2024

ANNUAL IMPACT REPORT

ACCELERATING SCIENCE, IMPROVING HEALTHCARE FOR ALL

FRONTIERS
CLINICAL & TRANSLATIONAL
SCIENCE INSTITUTE
AT THE UNIVERSITY OF KANSAS

Children's Mercy KANSAS CITY
Saint Luke's
KU
Kansas City University
UMKC
KANSAS STATE UNIVERSITY

To our valued partners,

Thank you for another momentous year with Frontiers Clinical and Translational Science Institute as we continue to advance science to improve healthcare for all. With your support, we have continued to expand our impact on healthcare throughout the region and nationally through collaborations between Frontiers investigators and their colleagues across the country.

This year, we have had changes to our leadership as Bill Brooks, Ph.D., has retired after a distinguished career, most recently as the director of Hoglund Biomedical Imaging Center and as an associate director with Frontiers. Bill has been a tremendous asset to Frontiers since 2011 and we will miss not just his historical knowledge but the impact he has had in growing Frontiers. As part of this change, we have added two new associate directors this year, Aditi Gupta, M.D., and Lisa Sanderson Cox, Ph.D., both with the University of Kansas Medical Center.

Dr. Gupta is a transplant nephrologist and physician-scientist, who is funded by the NIH and PCORI; her research is on nephrology and hypertension with a focus on cognitive impairment, frailty and quality of life in aging and in patients with a high burden of vascular disease.

Dr. Cox, whose work is funded by the NIH and NCI, is a professor in Population Health, leads the Kick It at Swope tobacco treatment clinical trials for African American adults in collaboration with Swope Health and was the founding research director within the Juntos Center for Advancing Latino Health.

We look forward to working with Aditi and Lisa and know they will help us continue to help Frontiers and our partners to make an impact.

This report includes activities from this past grant year. We would especially like to draw your attention to a greater focus on rural initiatives and the impressive pilot projects that highlight the collaborative work across our network of academic institutions, healthcare systems and community and patient advocacy groups.

Thank you again for your invaluable partnership, for the work you do both at your institution and with Frontiers to help improve healthcare. We look forward to what we will accomplish during the next year.

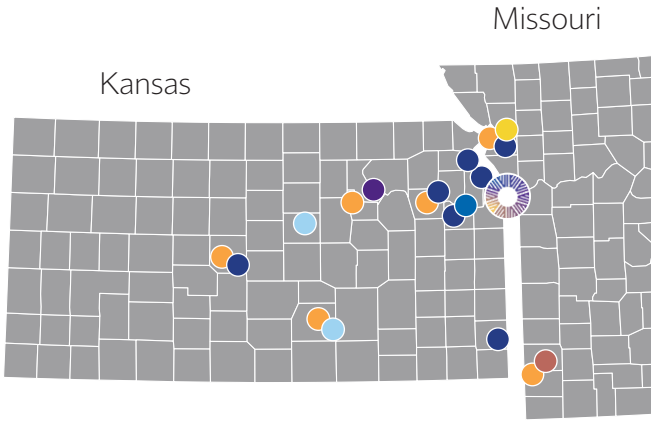
Sincerely,

Mario Castro, M.D., MPH
Co-Principal Investigator and Director

Steve Leeder, PharmD, Ph.D.
Co-Principal Investigator and Director

Contents

Who is Frontiers?



St. Luke's Health System is really proud to be part of Frontiers. The opportunities to collaborate and meet others from our partner institutions have been wonderful, especially when it comes to bringing together key stakeholders to figure out how to improve the quality and value of health care.

Donna Buchanan, Ph.D.
Director of Research, Saint Luke's Health System

Who is Frontiers?

National Collaborations

As part of the National Center for Advancing Translational Sciences (NCATS) CTSA program, Frontiers investigators have the opportunity to collaborate with investigators from other CTSA programs. Below are the institutions that Frontiers investigators have collaborated with over the past grant year.

