



COLLEGE OF HEALTH PROFESSIONS

2018 – 2019



musc.edu/chp

Changing What's Possible®



Zoher F. Kapasi, Ph.D., PT, MBA, FAPTA
Dean, College of Health Professions

COLLEGE OF HEALTH PROFESSIONS

Established in 1966, the College of Health Professions (CHP) remains competitive among the top colleges of health professions in the country. We offer ten different academic degree programs, and several of our programs are ranked in the top 30 nationally by the U.S. News & World Report. Student enrollment is 763, and we anticipate growth over the next five years. Through our recruitment efforts and holistic admissions, our current student body is 20.1% underrepresented minority, up from 10.4% five years ago.

The vision for CHP is to improve the health of populations by developing and inspiring health scientists and leaders. This stems from an urgent need to address the societal crisis of chronic disease in America. According to the Centers for Disease Control and Prevention, one in two Americans lives with at least one chronic condition that consumes a significant amount of health care resources.

Our strategic plan outlines three priorities:

- 1) Train more health professionals through the growth of current programs and establishment of new programs in traditional, online, and hybrid formats. This priority will help us address the shortage of providers needed to care for the populations we serve.
- 2) Develop a robust health services research core to examine the cost-effectiveness of the value-based care our professions provide through integrated health care teams.
- 3) Integrate closely with MUSC Health to engage providers in the training of our students and to translate research findings into clinical practice.

Our research portfolio continues to be robust, and the college is ranked No. 8 in National Institutes of Health (NIH) funding among 65 colleges of health professions. We celebrated the five-year renewal of the NIH Center of Biomedical Research Excellence (COBRE) in Stroke Recovery program award totaling \$11 million.

Several of our faculty members provide clinical services within the MUSC enterprise. In addition, community service is an integral part of our mission, and our students, faculty, and staff are committed to serving the needs of others.

We invite you to be part of our growing college that is changing what's possible!

