Baylor College of Medicine is a health sciences university that creates knowledge and applies science and discoveries to further education, healthcare and community service locally and globally.

MISSION

Improving health through science, scholarship and innovation.

VISION

RESPECT

INTEGRITY

INNOVATION

TEAMWORK

EXCELLENCE

VALUES
Dear Baylor College of Medicine Friends and Colleagues,

Across our mission areas of education, research, patient care and community service, Baylor College of Medicine continues to march forward on our strategic roadmap. Launched in 2014, the roadmap keys on seven institutional initiatives — Discover, Invest, Reach, Educate, Create, Translate and Sustain (DIRECTS).

The next phase of that strategic plan is underway to move us from an integrated health sciences university to a learning health system. Over the course of the past several years we have made investments to build the foundation for the next steps.

It was an especially good year for our clinical enterprise. Our adult private hospital partner, Baylor St. Luke’s Medical Center, received the highest grade of “A” in the Leapfrog ratings of hospital safety. Baylor St. Luke’s, along with our other private affiliated hospitals, also had impressive U.S. News & World Report hospital rankings. Baylor St. Luke’s is the No. 2 hospital in Houston and No. 4 in the state; Texas Children’s Hospital is the No. 4 children’s hospital in the country; Menninger Clinic is No. 5 nationally in psychiatric care; and Memorial Hermann TIRR is ranked No. 3 in the nation in rehabilitation care.

Although U.S. News does not rank publicly funded hospitals, it is important to acknowledge the tremendous outcomes at Ben Taub Hospital and the Michael E. DeBakey Veterans Affairs Medical Center, both of which have been recognized as leaders in patient care. Another affiliate, Children’s Hospital of San Antonio, recently earned Magnet recognition for nursing excellence.

Inside these pages, you will find more information about our achievements in the last year as well as our plans moving forward. Some of the highlights include:

• Baylor leaped forward in U.S. News & World Report rankings. Still the No. 1 medical school in Texas and the Southwest, Baylor is ranked No. 5 among primary care medical schools and No. 16 among research intensive medical schools.

• To provide input on the next steps of strategic planning, the College has established six faculty and staff workgroups on areas central to a learning health system: Science and Discovery, Translational Medicine, Precision Medicine, Population Health, Ethics, Policy and Implementation and Health Information. Education has an essential role in strategic planning so we have integrated education leaders in each workgroup.

• Expansion continued on the McNair Campus with the move of the Department of Medicine outpatient clinics to the 8th floor of the Baylor College of Medicine Medical Center. Specialties include endocrinology, gastroenterology, general internal medicine, infectious diseases, nephrology, pulmonary/cystic fibrosis/sleep medicine, rheumatology and transition medicine.

• The NCI-designated Dan L Duncan Comprehensive Cancer Center will move to its new home on the McNair Campus in January 2019.

• Baylor responded in a big way to Hurricane Harvey, showing its community support with faculty staffing shelters and providing special mental health programs and faculty, staff and students helping in the cleanup of homes. This response continues through research on the health effects for those who were exposed to contaminated flood water and airborne health hazards.

In the year ahead, I feel confident we will move forward on our strategic roadmap, continuing to build on the College’s solid foundation to remain a strong leader in academic medicine.

Paul E. Klotman, M.D.
Baylor College of Medicine is the #1 medical school in non NIH-federal funding

CPRIT Grants
Since 2007, Baylor College of Medicine has received $247 million in CPRIT grants, with $17.6 million in FY18 alone. The state created the Cancer Prevention and Research Institute of Texas to fund groundbreaking cancer research and prevention programs and services in Texas. CPRIT’s goal is to expedite innovation in cancer research and product development and to enhance access to evidence-based prevention programs throughout the state.

Major Discoveries

- **Dietary Sugar Linked to Bacterial Epidemics**
  - Journal: *Nature*

- **Researchers Map Human Genome in 4-D as it Folds**
  - Journal: *Cell*

- **New Promise Found in Treating Triple Negative Breast Cancer**
  - Journal: *Nature Medicine*
BAYLOR IS RANKED NO. 21 IN THE NATION AND FIRST IN TEXAS IN NATIONAL INSTITUTES OF HEALTH FUNDING