Dbr1 Inhibitors: a novel drug treatment for the neurodegenerative disease ALS

Informatics SHaRE collaboration

Developing thermal imaging as a biomarker to augment "remote visits" where physical exams are not possible

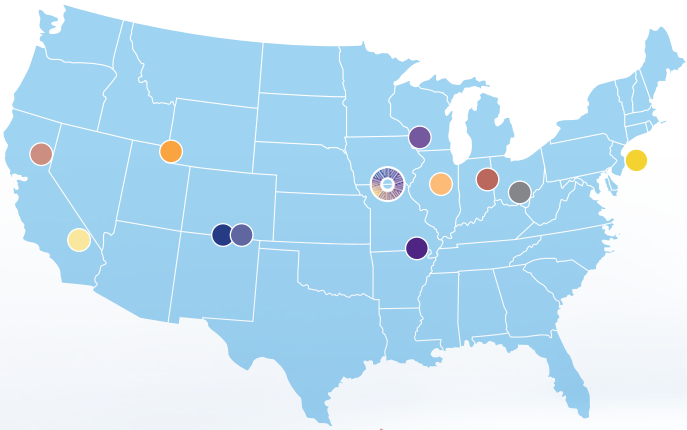
CORES consortium of rural states

Fun Fact: Frontiers' catchment area includes more than 109,000 square miles of land, which would make it the 8th largest state in the nation.

Learn why our partners choose to support our mission

bit.ly/frontierspartners

- Children's Hospital of Orange County
- Children's National Hospital
- Indiana University
- Stanford University
- University of Arkansas for Medical Sciences
- University of Iowa
- University of Kansas
- University of Kansas Medical Center
- University of Kentucky
- University of Missouri – Kansas City
- University of New Mexico
- University of New Mexico Health Sciences Center
- University of Utah Health
- Washington University in St. Louis



Services and Resources

Frontiers services and resources are divided into five initiatives to support our mission to **advance science and improve healthcare for all**.

1. Research Design and Analysis

- Genomics
- Informatics
- Statistical Analysis and Planning
- Data Management
- Implementation Science

2. Research Support

- Science Communication
- Regulatory Knowledge and Support
- Drug, Diagnostic and Medical Device Development
- Evaluation and Impact
- Budgeting and Finance
- Pilot Awards

3. Clinical Research Facilities and Resources

- Clinical and Translational Science Units (CTSUs)
- Networking and Recruitment
- Integrating Special Populations
- Healthcare Integration

4. Education, Training and Funding

- Early Career Faculty Career Development (KL2 Awards)
- Pre- and Postdoctoral Career Development (TL1 Awards)
- Workforce Development

5. Community and Collaboration

- Team Science
- Community Engagement

How our services and resources have helped our members

We have received the following anonymous feedback from satisfaction surveys:

> The support I received on my Association of Clinical and Translational Sciences poster and presentation was very helpful. I received help with scientific illustration, statistics and overall slides preparation. This guidance helped me immensely to succeed.

> This was a great experience and provided me with MANY resources to assist with recruitment. I wish I would have known about this resource sooner.

