010, authorized campuses to increase tuition for resident students by up to five percent annually, in addition to other increases authorized by law, such increases which may be made effective beginning with the 2010 fall semester upon formal acceptance of the initial performance agreements by the Board of Regents. These increases would be based on the institutions' yearly progress in achieving specific performance goals. After reaching the average tuition of their peers, institutions may increase tuition and fees up to five percent or the amount of the increase in the Higher Education Price Index in the previous year, whichever is greater. Participating institutions will also be allowed to establish tuition and fees according to credit hours, rather than having them capped at full-time,12-credit hour status.

Since the applicant pool for LSUHSC-S is almost entirely drawn from Louisiana residents, there would be virtually no impact on either enrollment or revenue from a non-resident tuition increase in accordance with the GRAD Act. As well, a tuition increase for Louisiana residents is not anticipated to negatively affect enrollment in the schools of LSUHSC-S. Additional revenues that would be realized from an in-state tuition increase, however, are not expected to offset the anticipated budget reduction for Louisiana higher education.

Measures

i. Total tuition and fees charged to full-time non-resident students			
	2010-11	**Peer Comparison**	**Difference**
School of Graduate Studies	7,521	15,570 (SREB Avg)	-8,049
School of Allied Health Professions – Doctor of Physical Therapy	15,371	28,058 (Southern Dean's Avg)	-12,687
School of Allied Health Professions – Graduate	10,668	16,184 (Southern Dean's Avg)	-5,516
School of Allied Health Professions – Undergraduate	9,398	16,727 (Southern Dean's Avg)	-7,329
School of Medicine	27,630	41,763 (SREB Avg)	-14,133

Element 4d: Designate centers of excellence as defined by the Board of Regents which have received a favorable academic assessment form the Board of Regents and have demonstrated substantial progress toward meeting the following goals:

- **Offering a specialized program that involves partnerships between the institution and business and industry, national laboratories, research centers, and other institutions.**
- **Aligning with current and strategic statewide and regional workforce needs as identified by the Louisiana Workforce Commission and Louisiana Economic Development.**
- **Having a high percentage of graduates or completers each year as compared to the state average percentage of graduates and that of the institution's peers.**
- **Having a high number of graduates or completers who enter productive careers or continue their education in advanced degree programs, whether at the same or other institution.**
- **Having a high level of research productivity and technology transfer.**

The Board of Regents shall develop a policy for this element. Upon approval of the policy, measures and reporting requirements will be defined. Pending development of these items, institutions are not required to report on this element.

SECTION 5

5.a. Number of students by classification

Fall Headcount

	Undergraduate	Graduate	Postgraduate[1]	Total
Fall 2011	59	808	597	1,464

[1]Postgraduate learners at LSUHSC-S include graduate medical residents and fellows (532) and other research/healthcare postgraduate trainees (65).

Student FTE

Not applicable to LSUHSC-S; credit hour data is not submitted to the Student Credit Hour (SCH) Reporting System by the institution. However, the following FTE student enrollment from July 1, 2010 to June 30, 2011 was reported in IPEDS 12-month Enrollment:

Undergraduate student FTE	79
Graduate student FTE	854
Total FTE students	933

5.b. Number of Instructional Staff Fall 2011

Instructional faculty headcount	375
Instructional faculty FTE	334.56

5.c. Average class student-to-instructor ratio (average undergraduate class size)

Not applicable to LSUHSC-S; credit hour data is not submitted to the Student Credit Hour (SCH) Reporting System by the institution. However, the following student-to-instructional staff for undergraduate programs for Fall 2011 was reported in IPEDS Enrollment:

Student-to-faculty ratio	5 to 1

5.d. Average number of students per instructor

Not applicable to LSUHSC-S; credit hour data is not submitted to the Student Credit Hour (SCH) Reporting System by the institution. However, the fall 2011 learner headcount to instructional faculty headcount is 3.9 to 1 (1464/375).

Learner-to-faculty ratio	3.9 to 1

5.e. Number of non-instructional staff members in academic colleges and departments Fall 2011

Academic clinical departments are responsible for providing patient care services in the University Hospital; therefore, some staff may have duties in both the medical school and the hospital.

Headcount	80
FTE	79.22

5.f. Number of staff in Administrative Areas Fall 2011

Academic clinical departments are responsible for providing patient care services in the University Hospital; therefore, some staff may have duties in both the medical school and the hospital.

Headcount	173
FTE	173.00

5.g. Organizational chart containing all departments and personnel in the institution down to the second level of the organization below the chancellor.

See Appendix 7 for organizational chart.

5.h. Salaries of all personnel identified in (g) above and the date, amount, and type of all increases in salary received since June 30, 2008.

POSITION	TOTAL BASE SALARY Reported for Fall 2009	SALARY CHANGES SINCE 6/30/2008 Reported for Fall 2010	SALARY CHANGES SINCE 06/30/2010 Reported for Fall 2011	SALARY CHANGES SINCE 06/30/2011 Reported for Fall 2012
Chancellor	April 1, 2009 $325,000 (previous Chancellor retired) new Chancellor hired at a greater salary			
Vice Chancellor Business and Reimbursements	July 1, 2008 $251,410.50 current incumbent received a raise		April 1, 2011 current incumbent retired at salary of $251,410.50	
Vice Chancellor for Administration (created 4/15/2009)	April 15, 2009 current incumbent hired at a salary of $220,000			
Vice Chancellor Clinical Affairs	July 1, 2008 $186,999.96 previous incumbent received increase		. July 1, 2010 $222,000 previous incumbent retired and new Vice Chancellor hired at a greater salary	
Dean School of Allied Health Professions	July 1, 2008 $144,417.96 current incumbent received a raise			
Dean School of Graduate Studies	July 1, 2008 $128,211.96 current incumbent received a raise			
Dean School of Medicine (created 11/01/2009)		November 1, 2009 current incumbent hired at a salary of $270,000		
Administrator LSU Hospital	July 1, 2008 $236,982.00			

	current incumbent received a raise			
Senior Associate Dean and LSU Hospital CMO (created 1/1/2010)		January 1, 2010 current incumbent hired at a salary of $200,000		