BAYLOR DEPARTMENTS RANKED IN TOP 25 IN NIH FUNDING

- **GENETICS**: #1
- **PEDIATRICS**: #3
- **CELL BIOLOGY**: #4
- **NEUROSCIENCE**: #5
- **NEUROSURGERY**: #12

- **OB/GYN**: #16
- **PHYSIOLOGY**: #17
- **MICROBIOLOGY**: #23
- **OPHTHALMOLOGY**: #24
- **ORTHOPEDICS**: #24

**ETHICISTS EXAMINE LAW ENFORCEMENT’S USE OF GENETIC DATABASES**
Journal: *Science*

**SCIENTISTS SEEK TO SEQUENCE GENOMES OF ALL KNOWN SPECIES**
Journal: *Proceedings of the National Academy of Sciences*

**REGULATING ASPROSIN LEVEL MIGHT HELP CONTROL APPETITE, WEIGHT**
Journal: *Nature Medicine*
INVEST
in the human and technological resources necessary for innovation

McNair Campus
The NCI-designated Dan L Duncan Comprehensive Cancer Center will get a new home in January 2019 as construction continues on the 7th floor to house the Center’s outpatient clinics.

In FY18, outpatient clinics for the Department of Medicine opened on the 8th floor. Clinics that are now in the 8th floor include:

ENDOCRINOLOGY  GASTROENTEROLOGY  GENERAL INTERNAL MEDICINE  INFECTIOUS DISEASES
NEPHROLOGY  PULMONARY/CYSTIC FIBROSIS/SLEEP MEDICINE  RHEUMATOLOGY  TRANSITION MEDICINE
Device Accurately Identifies Cancer in Seconds During Surgery

The MasSpec Pen is a handheld device that is able to rapidly and accurately identify cancerous tissue during surgery, delivering results in about 10 seconds—more than 150 times as fast as existing technology. Developed by a team of scientists and physicians from Baylor College of Medicine, University of Texas at Austin and UT MD Anderson Cancer Center, the innovative MasSpec Pen gives surgeons precise diagnostic information about what tissue to cut or preserve as they are performing surgery, helping to improve treatment and reduce the chances of cancer recurrence. The team expects to start testing this new technology during oncologic surgeries in 2018.

Mosaic Project

Baylor College of Medicine is overhauling business processes that support its mission areas in a project called “Mosaic.” The project will leverage the latest technologies to transform and simplify operational processes, providing better outcomes and information. Mosaic will create opportunities for our teams to be more connected, timely and efficient. This transition will be critical to our future success and will involve collaborative efforts across our missions, departments and functions.

Metastatic Program

Launched in 2017, the program will forge stronger links between laboratory and clinical science, with the goal of improving cancer patient care and outcomes. The program is made possible by a generous donation from Lisa and Ralph Eads and is led by McNair Scholar Dr. Matthew Ellis.

HHMI Investigators

Howard Hughes Medical Institute is a philanthropy whose mission is to advance biomedical research and science education for the benefit of humanity. The Howard Hughes Investigator Program supports scientists who are widely known for their discoveries, innovation and success in pushing the bounds of knowledge in biomedical research.

HUGO BELLEN, D.V.M., PH.D.

JEFFREY C. MAGEE, PH.D.

MENG WANG, PH.D.

HUDA ZOGHBI, M.D.
Middle school and high school students from the Baylor College of Medicine Academy at James D. Ryan Middle School, the Baylor College of Medicine Biotech Academy at Rusk Middle School and the Michael E. DeBakey High School for Health Professions make annual visits to the Baylor campus for panel discussions with current students, tours and hands-on learning activities. Teachers from the campuses also visit annually for learning opportunities.

**Partner Schools Visit Baylor Campus**

**PA Students Partner with Seniors to Refine Spanish Skills**

Physician assistant students at Baylor have the opportunity to take a Spanish elective course with the help of senior citizens at the BakerRipley Ripley House in Houston. Each student is paired with a senior citizen, who portrays a patient, to learn how to conduct an interview in Spanish. At the end of the two-week elective, students should be able to perform a full physical exam in Spanish.

**Women’s History Month**

Baylor College of Medicine commemorated Women’s History Month in March by hosting activities highlighting women in science and medicine. More than 100 Baylor faculty, staff and trainees nominated by their peers were recognized as Women of Excellence.
The Baylor Volunteer Time Off Program offers employees one paid day off each year to do volunteer work in the community.