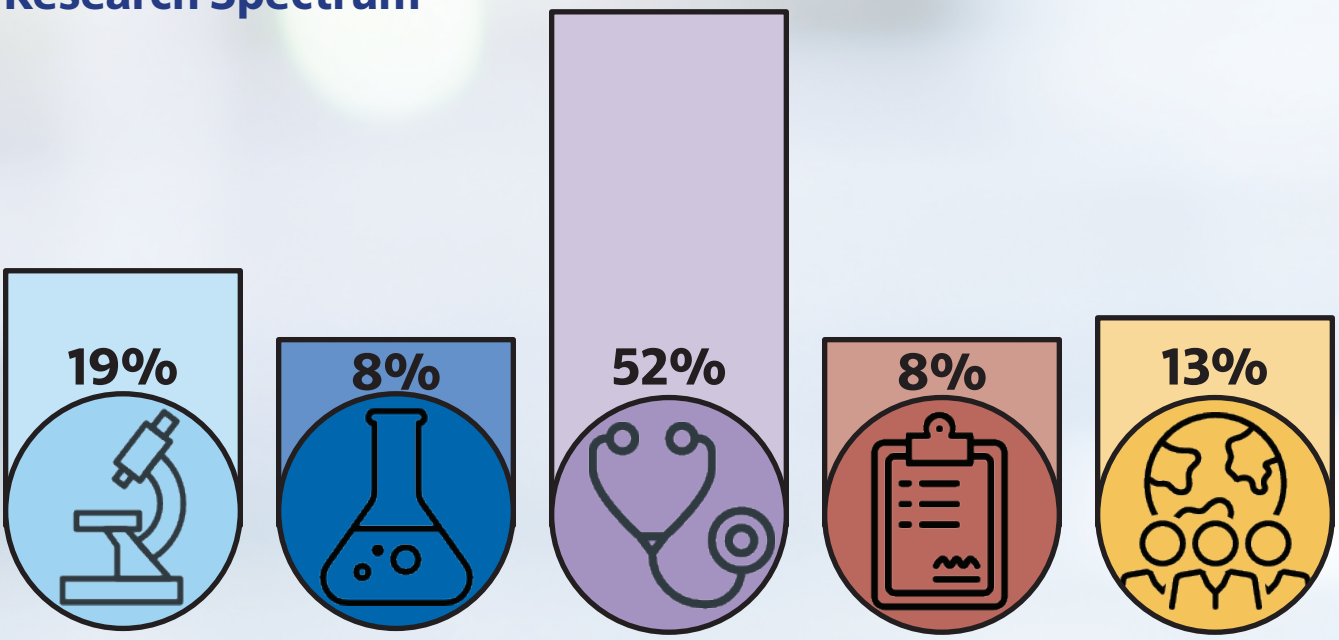
Request a Service Consultation

bit.ly/3PoU02C

Research Areas

Our over 700 members span many areas of research. The word cloud represents the diversity of research areas in which our members are engaged.

Members Research Areas Along the Translational Research Spectrum



T0
Basic Research

T1
Preclinical Research

T2
Clinical Research

T3
Implementation Research

T4
Population-Based Research

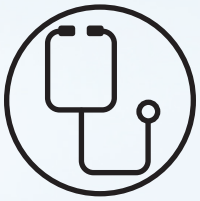
By the Numbers

1,100+
papers attributed to Frontiers support since 2011

96
papers attributed to Frontiers support in the last year

89
active patents supported by IAMI

$48:1
ROI on our implementation science consultations since 2022



13%
increase in CTSU active studies from last year

7,700+
participant visits across the CTSUs this last year

Frontiers Consultations

215
consultation requests

47%
Increase in Frontiers Service Consultation requests

Frontiers Events

13,500+
attendees were recorded at events

139%
Increase in attendance at Frontiers sponsored events

Pilot Programs

Every year, Frontiers offers several types of pilot awards:

Frontiers Pilot Programs

The Lauren S. Aaronson Pilot Award provides grant funding and other support to grow interdisciplinary, investigator-initiated clinical and translational research across a broad range of scientific disciplines.

The Institute for Advancing Medical Innovation (IAMI) Trailblazer Award provides funding to support four targeted areas of clinical and translational research: Experimental Therapeutic Trials, Drug and Medical Device Development, Biomarker Discovery and Validation and Entrepreneurship activities consistent with IAMI's mission.

The Integrating Special Populations (ISP) Pilot Award provides funds to help investigators carry out early-stage research to:

1) Improve health outcomes across the lifespan through multidisciplinary, multi-organizational teams that include patients, caregivers, clinicians, scientists and other stakeholders and
2) Improve rare disease health outcomes by leveraging input from all stakeholders in study design.

The Biostatistics, Epidemiology and Research Design (BERD) Trailblazer Award provides grant funding to support statistical, epidemiological and data science investigations toward novel methods development that will improve clinical and translational research (CTR) inferences.

Inter-Institutional Pilot Awards

Consortium of Rural States (CORES)

Research projects that involve two or more of the eight CTSA hubs that make up the CORES Research Collaborative:

- Frontiers Clinical and Translational Science Institute
- Dartmouth SYNERGY Clinical and Translational Science Institute
- Penn State Clinical and Translational Science Institute
- University of Arkansas for Medical Sciences Translational Research Institute
- Iowa Institute for Clinical and Translational Science
- University of Kentucky Center for Clinical and Translational Science
- University of New Mexico Health Sciences Clinical and Translational Science Center
- University of Utah Health Clinical and Translational Science Institute

Since 2011, Frontiers has provided over

$11.6 million

to more than

300 research projects

Recent Pilot Award Successes

Jaime Perales Puchalt, Ph.D., MPH

When Jaime Perales Puchalt, Ph.D., MPH, submitted his paperwork for a Diversity Trailblazer Pilot Award in 2017, he hoped to start working with the Kansas City Latino community to further Alzheimer's Disease (AD) research. He had no idea that he would become not only a trusted resource for many within the community, but that his work would be nationally recognized. He started lunch-and-learn sessions at three local senior centers in the Latino community to educate seniors on AD and how it affects your brain, ways to reduce your risk and resources in the community (which included the Alzheimer's Disease Research Center at the University of Kansas Medical Center). As the sessions went on, seniors enrolled into studies at the senior centers which made it easier for them to participate in research since they already frequented the centers, limiting disruptions to their day. Research activities at senior centers also helped build trust between scientists and the public by engaging with familiar community locations.