5.i. A cost performance analysis

i. Total operating budget by function, amount, and percent of total, reported in a manner consistent with NACUBO guidelines

Expenditures by Function:	Amount	% of Total
Instruction	$43,648,834	10.2%
Research	$19,868,023	4.6%
Public Service	$2,161,802	0.5%
Academic Support**	$7,746,223	1.8%
Student Services	$1,121,356	0.3%
Institutional Services	$22,190,894	5.2%
Scholarships/Fellowships	$510,793	0.1%
Plant Operations/Maintenance	$5,553,519	1.3%
Total E&G Expenditures	$102,801,443	24.0%
Hospital	$324,357,127	75.6%
Transfers out of agency	$-	0.0%
Athletics	$-	0.0%
Other	$1,612,952	0.4%
Total Expenditures	$428,771,522	100.0%

ii. Average yearly cost of attendance for the reporting year as reported to the US Department of Education

Not applicable to LSUHSC-S; measure applies to first-time, full-time undergraduates which LSUHSC-S does not enroll.

iii. Average time to degree for completion of academic programs at 4-year universities, 2-year colleges, and technical colleges

Not applicable to LSUHSC-S

iv. Average cost per degree awarded in most recent academic year
Not applicable to LSUHSC-S

v. Average cost per non-completer in the most recent academic year

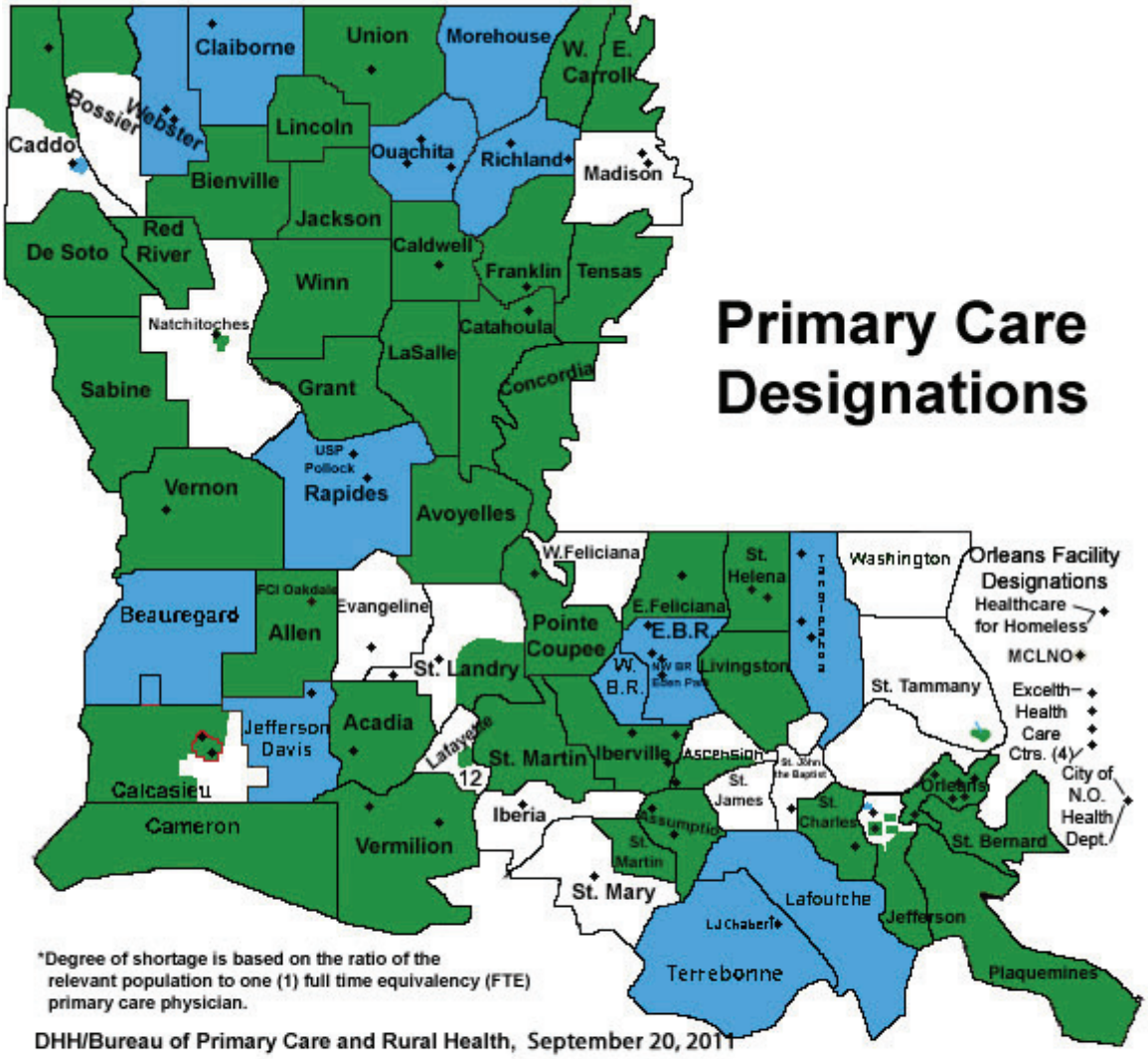
Not applicable to LSUHSC-S

vi. All expenditures of the institution for that year most recent academic year

$597,149,523.82

APPENDIX 4

Health Professional Shortage Area (HPSA) Map – Primary Care Designations



HPSA DESIGNATIONS LEGEND:

- Geographic Designation
- Population Group Designation
- Facility Designation

APPENDIX 5

Association of American Medical Colleges (AAMC) Medical School Missions Management Tool – Graduates Practicing in State and in Underserved Areas

TABLE 2 Graduate a Workforce that Will Address the Priority Health Needs of the Nation

Louisiana State University School of Medicine in Shreveport

Benchmarked against All Medical Schools

AAMC

Percentile	Areas of Practice for Graduates from 1996 through 2000					Areas of Estimated Practice for Graduates from 2007 through 2009		
	Total Graduates	Percent in Primary Care Medicine	Percent Practicing In-state	Percent Practicing in Rural Areas	Percent Practicing in Underserved Areas	Total Graduates Entering Post-Graduate Training	Percent in Family Medicine	Percent in Primary Care
					37.9%			
90	966	42.2%	54.2%	17.4%	25.1%	564	13.9%	32.8%
			49.4%	15.5%				
80	834	38.4%	46.8%	14.3%	19.4%	485	11.7%	30.0%
70	757	36.1%	42.6%	11.4%	17.0%	447	10.2%	27.6%
								26.9%
60	719	33.9%	40.7%	9.1%	16.3%	421	9.5%	25.7%
		33.6%						
50	638	32.8%	36.9%	7.6%	15.2%	384	7.5%	24.1%
40	531	31.3%	31.0%	6.2%	14.2%	324	6.5%	22.1%
						294		
30	491	29.6%	27.5%	5.0%	13.5%	282	5.6%	19.9%
	488							
20	441	26.5%	19.0%	3.5%	12.4%	251	4.8%	18.1%
10	311	23.7%	13.3%	2.8%	11.1%	178	2.7%	15.3%
Mean	641	32.7%	34.8%	9.0%	16.9%	377	8.2%	24.3%
Valid N	124	124	124	124	124	126	126	126

Note: The percentile distributions include reported zero values but exclude missing values.

Source: AAMC Student Records System; American Medical Association Physician Masterfile; GME Track System

APPENDIX 6

Association of University Technology Managers (AUTM) U.S. Licensing Activity Survey FY2010

Name of Institution	Program Start	2010 Licensing FTE	2010 Research Expenditures	2008-2010 Cumulative Research Expenditures	2010 Licenses and Options Executed	Cumulative Active Licenses	2010 Startups	2010 Invention Disclosures	2008-2010 Cumulative Invention Disclosures	2010 U.S. Patents Issued	2010 New Patent Applications	2010 Adjusted Gross Income	2008–2010 Cumulative Adjusted Gross Income	2010 License Income
Albert Einstein College of Med/Yeshiva University	1985	4.0	152,161,016	440,650,657	13		2	54	134	19	20	6,407,856	11,409,449	6,496,431
Arizona State University	1985	10.0	329,345,118	820,873,058	55	139	4	187	498	17	99	1,586,228	4,581,118	1,625,716
Auburn University	1988	3.5	145,115,000	435,753,000	25	63	1	105	276	23	108	770,134	2,138,718	770,134
Baylor College of Medicine	1983	7.0	403,351,000	1,013,263,000	48	605	NA	78	227	8	27	8,485,000	26,157,000	8,485,000
Boise State University	2010	1.0	18,731,250	NA	4	4	0	14	NA	4	11	1,000	NA	1,000
Boston College	2005	1.0	43,571,332	NA	3	2	0	15	NA	8	8	134,424	NA	134,424
Boston University/ Boston Medical Center.	1976	10.8	402,521,235	1,117,597,041	9	160	2	77	248	18	52	1,282,557	4,296,547	1,471,353
Bowling Green State University	2001	1.0	7,958,999	27,066,999	2	2	1	9	29	3	9	6,335	24,835	6,335
Brigham Young University	1986	4.0	28,503,008	82,166,345	27	239	13	117	368	10	62	4,079,216	11,223,326	4,079,216
California Inst. of Technology	1978	6.0	504,476,128	NA	47	94	10	573	1,633	138	415	50,973,680	116,259,828	51,582,149
Carnegie Mellon University	1992	4.0	233,486,000	695,758,000	48	288	10	108	341	24	53	6,075,408	20,478,329	6,078,662
Case Western Reserve University	1986	8.5	334,993,000	1,083,731,000	38	250	5	216	493	28	54	14,333,273	43,909,842	14,333,273
Clemson University	1987	3.0	187,292,161	467,545,262	11	45	3	82	221	20	39	1,064,678	6,763,343	1,064,678
Colorado State University	1970	3.5	302,895,453	917,228,777	33	108	5	114	307	8	52	1,079,315	4,594,809	1,109,841
Columbia University	1982	14.0	662,048,550	1,906,708,550	61	NA	12	333	932	66	177	100,806,668	309,064,566	147,237,631
Cornell University	1979	11.0	764,244,588	2,119,902,994	37	553	12	308	916	69	142	10,394,841	22,032,495	11,579,905
Dartmouth College	1985	2.0	143,955,424	464,018,001	9	131	1	48	161	15	31	2,301,090	8,891,186	2,335,506
Drexel University	1995	3.0	113,610,000	319,859,005	18	60	3	110	395	22	62	145,672	619,971	185,672
Duke University	1986	9.6	826,993,375	2,214,980,668	99	738	5	214	601	43	125	25,605,570	59,699,907	25,733,526
East Carolina University	1995	3.0	23,995,000	64,364,000	2	18	0	15	37	2	2	293,901	2,047,302	293,901
Eastern Virginia Medical School	1999	1.0	44,420,000	111,875,000	1	23	0	19	34	2	24	1,228,505	3,678,075	1,228,505
Emory University	1985	7.0	450,204,168	1,257,645,645	36	251	4	212	563	17	58	14,328,718	48,394,436	14,383,542
Florida Atlantic University	1996	2.0	41,605,782	NA	6	10	1	25	NA	4	15	137,976	NA	145,476
Florida International University	NA	0.5	76,746,403	225,980,147	1	4	0	24	58	1	7	24,942	74,184	24,942
Florida State University	1996	4.0	217,441,956	623,057,654	6	65	2	45	146	21	34	1,314,917	3,764,631	1,314,917
George Mason University	1996	1.9	100,286,575	280,334,414	6	19	2	61	171	24	44	98,232	350,683	110,375
Georgetown University	1993	5.0	235,780,755	611,375,413	10	139	0	53	159	4	41	8,044,094	23,663,116	8,054,887
Georgia Inst. of Technology	1990	7.0	643,736,567	1,761,427,749	42	464	8	409	1,086	49	255	2,278,267	6,937,402	2,282,824
Harvard University	1977	10.3	769,500,000	2,134,655,500	67	547	8	301	873	39	154	9,647,154	41,525,736	10,052,098
Idaho State University	2011	NA	22,079,571	NA	1	1	0	NA	NA	0	3	0	NA	0
Indiana University (ARTI)	1991	7.0	432,026,862	1,258,733,146	27	242	4	154	429	8	92	14,097,053	24,474,022	14,126,964
Iowa State University	1935	7.5	280,956,000	785,953,000	83	448	0	111	293	29	60	9,383,088	26,739,206	9,402,563
Johns Hopkins University	1973	11.1	1,462,975,000	3,889,059,445	104	568	11	355	1,013	53	449	11,494,909	33,801,352	12,413,714
Johns Hopkins University Applied Physics Laboratory	1999	5.0	1,070,844,725	2,839,950,552	26	123	2	134	391	14	31	1,214,970	3,861,966	1,214,970