2018-2019 STUDENT FACTS AND FIGURES

Incoming Students

323

NEW STUDENTS

3.5

AVERAGE ENTERING GPA



2,426

APPLICANTS

13% INCREASE

Current Students

763

ENROLLED
STUDENTS

UNDERREPRESENTED
MINORITY **20%**

UP FROM 10% FIVE YEARS AGO

69%

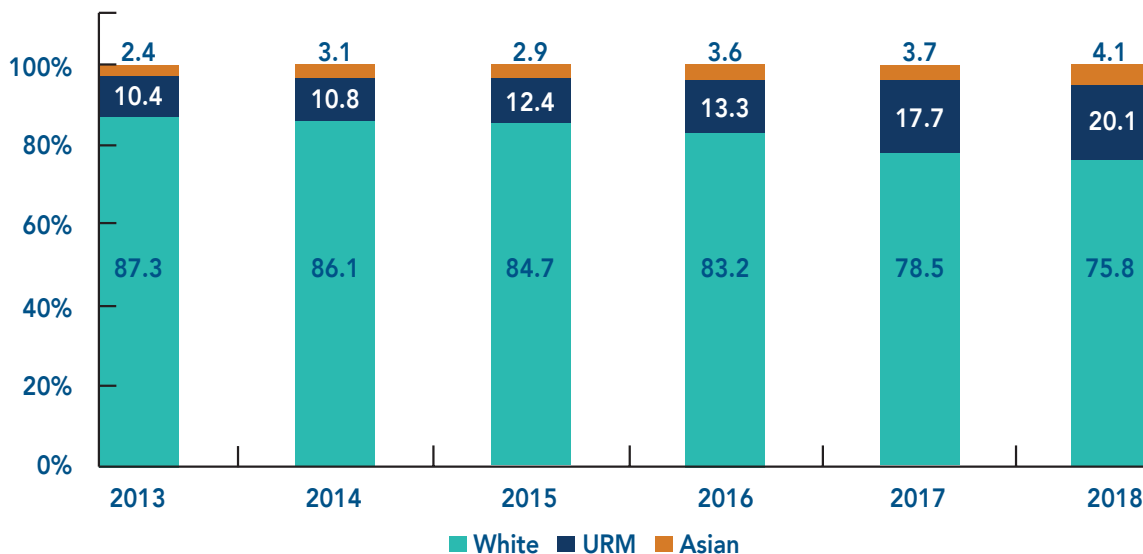
WOMEN



31%

MEN

ENROLLED STUDENTS' RACE/ETHNICITY



Graduating Students

95%

OF GRADUATES REPORTED THEY RECEIVED
A HIGH QUALITY EDUCATION

94%

OF GRADUATING STUDENTS REPORTED THEY
MADE THE RIGHT CHOICE IN SELECTING
MUSC FOR THEIR EDUCATION

EDUCATION

Academic Degree Programs

BACHELOR'S DEGREE

➤ Bachelor of Science in Healthcare Studies (HCS):

This online/hybrid program is designed for students who wish to complete their bachelor's degree and have a minimum of 72 general education college credits. Graduates gain an understanding of determinants of health, learn to interpret health data, and may obtain employment in a health promotion field or seek an advanced degree in a related health profession.



Students of the Healthcare Studies program attend on-campus sessions once per semester.

MASTER'S DEGREES

➤ Master of Science in Cardiovascular Perfusion (CVP):

This program prepares graduates to work in a variety of health care settings where cardiopulmonary life support services (i.e., the heart-lung machine during open heart surgery) are required. We also offer a post-professional program for licensed perfusionists who wish to advance in their careers.



CVP students use high-fidelity simulation to significantly increase their skills and confidence prior to clinical rotations.



Students in the MHA program learn to take an interprofessional approach to health care leadership.

➤ Master in Health Administration (MHA):

This program, offered in both a residential and an executive online/hybrid format, prepares individuals to serve in management and leadership roles in a wide range of health care settings.

➤ Master of Science in Health Informatics (MSHI):

Graduates of this online/hybrid program are equipped to lead the implementation of health care information systems such as electronic health records and telehealth initiatives. They also develop data management and data analytical skills.



On-campus sessions enhance the learning experience for MSHI students by allowing them to engage with peers, faculty members, and industry experts.



Physician assistant students participate in a number of hands-on labs, including advanced cardiovascular life support.

➤ Master of Science in Physician Assistant Studies (PAS):

This program prepares graduates who work with physicians to make clinical decisions and provide a broad range of diagnostic, therapeutic, preventive, and health maintenance services. Graduates play a pivotal role in providing high quality, affordable health care.

DOCTORAL DEGREES

- **Doctor of Health Administration (DHA):** This program prepares practicing health care professionals and leaders to address the pressing health care issues facing our nation. Graduates gain strategic leadership skills, an understanding of health policy, and applied research skills. The program is offered in an online/hybrid format.



The DHA program welcomes students from all over the United States three times each year for collaborative, interprofessional learning during their on-campus sessions.

- **Doctor of Nurse Anesthesia Practice (DNAP):** This program is offered to both entry-level (residential format) and post-professional (online/hybrid format) students. The entry-level program prepares competent, compassionate and knowledgeable certified registered nurse anesthetists (CRNA) to meet the health care needs of society through clinical practice, education and research. The post-professional program is designed for CRNAs who already hold a master's degree in nurse anesthesia or a related field and want to advance in their careers.