As he continued his project, he developed a program titled Envejecimiento Digno (Spanish for "Honorable Aging") with an educational presentation to educate the Latino community about AD. This program is currently being used at Alzheimer's Disease Research Centers across the country.

John A. Taylor III, M.D., MS

In the VA Health System, bladder cancer is among the most common cancers, and is the most expensive to treat. Those with bladder cancer tend to have a higher level of medical burden. Unfortunately, current treatment for advanced-stage bladder cancer is not always an option because some patients are too ill to receive traditional chemotherapy followed by surgery. With his LSA Pilot Award, matched by an award from The University of Kansas Cancer Center, John A . Taylor, III, M.D., MS, has been studying intravenous Vitamin C, in combination with two other drugs, gemcitabine and carboplatin as a treatment option. During his Phase I trial, Taylor enrolled VA Health System patients with invasive bladder cancer who were not eligible for traditional chemotherapy before surgery due to underlying illness. Cancer was down-staged in 1/3 of participants, including some with no residual cancer found when their bladder was removed. The treatment was well tolerated with minimal side effects, and quality-of-life did not drop during chemotherapy treatment, which is not typical with the standard treatment regimens.

Frontiers Pilot Programs

Lauren S. Aaronson Pilot Award Recipients

Stacy Farr, Ph.D., MPH
Dan Nguyen, M.D.
Saint Luke's Health System

Project: Implementation feasibility pilot of a patient decision-aid for chronic coronary disease

Currently, it takes approximately 17 years for research evidence to reach clinical practice and improve patient outcomes. The aim of Farr and Nguyen's project is to rapidly reduce the time between when evidence from clinical trials is generated to when evidence-based patient-centered tools to support shared decision making for patients and clinicians in clinical practice is implemented.

Marion Leaman, Ph.D., CCC-SLP | University of Kansas Medical Center

Project: ECoLoGiC speech therapy treatment: meeting the everyday communication needs of people with aphasia following stroke

Leaman is working on a novel therapy to help patients and their families/caregivers in everyday conversation. Much of the work currently done to help patients with aphasia are worksheets with a set of object words, but Leaman's study is focusing on everyday conversations. As she learned from working with patients with aphasia and their families, this is more impactful to their treatment.

Kai Ling Kong, Ph.D., MS | Children's Mercy Kansas City

Project: A community-based music enrichment program to address health and developmental during early childhood

Having early parent/child interactions is important in the overall development of a child. Two early indicators of long-term health concerns are obesity and language delay, which are prevalent among children from historically marginalized families, and many of whom are also of low socioeconomic status. Families who fall in this category often have fewer high-quality parent/child interactions due to parental stress and limited social support resources. Kong is studying how music-based interventions can reduce risk factors for obesity and language delay.

Frontiers Pilot Programs

T32 Outcomes Research/Cardiology Fellow Dr. Evan O'Keefe presenting Drs. Nguyen and Farr's Pilot Grant work at the AcademyHealth Annual Research Meeting (ARM) in Baltimore in June 2024.

Institute for Advancing Medical Innovations (IAMI) Trailblazer Awards

Thomas Menees, Ph.D. | University of Missouri-Kansas City

Project: Dbr1 inhibitors: a novel drug treatment for the neurodegenerative disease ALS

Thomas Menees' project advances a promising drug therapy for amyotrophic lateral sclerosis, more commonly known as ALS or Lou Gehrig's disease. Currently, there are no treatments that significantly alter the course of this disease, and death typically occurs within 2 – 5 years of diagnosis.

Tarak Srivastava, M.D., FASN | Children's Mercy Kansas City

Project: SH3BP2 inhibitors to target SH3BP2-mediated immune activation in nephrotic syndrome

Nephrotic syndrome is a kidney disease that is commonly associated with an activated immune system. For researchers, relapses of nephrotic syndrome are commonly triggered by viral infections and this study examines why nephrotic syndrome is happening and if inhibiting the protein SH3BP2 could be an effective treatment.

Frontiers Pilot Programs

Integrating Special Populations Pilot Award

PI: Michelle Redmond, Ph.D., MS
University of Kansas Medical Center, Wichita

Co-PIs: Rebecca Lepping, Ph.D. | University of Kansas Medical Center
Deanna Hanson-Abromeit, Ph.D., MT-BC | University of Kansas

Project: Exploring life course and everyday stressors in the lives of pregnant and postpartum women: the role of music therapy as an intervention tool

Redmond has always been interested in women's health, especially in African American women, and recently she has been looking at how stress can cause negative birth outcomes. Along with Lepping and Hanson-Abromeit, she is studying whether music can help alleviate stress during pregnancy. The three met at a Kansas Birth Equity Network meeting and began looking for ways they could collaborate. With their Integrating Special Populations Pilot award, they are interviewing pregnant and postpartum women about their thoughts on whether music could play a role in alleviating stress and if it could be beneficial to this population.