Global HOPE
Texas Children’s Cancer and Hematology Centers, the Baylor International Pediatric AIDS Initiative at Texas Children’s Hospital and the Bristol-Myers Squibb Foundation, in partnership with the governments of Botswana, Uganda and Malawi, have engaged in a $100 million initiative to create an innovative pediatric hematology-oncology treatment network in southern and east Africa. The comprehensive initiative, called Global HOPE (Hematology-Oncology Pediatric Excellence), is building long-term capacity to treat and improve the prognosis of thousands of children with blood disorders and cancer in the region, where the mortality rate can be as high as 90 percent.

Hess Truck Program
Baylor College of Medicine and Hess Corp. partnered to offer 500 free Hess Toy Truck STEM education kits nationwide. The education curriculum in the kits uses the best-selling toy as a learning tool. Baylor’s Center for Educational Outreach created the teacher’s manual. In addition, Baylor and Hess partnered to give free trucks to all students and learning kits to teachers at the Baylor College of Medicine Academy at Ryan Middle School and the Baylor College of Medicine Biotech Academy at Rusk.
The School of Allied Health Sciences was renamed the School of Health Professions, reflecting the more inclusive and comprehensive vision for the School.

A new Genetic Counseling Program has been established in the School of Health Professions. The inaugural class of eight students began training this summer.

Graduate School Transformation

The Graduate School of Biomedical Sciences is currently undergoing a structural transformation, with a shift from 12 Ph.D. programs to seven interdisciplinary Ph.D. programs, which integrate related research across basic science and clinical departments and academic centers. All current students and those who entered in summer 2018 will complete their degree within the program in which they are currently enrolled.

THE SEVEN INTERDISCIPLINARY PROGRAMS INCLUDE

1. CANCER & CELL BIOLOGY
2. CHEMICAL, PHYSICAL & STRUCTURAL BIOLOGY
3. DEVELOPMENT, DISEASE MODELS & THERAPEUTICS
4. GENETICS & GENOMICS
5. IMMUNOLOGY & MICROBIOLOGY
6. NEUROSCIENCE
7. QUANTITATIVE & COMPUTATIONAL BIOSCIENCES

BAYLOR IS THE LEAST EXPENSIVE PRIVATE MEDICAL SCHOOL IN THE U.S.
Dr. Bert W. O’Malley was recently named Chancellor of Baylor College of Medicine. His responsibilities include serving as an adviser to the president and the provost, participating in strategic planning and serving as an ambassador of the College.

Dr. O’Malley stepped down as chair of molecular and cellular biology, but continues directing his research lab.
CREATE
the learning health delivery system of the future

Strategic Plan: The Next Stages

Baylor has a strategic roadmap that has been followed over the last several years that has seen the College move from leading in basic science, education and clinical care to an integrated health sciences university. The next major effort is to create a strategic plan that will transform the College to a Learning Health System. Part of this effort will be to formulate Baylor’s own definition of a Learning Health System.

Six work groups have been established that represent themes for this strategic planning initiative for the College:

- Precision Medicine
- Population Health
- Science and Discovery
- Translational Medicine
- Health Information
- Ethics and Policy Implementation

These work groups include faculty, staff and trainees.

Precision Medicine and Population Health Initiative

Baylor College of Medicine has embarked on an ambitious plan to develop a premier program in precision medicine with a focus on population health. The new model will be built on the foundation of Baylor’s existing strengths in academic medicine, epidemiology and outcomes research. A call for applications went out with the goal of leveraging these strengths to accelerate advances in precision medicine that capitalize assets across Baylor to improve the health of populations.

The Office of the President received 42 proposals that included students, trainees, faculty members and affiliated hospitals. The project incorporated large data sets that were available at Baylor or at an affiliated hospital or health network and were relevant to population-based clinical care.

42 proposals received ➔ 18 chosen for presentation ➔ 10 selected for funding ➔ $30K each for 1 year
Dr. Chris Amos Leads ICTR in New Direction

Dr. Christopher Amos is a bioinformatician and expert in the genetic epidemiology of lung cancer. He serves as director of the Institute for Clinical and Translational Research (ICTR) and the associate director for quantitative sciences in the Dan L Duncan Comprehensive Cancer Center. The Institute for Clinical and Translational Research provides a learning environment at Baylor College of Medicine that integrates data from diverse domains including electronic medical records, geospatial and social information and next-generation technologies to support research, development and implementation of new approaches to patient care. The ICTR provides direction for investigators seeking to initiate new studies including concept development, design, database development and analytical strategies.

Compassionate Conversations

The Compassionate Conversations program allows the Baylor community to come together to discuss important social justice issues facing our community.