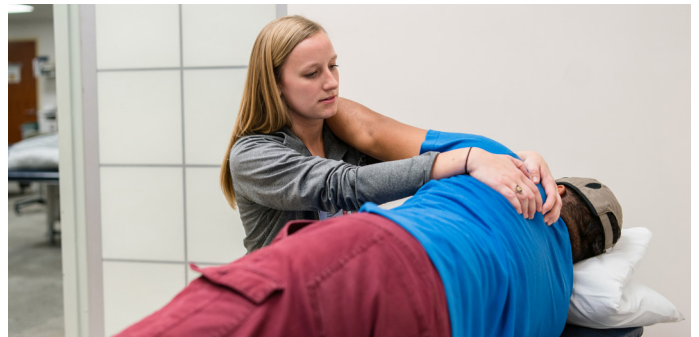
Students in the entry-level DNAP program experience 19 clinical rotations, where they administer anesthesia to all types of patients in a variety of practice settings.

- **Doctor of Physical Therapy (DPT):** This program prepares graduates to examine, diagnose and treat individuals of all ages who have health-related conditions that limit their ability to move and perform functional activities in their daily lives. Graduates also work with individuals to prevent loss of mobility by developing fitness and wellness programs for healthy, active lifestyles.



Physical therapy students gain experience through hands-on learning.

- **Occupational Therapy Doctorate (OTD):** This entry-level doctoral program prepares graduates to assist patients in everyday activities that are personally meaningful, socially satisfying, and culturally relevant. They work in interprofessional teams in a variety of settings. We also offer a post-professional doctorate in an online/hybrid format for practicing occupational therapists interested in advanced leadership skills, research, and teaching.



In the student-run CARES Therapy Clinic, students in the occupational and physical therapy programs provide therapy services to under- and uninsured patients.

- **Ph.D. in Health and Rehabilitation Science:** This interdisciplinary post-baccalaureate program offers concentrations in pathology and impairment, functional limitations, and health services. In this research doctorate degree program, scientists are trained to approach complex disorders and conditions from a cross-discipline and cross-system perspective. Graduates assume roles as researchers, program directors, and educators who advance the body of knowledge about health and rehabilitation sciences.



Ph.D. students use innovative technology to take an interdisciplinary approach to complex disorders and conditions.

NATIONAL AND INTERNATIONAL RECOGNITION



Dr. Amanda Giles was named the 2019 MUSC Innovator of the Year. She is pictured above with (left to right) Dean Zoher Kapasi, Dr. Craig Velozo, Dr. Rick Segal, and Dr. Nancy Carson, accepting her award.

HONORS AND AWARDS

- **Amanda Giles, OTD, OTR/L**, assistant professor, was the recipient of the 2019 American Occupational Therapy Emerging and Innovative Practice Award. She was recognized for her visionary work in creating educational mobile applications (apps) which are currently marketed and utilized as required textbooks in occupational therapy and physical therapy classrooms worldwide, to include schools in South Carolina, New York, Idaho, California, Florida, and Israel. Her first app, RehabLearning: Goniometry for Clinicians (GONI), was published in the iTunes and Google Play stores in 2016 and has since sold more than 1,350 copies.



Giles' second app, MOBI: Mobility Aids (MOBI), was published in 2017 and has sold over 425 copies. Both apps offer high-definition videos and images along with evidence-based text, quizzes, and functional application. Giles has been recognized as a unique entrepreneur, inventor, and educator. She is the first faculty member from MUSC to create a publicly available mobile app and the first to develop a comprehensive mobile app textbook for occupational therapy education.

- **Zoher Kapasi, Ph.D., PT, MBA, FAPTA**, professor and dean, was inducted as a 2019 Catherine Worthingham Fellow of the American Physical Therapy Association (FAPTA) at the NEXT Conference & Exposition in June. The FAPTA designation is the association's highest honor and serves as an inspiration for all physical therapists to attain professional excellence. This honor is eligible to American Physical Therapy Association (APTA) physical therapist members who have demonstrated unwavering efforts to advance the physical therapy profession for more than 15 years prior to the time of nomination.