Name of Institution	Program Start	2010 Licensing FTE	2010 Research Expenditures	2008-2010 Cumulative Research Expenditures	2010 Licenses and Options Executed	Cumulative Active Licenses	2010 Startups	2010 Invention Disclosures	2008-2010 Cumulative Invention Disclosures	2010 U.S. Patents Issued	2010 New Patent Applications	2010 Adjusted Gross Income	2008–2010 Cumulative Adjusted Gross Income	2010 License Income
Kansas State University Research Foundation	1942	3.0	117,320,287	318,315,835	4	50	0	27	98	11	18	1,468,592	4,528,188	1,468,592
Kent State University	1989	1.5	26,331,000	76,579,357	8	35	0	15	59	8	25	383,733	1,060,486	401,233
Lehigh University	2004	1.0	44,672,800	133,255,800	NA	NA	NA	25	63	3	18	169,006	NA	169,006
Louisiana State University System	1986	7.0	416,845,000	1,209,918,000	26	122	5	121	380	14	47	9,551,932	18,740,296	9,575,115
Louisiana Tech University	2000	1.0	26,020,000	66,884,000	2	12	1	24	77	4	13	33,500	233,886	33,500
Loyola University of Chicago.	NA	0.0	43,902,819	NA	2	3	0	5	NA	2	5	3,737,075	NA	3,737,075
Massachusetts Inst. of Technology (MIT)	1940	20.0	1,400,945,000	4,095,018,000	96	919	17	521	1,538	172	535	64,710,000	209,566,604	69,200,000
Medical College of Georgia Research Inst.	2001	3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Medical College of Wisconsin Research Fndtn	1984	3.0	128,450,345	386,019,315	8	55	4	33	125	3	6	666,447	933,495	666,447
Medical University of South Carolina	1994	1.3	181,350,415	497,470,912	7	17	3	40	144	1	16	180,581	1,485,282	180,581
Miami University	NA	0.0	22,727,194	75,169,639	0	1	0	5	18	1	1	1,653,034	4,074,376	1,653,034
Michigan State University	1992	5.0	431,373,000	1,161,324,000	31	343	0	116	336	52	41	3,867,803	12,325,878	4,016,733
Michigan Technological University	1988	3.0	63,470,644	184,221,325	14	95	1	50	131	6	17	300,034	1,267,598	308,174
Mississippi State University	1995	3.0	231,675,000	659,562,000	12	46	1	51	158	8	16	328,080	1,138,789	328,080
Montana State University	1980	2.0	109,481,694	304,063,938	53	191	1	22	70	4	17	273,790	835,226	273,790
Mount Sinai School of Medicine of NYU	1,991	6.5	371,088,109	988,767,516	24	119	1	72	237	11	34	13,053,236	66,661,330	15,381,631
New Jersey Inst. of Technology	1990	3.0	92,318,000	275,001,000	56	211	0	76	253	17	43	507,506	1,288,909	507,506
New Mexico State University	1990	1.0	125,751,940	368,616,940	2	9	2	2	18	7	5	15,171	300,422	15,171
New York University	1989	5.0	365,944,000	985,477,000	40	328	6	134	368	58	71	178,268,373	395,163,330	178,389,513
North Carolina State University	1984	6.0	360,795,000	1,107,532,000	74	450	4	124	408	32	32	5,111,661	NA	5,117,361
North Dakota State University	1995	1.9	126,419,245	355,146,245	94	536	0	49	136	9	40	1,883,861	4,910,742	1,884,361
Northern Arizona University	2008	0.3	NA	NA	0	2	0	9	NA		5	0	NA	0
Northern Illinois University	1988	0.0	15,346,935	NA	0	2	0	11	NA	1	9	10,378	NA	10,378
Northwestern University	NA	6.0	491,628,943	1,259,810,870	32	189	6	165	548	58	223	90,497,510	947,403,008	179,835,148
NUtech Ventures	2009	7.0	191,267,272	NA	26	83	5	112	NA	13	56	1,925,417	NA	1,925,417
Ohio State University	1990	6.8	755,661,682	2,174,686,437	35	179	8	173	478	38	69	1,899,844	5,706,366	1,907,046
Oklahoma State University	1995	4.0	183,107,209	484,932,548	9	62	2	42	137	5	15	1,420,634	4,097,328	1,441,391
Oregon Health & Science University	1989	4.8	391,672,316	NA	48	323	3	116	357	21	42	1,201,202	7,338,210	1,225,508
Oregon State University	1980	4.0	216,595,000	613,712,000	32	129	0	52	184	18	22	2,480,653	7,234,603	2,480,653
Penn State University	1989	4.5	780,066,000	2,262,347,000	24	162	5	133	395	54	78	2,205,744	4,910,613	2,271,002
Portland State University	2005	NA	58,192,861	151,379,664	6	17	0	13	40	1	6	91,960	227,024	91,960
Purdue Research Foundation	1988	7.0	572,866,000	1,592,082,000	99	387	11	257	731	52	124	3,931,628	11,419,973	3,931,628
Rensselaer Polytechnic Inst.	1993	3.7	68,169,814	195,175,417	8	71	2	77	197	25	45	1,015,302	2,216,026	1,070,643