Biostatistics, Epidemiology and Research Design Trailblazer Award

Alexandra Brown, Ph.D. | University of Kansas Medical Center

Project: Exploring bayesian adaptive designs in patient preference randomized trials

Premature birth is the leading cause of infant death and yet the rate of premature births is still increasing over the last decade. While docosahexaenoic acid (DHA) is currently the most effective tool to prevent preterm birth, critical barriers hinder proper DHA supplementation. To break these barriers, Brown and her team will implement a patient-preference clinical trial utilizing adaptive randomization. They will also utilize Bayesian methods in their trial's adaptive design and analysis. Altogether, the study uses innovative Bayesian trial design and patient-preference strategies to improve adherence to DHA supplementation to reduce premature birth and infant mortality rates.

Frontiers Pilot Programs

Inter-Institutional Pilot Award

Stephen Waller, M.D. | University of Kansas Medical Center

Phil Polgreen, M.D., MPH | University of Iowa

Project: Developing thermal imaging as a biomarker to augment "remote visits" where physical exams are not possible

In currently hospitalized patients with cellulitis, it's not always easy to see if the patient is responding to treatment or if there are other underlying issues that could be impacting their treatment. Polgreen, from the University of Iowa, came up with the idea to use thermal imaging on this group of patients. Together, Waller and Polgreen's team found that thermal imaging gave them an advantage to treating cellulitis.

Thermal imaging camera utilized to capture skin temperature. In this photo, temperature intensity mapping is completed of the lower extremity on a patient with cellulitis. Higher temperatures can be visualized in the affected left lower extremity (top) relative to the right lower extremity (bottom). A large metal washer, insulated on the skin-contacting surface, can be seen on the left lower extremity. This zinc washer serves as a room temperature fiducial marker. Such temperature intensity measurements are made over the clinical course of cellulitis, with early results indicating a greater ability to assess for signs of improvement relative to bedside evaluation alone

"The Frontiers ISP Pilot allowed our research team to learn more about pregnant and post-partum women's perceptions and preferences on the possibility of using music as an intervention tool for anxiety and stress. We surveyed over 80 women to learn about their preferences in the creation of a music intervention. We specifically asked 22 of those who indicated they had experienced discrimination how music has and can play a role in their lives in terms of stress and anxiety. What we learned from our participants was encouraging and will allow us to take our findings to create a music intervention that specifically considers the participant perspective. The data collected during this pilot will help us as we build an intervention and seek future R-type funding for a music intervention study."

Michelle Redmond, Ph.D., MS
University of Kansas Medical Center, Wichita

Early Career Faculty Development Program (KL2 Award)

The KL2 Mentored Career Development Award is specifically designed to foster the development of early career faculty interested in conducting groundbreaking clinical and translational research. Frontiers is committed to attracting and welcoming diverse, early-stage researchers to its institutions.

Dana Bakula, Ph.D.
Children's Mercy Kansas City

Project: Parent development and pilot testing of a mental health intervention for parents of children with pediatric feeding disorder

*Bakula has received a K23 Award

April McNeill-Johnson, M.D.
Children's Mercy Kansas City

Project: Improving sexual and reproductive health care in the juvenile detention and correctional facility

Amanda Emerson, Ph.D.
University of Kansas Medical Center

Project: Characterizing aging related health and mapping health services with women who have criminal legal system involvement (CHARMS): phase 1

Rebecca Lepping, Ph.D.
University of Kansas Medical Center

Project: Music-based interventions for Alzheimer's disease and related dementias

Alejandra Camacho-Soto, M.D.
University of Kansas Medical Center

Project: Morbidity matters: predicting fractures in Parkinson's disease

Abid Qureshi, M.D.
University of Kansas Medical Center

Project: Precision functional mapping in disorders of consciousness

Anna Wallisch, Ph.D.
The University of Kansas

Project: Investigating the challenging eating behaviors of children with autism at mealtime

Kathryn Unruh, Ph.D.
The University of Kansas

Project: Combined pharmacological challenge-functional MRI studies of cognitive brain mechanisms of core symptoms in adolescents with autism

Recent KL2 Scholar Program Successes

Jennifer Villwock, M.D., FAAOA

University of Kansas Medical Center, 2020 KL2 Scholar

Dr. Jennifer Villwock is working with the Institute for Advancing Medical Innovations (IAMI) on commercializing the olfactory work she has been doing which uses patterns of responses on olfactory testing to help predict different disease states. She submitted several grants on the small business side of the National Institutes of Health (NIH) to support the work in both Alzheimer's disease and dementias, as well as traumatic brain injury.