Kapasi's work as a member of the Excellence in Physical Therapist Education Task Force of the APTA was an essential contribution to the profession. He also served on the board of the American Council of Academic Physical Therapy Diversity Task Force and the Education Leadership Partnership where he provided professional insight for decision making. In addition, he led Emory University's Doctor of Physical Therapy program for several years and worked with colleagues to establish robust dual degree programs to include DPT/MBA, DPT/MPH, and DPT/PhD. The implementation of these programs was singled out as a vital contribution to the physical therapy profession.

- **Helen Martin, DHSc, PA-C, DFAAPA**, assistant professor and division director of Physician Assistant Studies, was recognized as a Distinguished Fellow of the American Academy of Physician Assistants (DFAAPA). Distinguished fellows are elite members of the American Academy of Physician Assistants (AAPA) who have demonstrated outstanding dedication to their profession.



Martin has demonstrated professional excellence in education, leadership in health care, and community service. Through Martin's leadership in education, the physician assistant studies program has obtained accreditation-continued status through the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA), and a Physician Assistant National Certification Exam (PANCE) overall pass rate of 98%. In a nomination letter for the award, Martin was commended for her commitment to community service, compassion, and kindness as she provides funds to support an orphanage in Haiti. In addition, Martin makes trips to Haiti to provide medical care and education to children through the Haitian Christian Projects.

- **Craig Velozo, Ph.D., OTR/L, FAOTA**, professor and division director of Occupational Therapy, is the second MUSC faculty member to receive the prestigious Eleanor Clarke Slagle Lectureship Award. The award, presented by the American Occupational Therapy Association (AOTA), is among the highest honors in the occupational therapy profession.



The award offers Velozo the opportunity to reflect upon his 25 years of research in patient and clinician reported measurement. Velozo was among the pioneers who introduced Rasch and item response theory (IRT) measurement into occupational therapy and rehabilitation research. The methodology has revolutionized the way we review and evaluate clinician and patient reported outcomes. The National Institutes of Health (NIH) has invested over \$80 million to implement this methodology in the development of the Patient Reported Outcomes Measurement Information System (PROMIS). Velozo, with his doctoral students, were among the methodology groups involved in developing several of these measures.

