



Research Center for
Transforming Health

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**

Welcome



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

Transforming Health through Research

Speaking with **J. Benjamin Jackson III, MD**
Associate Professor of Orthopedic Surgery
Director of Orthopedic Research
UofSC School of Medicine, Columbia

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.

Comprehensive Grant Development Support

Managing grant submissions

Supporting grant writing

Navigating submission requirements

Engaging the program office

Developing budgets & reports

In 2019, we supported

18 Multi-Disciplinary
Grant
Submissions

Investigators **28**

11 Departments

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

2019 EPS Applications

25% Increase in departments represented

Increase in applications **40%**

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

Grant Writing Workshops

SINCE 2018

112 Attendees

13 Departments & Schools

30%

Increase in departmental participation

“

*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



SOAR 20
19

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.

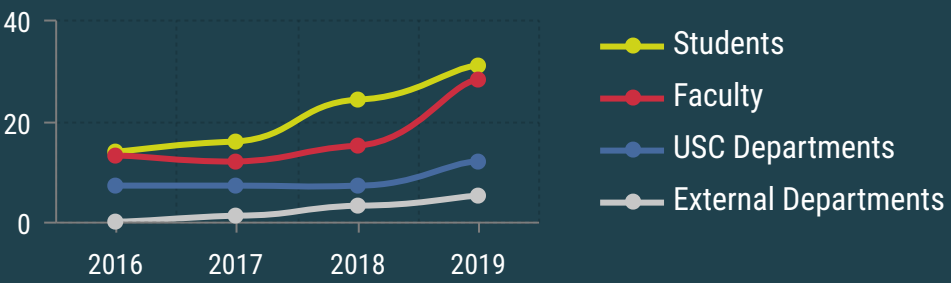
More clinical departments than ever participated in the 2019 program and **43 faculty applied** to be research mentors.

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

Academic Achievements

- Regional & National Presentations **22**
- 8** Manuscripts
- UofSC Graduate Seminar Podium Presentations **47**
- 38** Posters at Discover USC

Program Growth



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 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 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 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.

Developing the **Culture of Possibility** in the UofSC SOM Department of Pediatrics

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

50 External Collaborators

\$5.3M External Funding

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

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

2

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

Christine Turley, MD

Director, Research Center for Transforming Health
Professor of Clinical Pediatrics, University of South Carolina

Jessica Burchett, MS

Grants Administrator

Samantha Renaud, MA PMP

Program Manager

Shalon Howard, MS

Senior Research Associate

Kelly Smutylo, BS

Program Coordinator

Evan Phelps, PhD

Data Science & Informatics Consultant





The Research Center for Transforming Health

University of South Carolina School of Medicine-Columbia

6311 Garners Ferry Rd

Columbia SC, 29209



PHONE

803-216-3377



EMAIL

RCTH@uscmcd.sc.edu



WEB

SC.edu/Medicine/RCTH

Contact Us

