ANNUAL REPORT
2019
Research Saves Lives
UofSC School of Medicine
Supporting investigators and their teams as they pursue discoveries, improvements, and innovations through transformative research, because **Research Saves Lives**
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Creating a culture of possibility

Fostering Collaboration
Identifying Research Funding Opportunities
Grant Submission
Budget Development
Research Education and Training
Project Development
Growing the Physician Scientist Pipeline

This is The Research Center for Transforming Health
I am pleased to invite you to explore the work of the Research Center for Transforming Health in its second year. The Center has worked hard to support new and established investigators with grant submissions. We have had an increased pool of applicants, mentors, and departments engaged in our research pipeline programs—read on for more details!

We are very pleased to have contributed meaningful support to the breakthrough success of Dr. Benjamin Jackson, in the Department of Orthopedics, in his successful award from the Department of Defense.

In all our work, we start with providing patients with compelling research opportunities for conditions and research questions that matter to their health and their future. This work enables new and established investigators, new collaborations, and new hope for healthier futures by fostering a culture of possibility! We are committed to this vision, because we feel strongly that Research Saves Lives.

We hope you enjoy learning more about our work,

Christine Turley, M.D.
Director, Research Center for Transforming Health
Professor of Clinical Pediatrics
UofSC School of Medicine, Columbia

The Research Center for Transforming Health is engaging our faculty, students, and staff to better prepare them to meet the future health care needs of the people we serve.

- Dr. Les Hall
Executive Dean, University of South Carolina School of Medicine
CEO, Palmetto Health-USC Medical Group
Supporting Transforming Health Through Research

Submitting a research grant is time consuming and complex. Submitting a federal grant, with a multi-institutional team and little external funding experience, all while juggling a busy clinical schedule, is even more challenging. However, when the U.S. Department of Defense had a call for proposals that aligned perfectly with Dr. Benjamin Jackson’s current research interests, he wasn’t going to let any of that get in the way of this exceptional opportunity.

“Working with the Research Center for Transforming Health was critical to the success of this submission” says Dr. Jackson. “We relied on their expertise to organize the submission process, develop the specifics of the proposal budget, and acquire the required documentations. Their expertise in developing needed materials, editing, and grantsmanship was crucial.” This was a large submission and required a significant collaborative effort, but this hard work was validated when his submission was fully funded.

Dr. Jackson’s grant aims to study a novel approach to treating stress fractures. This is a common problem for U.S. Army recruits during Basic Training. If successful, this approach would enable decreased medical discharges and faster return to duty, with a reduced probability of fractures in the future. “Research is critically important in today’s medicine. It is how we gain much of our innovation and move patient care forward,” he says.

Financial Systems

After many years of collaborative efforts, significant financial improvements occurred in 2019:

- **Full reimbursement** for clinical investigator effort on grant supported activities
- Significant **increase in indirect funding** rates
- Enhancements to time and effort **reporting systems**

This progress allows clinical investigators and their departments to ensure compliance and enhance ability to engage in funded research.
Supporting Investigators Working with a Range of External Funding Organizations

- Health Resources and Services Administration
- BlueCross BlueShield of South Carolina Foundation
- Veterans Integrated Services Network
- National Institutes of Health
- U.S. Department of Defense
- Gore Technologies
- American Society for Laser Medicine and Surgery
2019-20 Emerging Physician Scientist Fellows

Miroslav Cuturic, MD
Asst. Professor, UofSC SOM
Department of Neurology

Project title:
Modeling the effects of chronic alcohol exposure in Parkinson's Disease transgenic strain of Caenorhabditis Elegans

Kristl Tomlin, MD
Asst. Professor, UofSC SOM
Department of Obstetrics and Gynecology

Project title:
Pharmacologic management of breakthrough bleeding associated with the etonogestrel-releasing contraceptive implant in adolescents

Roy Mathew, MD
Asst. Professor, UofSC SOM
Department of Internal Medicine - Nephrology, VA

Project title
Effect of changes in renal function on modification of guideline-directed medical therapy during acute decompensated heart failure
The second cycle of the Emerging Physician Scientist (EPS) Faculty Fellowship has begun. This 15-month translational research fellowship is awarded to physician scientists to gain experience and provides strong mentorship. Key components of this program include education and tools along with pilot project funding. Pilot grant activity is intended to inform a successful extramural grant application by the end of the program.