RESEARCH



77%

of grant awards from
NIH totaling \$10.5M



No. 8

in NIH funding among 65
colleges of health professions



61

funded
grant awards

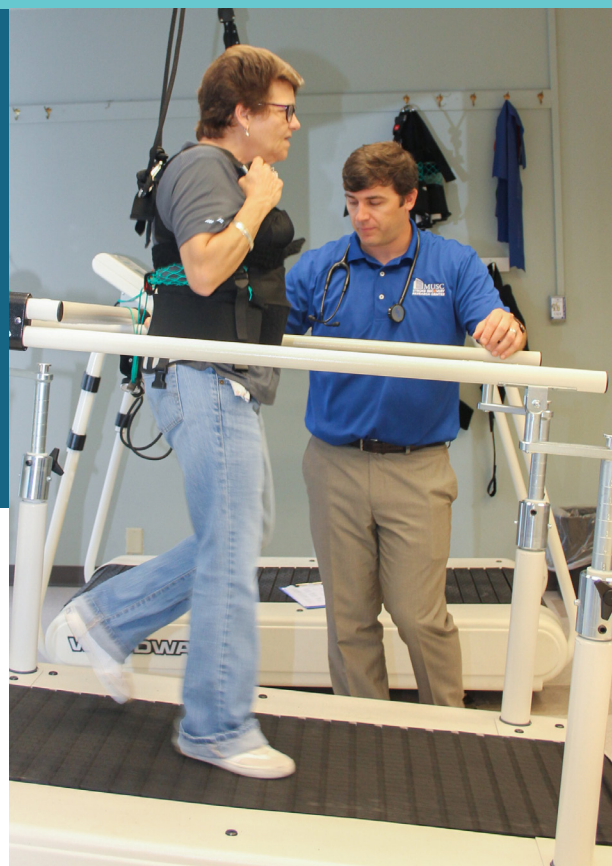


\$13.1M

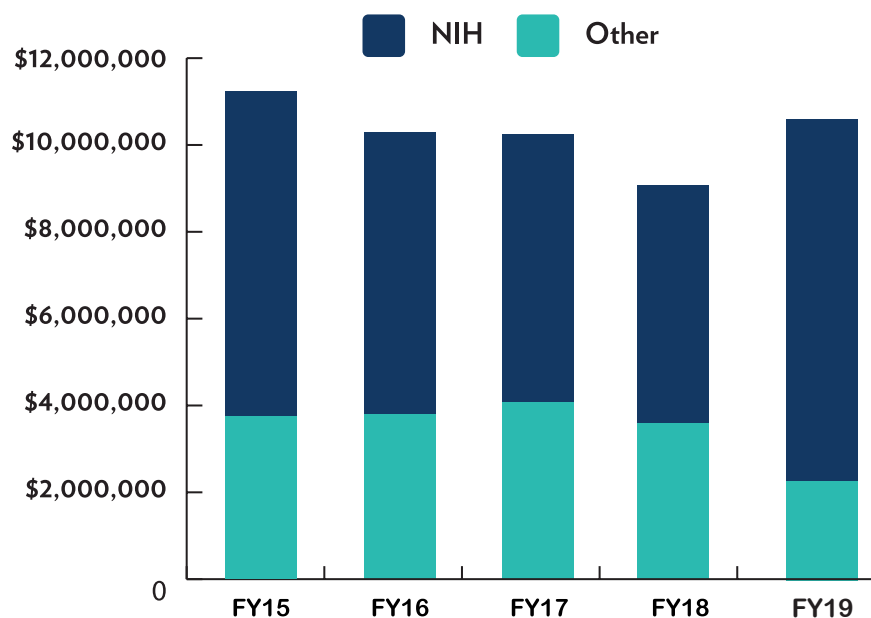
funded
grant awards

RESEARCH STRENGTHS

- > Rehabilitation in neurological disorders (emphasis in stroke and spinal cord injury)
- > Health services delivery (comparative effectiveness)
- > Health, employment, and longevity post spinal cord injury
- > Alzheimers
- > Addictions
- > Voice
- > Swallowing
- > Veterans Health
- > Health Disparities



\$ Value of Grants Awarded by Source



* The significant increase in grant funding from FY18 to FY19 is attributed to the receipt of two years of funding for the COBRE in Stroke Recovery grant.

RECENT MAJOR GRANTS



- **Center of Biomedical Research Excellence (COBRE) in Stroke Recovery** received renewal funding from NIH totaling more than \$11 million over the next five years. The COBRE is a collaborative effort between more than 10 departments and divisions across MUSC's College of Health Professions and College of Medicine. The grant supports research infrastructure focused on stroke recovery.

Steven Kautz, Ph.D., principal investigator



- **Training in Grantsmanship for Rehabilitation Research (TIGRR)**, received its fourth renewal funding from the National Center for Medical Rehabilitation Research/National Institute of Child Health and Human Development (NCMRR/NICHHD). The workshop provides guidance in grant writing, clinical trial design, biostatistics, and career development. To date, over 30% of grant applications submitted by TIGRR participants have been successfully funded while success rate for other federal agencies were as low as 12%.

Richard Segal, Ph.D., principal investigator



- **Muscle Power Training to Improve Depression and Walking Post-Stroke**, is a study designed for post-stroke individuals with depression who have been excluded from clinical trials and have very limited treatment options. Gregory's new NIH grant award will examine the impact of a novel, high-intensity resistance training program to determine if depression limits training-induced improvements in muscular and locomotor function. Study findings could have a tremendous impact on future large-scale trials as well as establish the therapeutic effectiveness on this novel treatment and training program.