Name of Institution	Program Start	2010 Licensing FTE	2010 Research Expenditures	2008-2010 Cumulative Research Expenditures	2010 Licenses and Options Executed	Cumulative Active Licenses	2010 Startups	2010 Invention Disclosures	2008-2010 Cumulative Invention Disclosures	2010 U.S. Patents Issued	2010 New Patent Applications	2010 Adjusted Gross Income	2008–2010 Cumulative Adjusted Gross Income	2010 License Income
Research Foundation of SUNY	1979	15.7	891,199,555	2,525,484,942	50	554	5	260	871	55	114	13,066,579	45,317,142	13,124,377
Rice University	1998	4.1	105,332,776	278,885,152	11	76	3	80	202	30	102	281,813	1,486,631	288,851
Rutgers, The State University of NJ	1989	7.0	367,851,000	927,757,404	80	413	8	138	309	31	67	8,690,751	24,635,851	8,697,051
San Diego State University	1997	1.5	151,035,732	391,680,531	12	40	3	28	65	2	36	365,814	1,167,348	365,814
South Dakota State University	2008	0.5	64,369,000	NA	2	22	0	46	NA	0	9	971,942	NA	971,942
Stanford University	1970	17.0	805,973,770	2,233,457,362	90	1,944		467	1,351	180	376	64,845,813	190,655,984	65,466,286
Temple University	1989	2.0	97,983,104	337,196,055	5	32	1	30	94	4	11	366,259	1,059,084	378,207
Texas A&M University System	1992	15.0	689,624,000	1,902,644,000	49	507	7	207	629	33	38	8,555,370	30,156,882	8,620,889
The UAB Research Foundation	1987	6.2	489,845,000	1,326,192,000	22	228	4	104	301	14	37	3,471,555	12,144,105	3,804,741
Thomas Jefferson University	1984	4.0	99,193,267	288,009,282	13	53	2	57	171	10	10	939,422	8,297,122	949,972
Tufts University	1978	4.0	163,996,930	487,871,155	11	79	1	76	183	19	29	7,337,047	19,255,366	7,401,189
Tulane University	1985	2.0	172,798,616	450,581,910	2	36	0	36	82	2	16	6,688,767	21,547,503	6,708,767
University of Akron	1995	2.6	68,035,226	179,135,248	10	47	2	38	142	9	26	202,226	1,779,730	202,226
University of Alabama	2006	1.0	40,762,000	110,116,000	3	15	0	31	110	1	45	77,051	120,219	77,051
University of Alabama in Huntsville	1999	1.0	82,102,043	220,632,441	2	6	4	20	63	2	5	1,037,722	3,073,974	1,037,722
University of Alaska	1997	1.0	132,000,000	NA	16	16	NA	NA	NA	0	1	13,500	NA	13,500
University of Arizona	1988	6.5	586,647,000	1,699,136,359	64	241	6	131	357	13	67	718,027	2,081,160	718,027
University of Arkansas, Fayetteville	1990	4.0	113,905,871	338,705,116	64	363	5	34	99	8	12	688,589	1,654,292	688,589
University of California System	1979	72.0	5,171,519,289	14,261,779,505	252	2,096	75	1,565	4,544	297	915	98,793,876	335,882,108	104,434,511
University of Central Florida	1985	3.0	117,833,479	349,139,777	13	47	6	96	272	85	189	647,482	1,614,666	647,482
University of Chicago/UCTech	1986	11.0	379,032,557	1,032,704,067	33	227	3	102	331	17	30	8,824,365	25,853,695	9,072,022
University of Cincinnati	1983	3.1	240,319,081	671,295,327	31	160	7	82	305	18	27	415,010	1,569,228	421,760
University of Colorado	1993	8.8	847,000,000	2,226,000,000	58	158	9	232	730	28	207	2,324,553	12,556,408	2,366,000
University of Connecticut	1987	4.0	157,827,083	470,532,621	12	101	6	91	254	32	33	886,004	2,303,228	898,141
University of Dayton Research Inst.	1984	3.0	93,319,294	NA	3	91	0	21	NA	11	16	92,650	NA	92,650
University of Delaware	1997	2.0	121,199,743	NA	3	37	1	56	NA	15	44	350,000	NA	350,000
University of Florida	1983	17.0	535,877,029	1,515,738,537	92	619	9	295	898	59	171	29,038,595	134,861,449	29,235,006
University of Georgia	1979	6.0	230,803,000	930,832,000	112	736	4	144	394	30	63	6,643,724	59,971,866	6,672,555
University of Hawaii	1987	3.5	255,734,059	714,058,956	6	44	1	53	149	7	54	107,702	827,620	107,702
University of Houston	1996	4.0	119,811,000	303,563,000	9	41	1	46	109	13	33	4,351,111	7,430,882	4,351,111
University of Idaho	1986	2.0	87,207,381	256,983,143	13	44	1	21	82	8	17	204,051	870,356	204,051
University of Illinois, Chicago, Urbana	1981	22.0	878,072,000	2,614,216,000	61	290	8	327	1,024	94	164	13,457,106	34,359,028	13,471,311
University of Iowa Research Foundation	1975	7.5	444,034,000	1,072,534,000	21	120	3	70	208	32	23	26,962,248	93,319,631	26,991,145
University of Kansas	1994	5.0	224,611,000	629,523,000	7	73	0	58	214	12	31	954,613	3,461,397	954,613