As our Year 1 fellows, Kurt Barringhaus, Jeff Holloway, and Olabisi Badmus, approach the end of their award, we look forward to celebrating their future successes.

An important part of the EPS program is the Grant Writing Workshop. Now in its second year, this event is hosted by the RCTH and co-sponsored by:

- UofSC Kennedy Pharmacy Innovation Center
- UofSC College of Nursing
- Columbia VA Health Care System, Dorn Research Institute

2019 EPS Applications

Increase in departments represented 25%

Increase in applications 40%

Grant Writing Workshops

SINCE 2018

112 Attendees

13 Departments & Schools

Increase in departmental participation 30%
I hope to use my research experience to guide my future career and continue to get involved in research that transforms the lives of children in our state.

- Jenna Hamill
M3 UofSC SOM Student and 2018 SOAR Participant
2019 Discover USC Medical Scholar Awardee
The Student Opportunities for Academic Achievement through Research (SOAR) program had another successful year. With the support of the Dean and our many sponsors, students and their faculty mentors conducted projects that spanned the translational research spectrum.

In 2019:

Over half of the rising M2 class applied to participate in this competitive program.

More clinical departments than ever participated in the 2019 program and 43 faculty applied to be research mentors.

Our largest program yet, 31 SOAR awards were made to UofSC School of Medicine students.

Program Growth

- Students
- Faculty
- USC Departments
- External Departments
Growing the Culture of Possibility

Enabling transformative clinical research is an important goal of academic medicine. Creating a culture for research success can be challenging, especially in low research resource settings. Understanding types of clinician engagement within the research pipeline can grow a curious clinical team into accomplished investigators and establish the culture of possibility.

**The Driven Clinician**
The driven clinician prioritizes patient care activity. Their focus is keeping up with the current best practices in medicine.

**The Curious Clinician**
The curious clinician is busy caring for patients and is also inclined to think about how treatment could be enhanced and deliver better outcomes.

**The Emerging Investigator**
The emerging investigator has a defined role on a research project with a senior colleague. Financial support ensures their ability to engage and cultivates professional growth.

**The Research Supporter**
The research supporting clinician has an eye for research developments and connects patients to studies that may be of interest, but is not usually on the research team.

**The Physician Scientist**
The physician scientist continues to care for patients but has ideas and skills that external groups value and fund in order to lead projects as a Principal Investigator.
The journey for a clinical academic department to add a broad, funded research portfolio starts with curiosity. In the quest to seek new solutions to important clinical challenges, patients can be provided with state-of-the-art research opportunities. These research questions seek ways to enable better health today and foster hope for healthier futures.

Partnering new investigators with established mentors has created paths for transforming futures. Building new collaborations to grow skills and knowledge is a crucial component of success. The UofSC SOM Department of Pediatrics has grown from a department with a small research scope 5 years ago, to a department with involvement of 10 different clinical specialty areas, 17 investigators, and major funding from the NIH, CDC, FDA and industry.

Research Growth

Since 2015 - the Department of Pediatrics has cultivated

17 Clinical Investigators

$5.3M External Funding

50 External Collaborators

21 Studies launched
The Center has been instrumental in fostering a collaborative spirit and engaging transformative clinical research.

-Dr. Frank Spinale
Associate Dean, Research and Graduate Education
Distinguished Professor Emeritus, Cell Biology and Anatomy, Surgery
University of South Carolina School of Medicine

Future Directions

1. Enhance access to clinical data to support research that transforms health and healthcare systems.
   - Increase support for healthcare and population data use
   - Data Science services and new technology platforms, such as TriNetX

2. Grow collaborations with partners including the VA Healthcare System and Prisma Health to enable the vision of transformative research.
   - Continue to develop efficient research infrastructure
   - Facilitate inter-institutional collaboration

3. Further develop the research pipeline by partnering with new UofSC Centers of Excellence:
   - Cardiovascular Translational Research Center
   - Artificial Intelligence Center
   - Big Data Health Sciences Center
Our Team

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