Christopher Gregory, Ph.D., principal investigator



- **Incline Training to Personalize Motor Control Interventions after Stroke**, Bowden's long-term goal for his U.S. Department of Veterans Affairs (VA) MERIT Award is to advance personalization of walking rehabilitation for post-stroke individuals by developing therapeutic strategies focused on the participant's motor control deficits. Study outcomes could lead to personalized treatment programs for individuals following a stroke to improve their motor control functions.

Mark Bowden, Ph.D., principal investigator



- **Targeting Foundational Memory Processes in Nicotine Addiction: A Translational Clinical Neuroscience Study of a Retrieval-Extinction Intervention to Reduce Craving & Smoking Behavior**, is a new Research Project Grant (R01) funded by the NIH National Institute of Drug Abuse. New findings could lead to improved treatment outcomes for smokers, as well as for other substance use groups and co-occurring comorbidities such as post traumatic stress disorder (PTSD).

Michael Saladin, Ph.D., principal investigator



- **Treatment of Depression Post-SCI: Retrospective Analysis & Feasibility Trial**, VanDerWerker's new grant award from the Craig H. Neilsen Foundation, will examine practice patterns for depression following SCI to determine how depression is currently treated in this population. Depression following spinal cord injury (SCI) has been associated with poorer health, spending more time in bed, increased pressure sores, and a higher rate of mortality. Currently, there are no treatment guidelines to address depression following SCI.

Catherine VanDerWerker, Ph.D., principal investigator

RESEARCH CAREER DEVELOPMENT AWARD RECIPIENTS



- Emily Grattan, Ph.D., OTR/L:**
 Assistant Professor
 Division of Occupational Therapy
VA Career Development II Award
*Improving Measurement and Treatment
 of Post-Stroke Neglect*



- Addie Middleton, Ph.D., DPT**
 Assistant Professor
 Division of Physical Therapy
**NIH National Center for Advancing
 Translational Sciences Award**
*Feasibility of a Remotely Delivered Exercise
 Program during Post-Stroke Community
 Reintegration*



- John Kindred, Ph.D.**
 Post Doctoral Scholar
 Division of Physical Therapy
VA Career Development I Award
*Age Fatigue and Mobility in Stroke:
 A Biomechanical and Neurophysiological
 Investigation*



- Ryan Ross, Ph.D.**
 Post Doctoral Scholar
 Department of Health Sciences & Research
VA Career Development I Award
*Age-Related Changes in Neuroplasticity
 Impede Recovery in Post-Stroke Depression:
 A Novel Exercise and Brain Stimulation
 Paradigm to Prime Neuroplastic Potential*

SERVICE

CLINICAL SERVICES

Several of our faculty members provide clinical services within the MUSC enterprise in the realm of their professional expertise and licensure to serve our patients.

- Our **Anesthesia for Nurses** and **Cardiovascular Perfusion** faculty provide services to MUSC Health operating rooms.
- Our **Physical Therapy** faculty provide services in the MUSC Health Outpatient Clinic. They also provide services in the Wellness Center and in the CARES Therapy Clinic.
- Our **Occupational Therapy** faculty provide services in the MUSC Health Children's Hospital and the CARES Therapy Clinic.
- Our **Physician Assistant Studies** faculty provide services in the MUSC Emergency Medicine Department.
- Faculty in the **Department of Healthcare Leadership & Management** participate in research activities with the MUSC Center for Telehealth, Comparative Effectiveness and Data Analytics Research Resource, and South Carolina Clinical & Translational Research Institute.



Angela Mund, DNP, CRNA, professor and division director of Anesthesia for Nurses, provides clinical services in an MUSC Health operating room.



The MUSC Center for Telehealth not only provides services to the community, they also provide critical data to support research done by faculty members of the college.

COMMUNITY OUTREACH

Service is an integral part of our mission, and our students, faculty, and staff are committed to serving the needs of others.