Name of Institution	Program Start	2010 Licensing FTE	2010 Research Expenditures	2008-2010 Cumulative Research Expenditures	2010 Licenses and Options Executed	Cumulative Active Licenses	2010 Startups	2010 Invention Disclosures	2008-2010 Cumulative Invention Disclosures	2010 U.S. Patents Issued	2010 New Patent Applications	2010 Adjusted Gross Income	2008–2010 Cumulative Adjusted Gross Income	2010 License Income
University of Kentucky Research Foundation	1984	2.0	NA	NA	9	153	6	57	219	28	28	2,161,743	5,061,743	2,161,743
University of Louisville	1996	7.0	189,090,000	520,391,000	6	NA	NA	105	275	8		157,439	737,170	157,439
University of Massachusetts	1994	14.7	563,998,898	1,488,305,898	42	281	2	169	497	44	77	39,946,266	146,256,661	40,019,174
University of Memphis	2008	1.0	NA	NA	NA	NA	0	18	NA	1	16	50,500	NA	50,500
University of Miami	1989	4.0	329,800,000	973,100,000	4	77	2	97	275	5	65	1,305,661	3,274,501	1,305,661
University of Michigan	1982	9.0	1,139,493,986	3,031,813,406	97	396	10	290	946	82	153	37,970,905	78,345,934	39,822,113
University of Minnesota	1957	16.0	653,616,819	1,828,021,775	73	905	8	255	716	46	80	82,954,516	261,404,905	83,905,660
University of Mississippi	1992	2.0	50,281,000	159,699,000	3	21	2	9	21	3	9	110,883	273,229	110,883
University of Missouri, all campuses	1987	10.6	325,552,703	1,019,413,480	54	135	7	131	429	35	59	10,098,437	27,212,396	10,098,770
University of Nebraska	1992	11.0	329,485,904	1,046,956,865	47	130	7	159	463	24	102	3,703,954	8,429,898	3,715,464
University of Nevada at Reno	2000	1.0	95,423,000	243,975,821	1	19	0	25	NA	11	17	109,941	371,860	109,941
University of New Hampshire	1997	1.5	120,670,043	317,359,932	12	100	1	11	38	4	7	296,671	848,155	296,671
University of New Mexico/ Sci. & Tech. Corp.	1995	3.5	211,771,042	611,168,256	33	77	5	122	347	26	105	3,772,659	5,138,564	3,772,659
University of North Carolina at Greensboro	2002	1.0	35,288,299	105,092,499	3	18	1	12	47	0	5	120,523	473,621	120,523
University of North Carolina, Chapel Hill	1985	6.0	737,591,959	2,024,063,572	39	550	5	125	384	27	64	2,517,061	7,925,615	2,597,841
University of North Carolina, Charlotte	1993	3.0	34,375,376	94,583,464	6	50	4	37	120	6	55	45,685	244,454	45,685
University of North Texas Health Science Center.	1999	1.5	39,854,878	106,063,923	4	25	0	28	61	2	8	51,608	149,100	51,608
University of Notre Dame	1999	3.0	110,368,855	318,568,855	8	21	2	39	120	11	29	314,886	570,027	338,161
University of Oklahoma, All Campuses	1984	6.0	160,559,080	473,088,767	3	52	1	49	169	22	27	428,035	1,181,838	430,489
University of Oregon	1992	3.8	115,609,376	327,273,396	30	132	1	30	88	7	19	7,416,392	21,356,496	7,496,766
University of Pennsylvania	1986	12.0	785,317,000	2,213,507,660	68	506	4	373	1,077	64	483	11,047,000	30,552,052	11,259,000
University of Pittsburgh	1992	6.3	737,025,000	2,032,576,000	80	220	6	225	723	33	69	3,606,410	13,891,649	3,839,157
University of Rhode Island	1991	2.0	81,326,000	210,726,000	3	42	0	21	41	4	20	200,752	1,223,373	200,752
University of Rochester	1980	9.0	460,522,000	1,199,370,172	19	128	5	123	418	21	46	41,653,583	159,943,102	41,664,036
University of South Alabama	1995	2.0	35,500,000	96,461,274	3	4	2	17	39	3	10	2,302,192	6,878,031	2,302,192
University of South Carolina	1993	1.0	126,994,398	522,652,776	16	42	1	61	186	6	33	537,679	887,045	537,679
University of South Dakota	2006	NA	34,500,000	91,932,000	0	0	2	4	14	0	1	25,000	50,000	25,000
University of South Florida	1990	3.4	390,850,000	NA	37	155	5	161	NA	67	84	17,411,625	NA	17,411,625
University of Southern California	1971	15.0	592,790,873	1,610,431,642	24	170	6	166	512	58	109	12,276,732	23,923,221	12,296,693
University of Tennessee	1983	2.0	286,280,573	816,889,321	15	140	4	91	272	22	96	213,059	5,142,652	428,326
University of Texas System	1985	46.7	2,346,099,522	NA	175	1,160	33	713	NA	150	368	35,278,125	NA	38,309,487

