

THE TRIBUNE

FEBRUARY-MARCH 2022

Bearing Fruit

Team Science Vouchers Help Researchers Secure National Funding



Craig
Porter, Ph.D.

UAMS researcher Craig Porter, Ph.D., was disappointed to see his resubmitted grant application rejected without discussion by the NIH in 2020. His 2019 version of the application had at least been scored.

"It kind of felt like I was going backward," said Porter, an associate professor in the College of Medicine Department of Pediatrics. His proposed research, "The Role of Mitochondrion in the Hypermetabolic Stress Response to Burn Trauma," was

criticized for being too focused on basic science, not translational enough, and lacking institutional support.

A few months later, he reluctantly agreed to give a Pediatric Grand Rounds presentation on his unfunded burn research. The presentation prompted two clinical colleagues who treat pediatric burn victims to let him know they would be interested in collaborating.

Then he heard about the Team Science Voucher Program offered by TRI.

"The stars aligned and the voucher got us off and running," said Porter, who is associate director of the Physical Activity Core Laboratory and leads the Physical Activity, Energetics and Metabolism Research Laboratory at Arkansas Children's Nutrition Center.



Craig Porter, Ph.D., used a portion of his Team Science Voucher Award to purchase the latest portable devices to more quickly measure energy expenditure of burn patients, which can be used to determine a patient's food/nutrient needs.

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Dear Colleagues,

In 2020, we offered our first Team Science Voucher Awards, which provide seed funding to help investigators advance their research with a group of collaborators.

We are thrilled to report in this TRIBune that two of our inaugural recipients, Dr. Corey Hayes and Dr. Craig Porter, both leveraged TRI voucher awards to secure extramural funding.

Dr. Hayes received a five-year, \$1 million Veterans Affairs Career Development Award after building a team to improve care for patients with opioid use disorder. He had the idea for a predictive model to identify patients at high risk for dropping out of their medication assisted treatment program. The voucher helped him build a team and the model. His team includes data scientists, clinicians and experts in machine learning and implementation science.

Dr. Porter received a five-year, \$2 million award from the National Institute of General Medical Sciences. He was able to revise a grant application by adding clinicians as team members, and together they formed UAMS' first burn trauma research program.

We are proud of their success in this early stage of their work. They have learned, like many of us, that the contributions of a collaborative, interdisciplinary team can be highly effective in developing research solutions to tackle the major health challenges of our time. When we draw knowledge from a variety of fields, we can develop a deeper understanding and generate discoveries that are more translational.

Sincerely,

Laura James, M.D.
Director, TRI
Associate Vice Chancellor for Clinical
and Translational Research, UAMS

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With TRI's voucher support, he and his new team established the first burn research program in Arkansas, bought needed equipment, retooled his NIH application, and landed a five-year, \$2 million award from the National Institute of General Medical Sciences.

"I think the TRI support and Team Science Voucher helped us make this application more fundable," Porter said. The Team Science Voucher Award Program provides up to \$20,000 to enable a group of potential collaborators to develop into a successful team.

The team members are:

- **Elisabet Borsheim, Ph.D.**, professor, College of Medicine Department of Pediatrics and Department of Geriatrics. She directs metabolic research involving pediatric populations, pregnant women and older adults at the Arkansas Children's Nutrition Center and UAMS.
- **Esther Teo, M.D.**, assistant professor, College of Medicine Department of Surgery, Burn Surgery Division.
- **Miranda Yelvington, M.S., OTR/L**, occupational therapist and certified burn therapist.

The new translational research team will work to deliver timely new knowledge that reduces suffering and speeds the recovery of burn patients.

Voucher Leveraged for \$1 Million VA Award to Support Opioid Project



Last Update: 10/22/2020	What top factors contribute to the most to my patient's risk?			When are my patient's next visits?
Patient Information	Health Conditions	Medications	Demographic and Socioeconomic Indicators	Upcoming Appointments
John Doe Last four: 9382 Age: 54 Gender: M <hr/> Probability of Buprenorphine Continuation Low 34% 	Substance Use Disorder Cannabis Cocaine <Treatment Guideline Links> Mental Health PTSD <Treatment Guideline Links> Medical Skin Infections <Treatment Guideline Links>	Antidepressants PATIENT IS NOT ON ANTIDEPRESSANT <Antidepressant Guidelines> Buprenorphine LOW BUPRENORPHINE DOSE • Dr. Smith • 2 mg <Buprenorphine Dosing Guidelines>	Employment Status Unemployed <SW Consult> Marital Status Unmarried Race Black	Primary Care 10/29/2020 Mental Health 11/23/2020 Substance Use Disorder Specialty Care 12/15/2020

Corey Hayes, Pharm.D., Ph.D., MPH, shared a mockup of the decision support tool that clinicians could use in the electronic health record to determine a patient's probability of dropping out of their medication assisted treatment for opioid use disorder. It is modeled on a Veterans Affairs tool for predicting opioid overdose.



Corey Hayes, Pharm.D., Ph.D., MPH

In 2020, UAMS and Central Arkansas Veterans Health Care System researcher Corey Hayes, Pharm.D., Ph.D., MPH, was considering how to pursue development of a predictive analytics tool to improve care of veterans with opioid use disorder.

The idea is to help clinics identify patients most likely to drop out of their medication assisted treatment (buprenorphine, methadone, naltrexone) after six months. While this standard of care has been shown to reduce drug use, overdoses and deaths, Hayes found that only 50% of veterans remained on buprenorphine after six months.