- **Camp Hand to Hands** is a free summer program offered in the college for young children who are diagnosed with hemiplegic cerebral palsy. The program offers pediatric constraint induced movement therapy (P-CIMT), which helps develop motor skills in children by providing intensive task practice for the weaker arm while the stronger arm is constrained using a soft mitten or puppet.
- **Community, Aid, Relief, Education and Support (CARES) Therapy Clinic** is a student-run free therapy clinic. The clinic provides occupational therapy and physical therapy services to underserved individuals in the Charleston area.



In 2018 the CARES Therapy Clinic provided services equal to \$287,467 that would have been billed to insurance, a savings that directly impacts patients.



Physician Assistant Studies students provide free care for the St. Andrew's Medical Clinic and ECCO.



Medical mission trips through OneWorld Health offer students a unique, rewarding setting to gain real world experience.

- **Community Clinics:** Physician assistant students provide free care for St. Andrew's Medical Clinic and East Cooper Community Outreach (ECCO). St. Andrew's Medical Clinic offers access to quality primary care for the underserved population of the greater Charleston area. ECCO was founded as an emergency relief effort in 1989 after the devastation from Hurricane Hugo and has since grown into a permanent resource for the community.
- **Giving Back:** Faculty, staff, and students continue to make significant contributions to the Charleston community through support of activities and fundraisers for causes such as Trident United Way Day of Caring, March of Dimes, Achieving Wheelchair Equity, Ronald McDonald House, Gavalas Kolanko Foundation, and Charleston Miracle League.
- **Medical Mission Trips:** Faculty and students make an international impact in Uganda, Ethiopia, and Nicaragua through rehabilitation services as members of an interprofessional team in collaboration with OneWorld Health.
- **MUSC Injury Prevention Program** is a free student-led on the field program that helps athletes reduce their risk of injury. Faculty and students educate and train athletes and coaches of school and recreational club sports in a dynamic warmup designed to improve basic motor control, postural awareness, agility, and strength while significantly reducing the risk of injury.
- **Program Development in Haiti:** The college supports Université Episcopale d'Haïti and the Faculté des Sciences Réhabilitation de Léogâne which is the first educational program to offer professional programs of study in occupational therapy and physical therapy in Haiti.
- **Support Groups:** Faculty in the Department of Health Sciences and Research support the Young Stroke Survivors Support Group and the Aphasia Community Group. Both groups provide opportunities for stroke survivors to benefit from peer-to-peer community-based support.

Contact Us | College of Health Professions

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- > Prospective Students 843-792-3326
- > Applicant Inquiries 843-792-2536
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musc.edu/chp



THE MEDICAL UNIVERSITY OF SOUTH CAROLINA

Founded in 1824 in Charleston, MUSC is the oldest medical school in the South, as well as the state's only integrated, academic health sciences center with a unique charge to serve the state through education, research and patient care. Each year, MUSC educates and trains more than 3,000 students and 700 residents in six colleges: Dental Medicine, Graduate Studies, Health Professions, Medicine, Nursing and Pharmacy. The state's leader in obtaining biomedical research funds, in fiscal year 2019, MUSC set a new high, bringing in more than \$284 million.

As the clinical health system of the Medical University of South Carolina, MUSC Health is dedicated to delivering the highest quality patient care available, while training generations of competent, compassionate health care providers to serve the people of South Carolina and beyond. Comprising some 1,600 beds, more than 100 outreach sites, the MUSC College of Medicine, the physicians' practice plan, and nearly 275 telehealth locations, MUSC Health owns and operates eight hospitals situated in Charleston, Chester, Florence, Lancaster and Marion counties. In 2018, for the fourth consecutive year, U.S. News & World Report named MUSC Health the number one hospital in South Carolina. **To learn more about clinical patient services, visit muschealth.org.**

MUSC and its affiliates have collective annual budgets of \$3 billion. The more than 17,000 MUSC team members include world-class faculty, physicians, specialty providers and scientists who deliver groundbreaking education, research, technology and patient care. **For information on academic programs, visit musc.edu.**