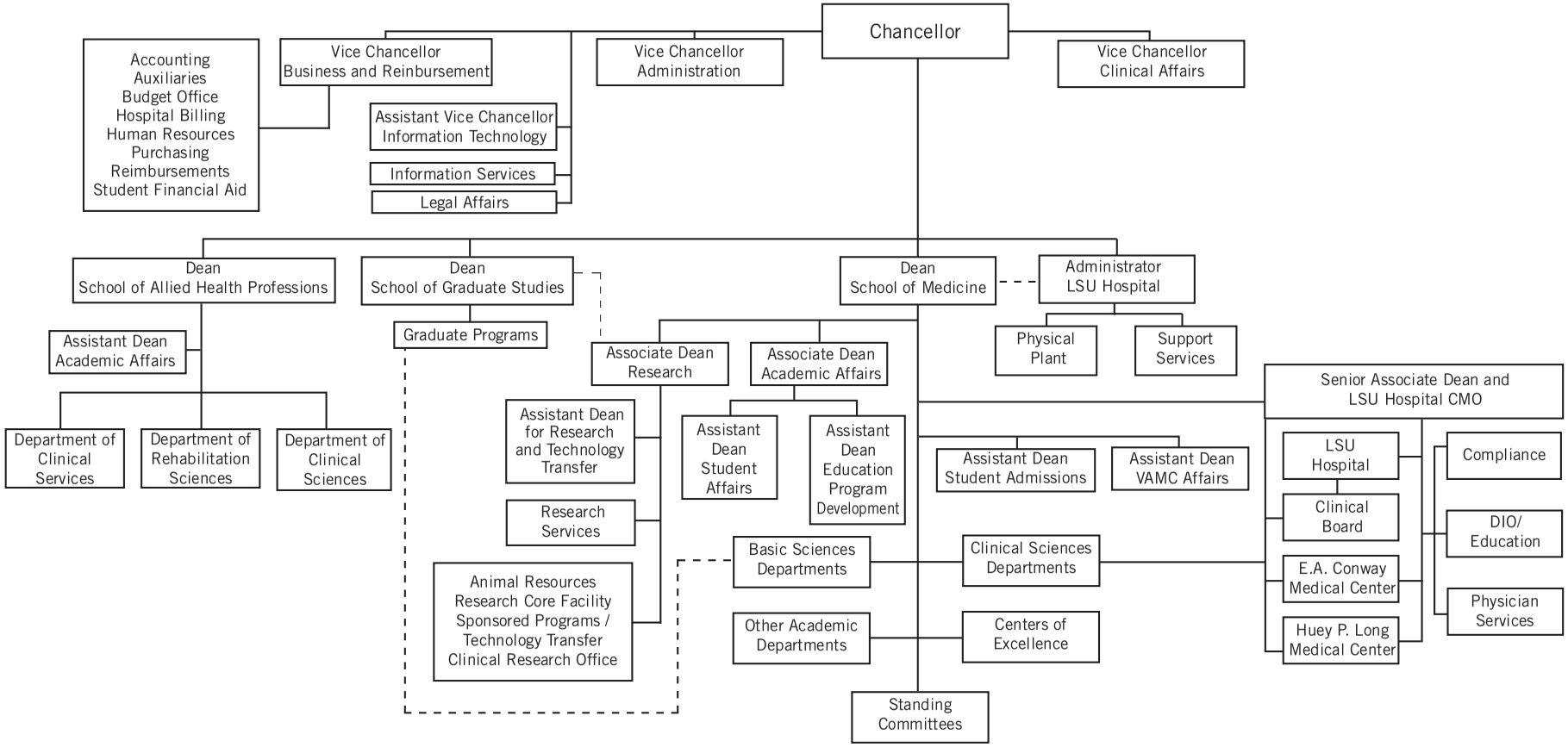
Name of Institution	Program Start	2010 Licensing FTE	2010 Research Expenditures	2008-2010 Cumulative Research Expenditures	2010 Licenses and Options Executed	Cumulative Active Licenses	2010 Startups	2010 Invention Disclosures	2008-2010 Cumulative Invention Disclosures	2010 U.S. Patents Issued	2010 New Patent Applications	2010 Adjusted Gross Income	2008–2010 Cumulative Adjusted Gross Income	2010 License Income
University of Toledo	1994	2.0	70,399,000	196,118,000	16	113	2	67	213	7	25	868,533	2,270,285	868,533
University of Utah	1968	9.8	450,488,999	1,078,148,629	68	287	18	208	613	41	90	36,611,212	73,431,019	37,547,208
University of Vermont	1998	2.5	111,071,155	305,342,457	11	64	3	37	98	8	31	242,226	598,243	247,226
University of Virginia Patent Foundation	1977	7.0	276,308,000	795,563,000	42	393	6	139	479	21	233	5,131,983	15,814,123	5,206,704
University of Washington/ Wash. Res. Foundation	1983	15.4	887,329,593	2,990,162,846	196	1,309	7	354	1,052	69	125	68,886,037	236,239,601	69,032,163
University of West Florida	2007	0.5	16,117,797	44,125,056	0	4	0	1	7	0	1	0	0	0
University System of Maryland	1987	5.2	887,972,244	NA	29	372	8	279	NA	40	149	2,022,654	NA	2,125,077
Utah State University	1987	5.0	149,169,000	444,935,000	19	NA	5	92	252	16	29	722,982	1,865,895	729,757
UW-Madison/WARF	1925	24.0	1,029,000,000	NA	62	529	5	356	NA	133	109	54,067,000	NA	54,300,000
Vanderbilt University	1990	5.5	491,632,448	1,393,322,338	43	384	0	133	417	19	72	5,627,771	25,257,060	5,635,486
Virginia Commonwealth University	1994	3.0	197,709,000	497,353,000	13	103	1	101	292	9	106	1,076,975	3,923,764	1,077,477
Virginia Tech Intellectual Properties, Inc.	1985	4.0	226,129,280	637,284,753	45	NA	2	148	521	37	101	3,031,340	6,894,277	3,345,236
Wake Forest University	1985	4.0	227,597,563	538,368,379	14	NA	3	72	204	12	40	85,991,743	271,633,745	85,991,743
Washington State University Research Foundation	1939	3.9	169,255,335	462,498,463	10	128	2	59	167	12	70	607,683	2,307,405	616,781
Washington University of St. Louis	1986	7.0	706,288,000	1,822,022,000	51	1,892	2	104	327	20	76	4,869,913	25,828,485	5,028,595
Wayne State University	1988	4.0	154,737,227	NA	6	112	4	37	NA	6	30	527,800	NA	527,800
West Virginia University	1999	4.0	95,554,400	337,235,400	7	20	2	32	103	8	25	147,218	356,429	147,218
Wright State University	2001	2.0	48,575,000	NA	2	17	0	10	NA	1	3	5,818	NA	5,818