Hayes wanted to apply for a Veterans Affairs (VA) Health Services Research and Development Career Development Award, but he needed compelling evidence that his predictive modeling idea had merit.

"That's where the Team Science Voucher came in," said Hayes, an assistant professor in the College of Medicine Department of Biomedical Informatics and College of Pharmacy, Department of Pharmacy Practice. "The voucher award provided some seed money to develop preliminary models to include in the Career Development Award application to show the reviewers that it has a strong probability of working."

It worked. In December 2021, he received a five-year, \$1 million VA Career Development Award.

"In this type of model, it really took a lot of people to think through this in their particular area of expertise," Hayes said.

His multidisciplinary team members are:

- **Keith Bush, Ph.D.**, associate professor, College of Medicine Department of Psychiatry, Brain Imaging Research Center; expertise in natural language processing and machine learning.
- **Michael Cucciare, Ph.D.**, associate professor, College of Medicine Department of Psychiatry; clinical psychologist and researcher who sees opioid use disorder patients.
- **Bo Hu, Ph.D.**, data analyst, College of Medicine Department of Psychiatry, Center for Health Services Research and Behavioral Sciences.
- **Bradley C. Martin, Pharm.D., Ph.D.**, professor, College of Pharmacy; opioid research experience and expertise in data science/predictive modeling.
- **Adam Gordon, M.D., MPH**, professor of medicine and psychiatry, University of Utah.

Hayes recently added UAMS/CAVHS consultants to the team with psychology and implementation science expertise: They are:

- **Traci Abraham, Ph.D.**, assistant professor, College of Medicine Department of Psychiatry; core faculty, UAMS Center for Implementation Research; research health scientist and medical anthropologist, Center for Mental Healthcare and Outcomes Research, CAVHS.
- **Sara Landes, Ph.D.**, associate professor and clinical psychologist, College of Medicine Department of Psychiatry; core faculty, Center for Implementation Research; psychologist and researcher at CAVHS.

Join Us for TRI's Inaugural Research Day!

RESEARCH DAY! TRANSLATIONAL RESEARCH INSTITUTE

TRI is hosting its inaugural Research Day on April 5, from 10 a.m. to 6 p.m. at Heifer International headquarters in Little Rock. The event will showcase oral presentations from select TRI KL2 Mentored Career Development Scholars, TL1 Health Sciences Innovation and Entrepreneurship Trainees and Pilot Awardees. A poster session will exhibit an array of TRI funded investigators across a variety of funding programs. Keynote speakers are:



Rachel Hess, M.D., M.S., co-principal investigator of the Utah Clinical and Translational Science Institute, and chief of the Division of Health System Innovation and Research at University of Utah Health.

Translational Science: Creating a New Glidepath from Discovery to Improve Human Health



Stacie Jones, M.D., professor in the College of Medicine Department of Pediatrics, Division of Allergy and Immunology, and director of the Arkansas Children's Food Allergy Program.

The Power of Discovery: Clinical Trials Research in Food Allergy Immunotherapeutics

To register, use the QR code or look for registration information at TRI.uams.edu and in TRI's weekly email newsletter.



TRI Study of the Month

- **UAMS Principal Investigator:** Vivian Shi, M.D., Associate Professor, Department of Dermatology, College of Medicine.
- **Summary:** A longitudinal observational study tracking outcomes of patients with chronic inflammatory skin conditions, including atopic dermatitis (eczema), alopecia, hidradenitis suppurativa, vitiligo and psoriasis.
- **Significance:** Characterization of disease activity over time, including response to treatments and analysis of biospecimens, will inform clinical practice by identifying the occurrence and impact of comorbid medical conditions and aid the design of more targeted therapies.
- **TRI Services:** Budget development, Medicare coverage analysis, regulatory and research nurse coordinator services.
- **Sponsor:** TARGET PharmaSolutions



Vivian Shi, M.D., (right) consults with TRI's Lisa Richardson, RN, lead clinical research coordinator for the study.

Half of UAMS Mentoring Awards Go to Implementation Science Faculty



Curran

TRI implementation science leader Geoffrey Curran, Ph.D., recently received the 2022 UAMS Research Legend Faculty Mentoring Excellence Award for his work with early career implementation scientists.

Curran oversees TRI's implementation science initiatives, including the Implementation Science Scholars Program, and he is director of the UAMS Center for Implementation Research (CIR). A professor in the College of Pharmacy, he is also a mentor of two other implementation science faculty who won mentorship awards. The three were among the six faculty honored during the inaugural Mentors Appreciation Day in January.

The other implementation science faculty awardees are:



Taren Swindle, Ph.D., who received the 2022 UAMS Research Emerging Faculty Mentoring Excellence Award. She is an associate professor in the College of Medicine Department of Family and Preventive Medicine, and a core faculty team member at CIR. She is also a former TRI KL2 Mentored Research Career

Development Award Scholar and 2021 recipient of a TRI Implementation Science Pilot Award.



Melissa Zielinski, Ph.D., who received the Women Faculty Mentoring Excellence Award. She is an assistant professor and clinical psychologist in the College of Medicine Department of Psychiatry and Behavioral Sciences and an affiliate faculty member with CIR. She is a 2019 and 2022 TRI Pilot

Award recipient, and she is co-leading an academic-community partnership research team as part of the TRI-funded Community Based Participatory Research Scholars Program.

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