BCM Education Mission Strategic Goals

- ACCELERATE
- PREPARE
- CREATE
- INVEST
- STRENGTHEN
**TRANSLATE**
our discoveries into new diagnostics, treatments and cures

46 NEW LICENSING TRANSACTIONS
37 NEW PATENT APPLICATIONS FILED
13 NEW U.S. PATENT APPLICATIONS ISSUED

126 DISCLOSURES
$3.1M LICENSING INCOME
$10.01M IN NEW INDUSTRY SPONSORED RESEARCH CONTRACTS

**Baylor Joins Forces with Genialis**

To further support scientists working with next-generation sequencing (NGS) data, Baylor College of Medicine formed a licensing agreement with Genialis, Inc., for its NGS data management, analysis, visualization and dissemination software. Genialis Platform is a tool researchers can use to help centralize and organize data-intensive research programs. The software will allow faculty to easily share their data with different labs and research communities, fostering collaboration.

**McNair Scholars Program**

The McNair Medical Institute at Baylor College of Medicine was established in 2007 to recruit talented scientists and physician-scientists from around the world to the Texas Medical Center. The McNair Scholar program, supported by the Robert and Janice McNair Foundation and managed by the McNair Medical Institute, identifies and recruits influential researchers in neuroscience, cancer and juvenile diabetes. Currently there are 16 McNair Scholars, including Dr. Sameer Sheth, a neurosurgeon-scientist recruited in 2018.
Anizome Leads Microbiome Innovation for Next-Generation Veterinary Health Solutions

Baylor has partnered with Diversigen and Stonehaven Incubate to create Anizome, a new animal health microbiome innovation company. Initially focused on companion and farm animals, Anizome brings together a unique combination of microbiome expertise, industry knowledge and commercial experience to establish a world-class animal microbiome platform that bridges the gap between research and commercial solutions. Baylor researchers actively collaborate to bring more than a decade of breakthrough microbiome and related discoveries into development of next-generation solutions, with initial focus on inflammatory, gastrointestinal and dermatological conditions.

The Cancer Genome Atlas
TEN-YEAR STUDY PRODUCES GAME CHANGERS FOR TRANSLATIONAL RESEARCH

The Cancer Genome Atlas, launched by the National Cancer Institute and the National Human Genome Research Institute in 2006, has helped set the standards for characterizing genomic underpinnings of dozens of cancers on a large scale. TCGA has provided the understanding that each cancer type includes many genetically distinct subtypes and that some subtypes share similar molecular features across organs, meaning some treatments may benefit cancer subtypes regardless of where they are in the body. The project has produced game changers for translational research and clinical trials.

Commercialization Efforts

**ImmuCell**: A company that the College had entered into a licensing relationship with 15 years ago has succeeded in getting an approved product on the market that incorporates the use of Dr. Mary Estes’ rotavirus virus-like particle technology.

**Speratum**: A Baylor start-up company with operations in Costa Rica and the Netherlands is developing a micro-RNA based approach for treating pancreatic cancer.

**Marker Therapeutics**: A start-up company that is developing an approach to generate multi-tumor antigen-specific T cells that do not require genetic modification of the T-cells. Marker is merging with a publicly traded immunotherapy company, TapImmune, to create a company with a two-pronged approach to the immunotherapeutic treatment of cancer.

**The TRAMP mouse model**: The College’s most popular research tool technology is a mouse model that predictably develops prostate cancer. It is frequently used in industry for screening compounds that may have activity against prostate cancer. To date, we have executed more than 60 licenses for this mouse model.
Philanthropy
TEXAS ON MY MIND

The Partnership for Baylor College of Medicine hosted a gala honoring the community-minded McIngvale Family and presented them with the Lester and Sue Smith Lifetime Achievement Award. The event celebrated more than $2.7 million in support of mental health that included $1.5 million from the McIngvale family, and Baylor’s 75 years in Houston.

New Center to Focus on Diversity, Equity in Medicine

Baylor’s Office of Institutional Diversity, Inclusion and Equity and Department of Family and Community Medicine have received a five-year, $3.3 million grant from the Health Resources and Services Administration to develop the Center of Excellence in Health Equity, Training and Research. The Center will promote diversity in medicine by focusing on programs aimed at undergraduate students and current students, fellows and faculty.

Baylor was one of 12 U.S. institutions awarded a grant in 2017 through HRSA’s Centers of Excellence program, and one of only three in Texas. The overall goal of the national Center of Excellence program is to strengthen the nation’s capacity to produce a quality healthcare workforce whose racial and ethnic diversity is representative of the U.S. population.