Name of Institution	Program Start	2010 Licensing FTE	2010 Research Expenditures	2008-2010 Cumulative Research Expenditures	2010 Licenses and Options Executed	Cumulative Active Licenses	2010 Startups	2010 Invention Disclosures	2008-2010 Cumulative Invention Disclosures	2010 U.S. Patents Issued	2010 New Patent Applications	2010 Adjusted Gross Income	2008–2010 Cumulative Adjusted Gross Income	2010 License Income
Beth Israel Deaconess Medical Center.	1997	4.0	223,853,000	609,520,000	18	163	5	99	262	20	38	3,432,774	8,154,385	3,583,783
Brigham & Women's Hospital, Inc.	1986	12.0	537,334,000	1,463,589,000	55	295	1	157	440	31	76	17,991,861	38,048,713	20,286,003
Cedars-Sinai Medical Center.	1991	4.0	86,514,684	240,125,467	5	33	0	38	103	13	41	13,600,566	43,314,098	13,600,566
Children's Hospital Boston	1991	6.0	223,693,858	622,670,050	30	239	1	117	361	19	32	11,308,139	35,598,009	12,550,700
Children's Hospital Oakland Research Inst.	2001	1.0	50,736,315	142,904,637	6	32	0	15	43	6	7	99,856	739,920	99,856
Children's Hospital of Philadelphia	1991	1.0	219,579,000	644,485,000	7	35	0	50	157	5	18	303,748	191,293,853	303,748
Children's Hospital, Cincinnati	1997	3.5	270,057,975	756,458,684	20	151	2	93	282	10	10	1,734,090	27,611,080	1,820,375
City of Hope National Medical Center. & Beckman Resea	1986	3.0	265,806,847	769,510,847	7	42	0	52	84	7	29	202,264,875	806,604,121	202,264,875
Cleveland Clinic	1989	10.0	252,000,000	687,591,000	35	219	5	207	614	38	56	35,375,269	51,082,607	35,505,002
Dana-Farber Cancer Inst.	1981	6.0	261,421,413	698,495,316	36	385	1	74	257	27	38	7,034,013	17,234,575	7,455,219
Fred Hutchinson Cancer Res. Center.	1988	4.0	320,158,000	914,799,000	17	186	2	40	112	6	12	12,674,980	26,058,594	12,824,153
H Lee Moffitt Cancer Center & Research Inst.	2004	3.0	124,799,361	358,853,318	18	26	3	32	98	5	22	255,471	509,641	279,772
Mayo Fdn. for Medical Education and Research	1986	15.3	555,000,000	1,633,000,000	73	629	5	333	1,102	68	96	22,391,092	67,198,377	22,463,883
National Jewish Health	1994	1.0	66,606,556	179,404,751	7	106	1	27	85	3	5	134,034	582,169	134,034
RUSH-Presbyterian-St. Luke's Medical Center	2003	2.0	90,862,128	220,581,389	2	22	0	18	66	7	2	1,021,150	1,340,012	1,021,150
Sanford-Burnham Medical Research Inst.	1995	6.4	97,100,000	277,917,000	3	83	0	34	107	22	30	866,000	2,605,000	866,000
Sloan Kettering Inst. for Cancer Res.	1981	8.0	421,409,000	1,193,989,000	26	290	1	60	191	20	16	139,082,554	486,320,361	139,370,332
St. Jude Children's Research Hospital	1995	3.0	286,874,360	826,253,054	10	267	0	36	118	5	10	3,397,907	9,136,191	3,404,464
The General Hospital dba Massachusetts General Hos	1976	21.5	673,984,000	1,863,053,000	120	739	6	261	860	72	127	71,207,059	161,947,617	77,091,503
The Jackson Laboratory	2002	1.5	66,100,000	NA	27	89	0	10	NA	3	3	950,000	NA	1,200,000
The Salk Inst. for Biological Studies	1969	3.0	90,744,175	246,705,646	15	241	1	33	110	8	28	2,663,579	24,084,902	2,813,107
Tufts Medical Center.	1993	1.0	79,384,000	226,420,000	7	35	2	24	76	2	5	359,022	1,913,301	453,105
Whitehead Inst. for Biomedical Research	1987	2.8	45,492,000	NA	20	87	1	25	NA	8	76	2,845,855	NA	3,160,000
Wistar Inst.	1991	1.0	56,402,000	162,949,000	16	140	0	4	24	6	6	13,207,000	36,807,000	13,223,000

APPENDIX 7

LSUHSC-S Organizational Chart

LSU HEALTH SCIENCES CENTER AT SHREVEPORT
ORGANIZATIONAL CHART



Revised: 9/13/2010