Immediate priorities of the Center include supporting the efforts of the School of Medicine to enhance curricula and programs for medical students that focus on health equity and social determinants of health.

Major Gifts

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- FOR ALZHEIMER’S DISEASE RESEARCH
- TO SUPPORT THREE RESEARCH PROJECTS ACROSS THE COLLEGE INCLUDING A PREVENTATIVE STUDY TO PROMOTE HEALTHY AGING
- FOR THE MCNAIR INITIATIVE FOR NEUROSCIENCE DISCOVERY PHASE II PROJECT
Hotez, Zoghbi join American Academy of Arts and Sciences

Dr. Peter Hotez, dean of the National School of Tropical Medicine at Baylor College of Medicine, and Dr. Huda Y. Zoghbi, professor and Howard Hughes Medical Institute Investigator at Baylor, were elected as members of the American Academy of Arts and Sciences, one of the nation’s most prestigious honorary titles. The Academy is one of the country’s oldest societies and independent policy research centers.

President’s Circle

The Baylor College of Medicine President’s Circle includes business and community leaders from diverse industries and backgrounds who share an interest in science and medicine and a commitment to shaping the future of Baylor. Members meet throughout the year to learn about areas of strategic importance to the College and for presentations by biomedical leaders on topics ranging from genomic medicine to lung disease to global health. Membership contributions help fund new ventures as they emerge and allow the College to make strategic investments.

Alumni Job Shadow Program

SPRING 2017

40 STUDENTS

in the Graduate School of Biomedical Sciences shadowed an employer for one full business day to explore different career paths.

Obsessive Compulsive Disorder Program

The new Obsessive Compulsive Disorder Program in the Menninger Department of Psychiatry and Behavioral Sciences includes a dedicated clinical team of psychiatrists, psychologists and social workers who work closely with cognitive neuroscientists, brain imagers, geneticists and engineers to deliver evidence-based treatments and elucidate the causes of OCD with the goal of helping to improve the quality of life for people who struggle with the impact of OCD.

GREATER HOUSTON COMMUNITY FOUNDATION APPROVED A

KNIGHTS TEMPLAR EYE FOUNDATION, INC., DONATED

GALLERY FURNITURE PLEDGED

$2.6M

$2M

$1.2M

PHILANTHROPIC GRANT FOR PROJECT REACH WITH THE MENNINGER DEPARTMENT OF PSYCHIATRY AND BEHAVIORAL SCIENCES

TO CREATE THE KNIGHTS TEMPLAR EYE FOUNDATION PRESIDENTIAL CHAIR IN OPHTHALMOLOGY

TO CREATE AN ENDOWED CHAIR IN OBSESSIVE COMPULSIVE DISORDER RESEARCH AND GAVE $300,000 TO SUPPORT THE RECRUITMENT OF A FACULTY MEMBER IN THIS AREA
In 2018, the College made a leap in *U.S. News & World Report* rankings

It moved up in both the RESEARCH and PRIMARY CARE MEDICAL SCHOOL rankings published by *U.S. News & World Report*.

#5 PRIMARY CARE MEDICAL SCHOOLS

#10 PEDIATRIC PROGRAM

#16 RESEARCH INTENSIVE MEDICAL SCHOOLS

#26 GRADUATE SCHOOL OF BIOMEDICAL SCIENCES

Baylor’s joint health law program with University of Houston rose to

#2

Baylor’s joint M.D./M.B.A. program with Rice University ranked

#23

**In Memoriam**

DR. WILLIAM T. BUTLER (1932–2017)
Former President of Baylor College of Medicine

DR. BOBBY R. ALFORD (1931–2018)
Chancellor Emeritus of Baylor College of Medicine
HARVEY HEROES HONORED AT 2018 GRADUATION

Houston Texans star Justin James Watt (left) and city of Houston emergency medical services director Dr. David E. Persse (right) were recognized with the honorary degree of Doctor of Humanities in Medicine at Baylor College of Medicine’s commencement ceremony for their contributions to the community during Hurricane Harvey.

Students rise to challenges in Hurricane Harvey’s aftermath just days after flood waters recede.

Meeting the mental health needs of Hurricane Harvey at shelters and in the months to follow.

Student Service Day focuses on continuing to help and rebuild after Harvey.

Baylor doctors provide care for large-scale shelters across Houston after Harvey.