Dr. Villwock is currently in year three of her R01 grant which is studying the olfactory phenotype hypothesis as a noninvasive biomarker for Alzheimer's disease. The study includes a neurocognitive test, olfactory test and drawing plasma biomarkers for Alzheimer's disease. She is looking to see if they can predict based on the olfactory data of their cognitive status.

Stephani Stancil, Ph.D., APRN

Children's Mercy Kansas City, 2022 KL2 Scholar

Dr. Stephani Stancil, assistant professor of pediatrics at Children's Mercy Kansas City, seems to always be working on her next research project. After one year as a KL2 scholar, Dr. Stancil transitioned to a National Institute of Mental Health (NIMH)-funded K23 to complete a randomized controlled trial to develop a biomarker of drug response in teens with eating disorders.

As part of Dr. Stancil's research program in adolescent precision therapeutics, she and her team are working to understand individual differences that affect response to psychiatric medications, particularly differences in the brain where these drugs work.

In addition to her K23 work looking at drug action in the brain, she is leading research, in collaboration with University of Kansas Medical Center and Hoglund Biomedical Imaging Center, to determine drug concentrations in the brain. Standard tools generally used to detect drug concentrations in the brains of adults are not considered safe or ethical for use in children, meaning this information is not well defined in kids.

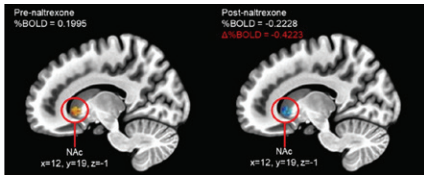


Figure Legend: Representative fMRI image of reward modulation following a single dose of naltrexone in an adolescent with an eating disorder. Left: The key reward region, nucleus accumbens (NAc), is active during anticipation of reward as expected. Right: Following naltrexone, the NAc is less active during anticipation of reward relative to baseline. This suggests fMRI may serve as a pharmacodynamic biomarker of acute reward system modulation and support naltrexone dose optimization and future drug repurposing to improve outcomes in an understudied pediatric population.

Predoctoral and Postdoctoral Training Program (TL1 Award)

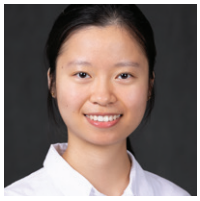
Our TL1 training program offers intensive mentored research experiences, preparing trainees for careers in clinical and translational research. Alongside research funding support, participants benefit from tuition remission, stipends and travel assistance for conferences. Medical and doctoral students in our TL1 program take a gap year, typically after their second or third year, diving into lab work on a specific research project with their mentor while completing the 33-credit-hour Master of Science in Clinical Research (MS-CR) degree. This comprehensive degree covers core subjects like epidemiology, biostatistics and grant writing, with electives rounding out the curriculum. The MS-CR degree at the University of Kansas provides clinical scholars with essential training in patient-oriented research methodologies, spanning disease mechanisms, interventions, clinical trials, technological advancements and research translations into clinical practice.

Predoctoral Program

The predoctoral track is a one-year award specifically designed to stimulate interest in clinical research careers for M.D., D.O., DNP, PharmD, DPT, DDS, DVM and clinical Ph.D. students within the final two years of their clinical doctoral degree. This dual-degree training track is designed to foster active learning and clinical and translational science career development.

Dhanushki Abeykoon
PharmD Student
The University of Kansas

Project: Validation of a novel CSF-based biomarker of mitochondrial function



Rong Xin Liu
PharmD Student
The University of Kansas

Project: Immune Checkpoint inhibitors reverse leukemia

Postdoctoral Program

The TL1 postdoctoral award provides one or two years of protected time for recent graduates of doctoral programs, clinical fellowships or residencies. This award provides trainees with the additional skills, mentoring and research experience needed to launch a career in translational research.

Jephte Akakpo, Ph.D.
University of Kansas Medical Center

Project: Mechanism of acetaminophen-induced nephrotoxcity

Amy Smith, Ph.D.
Children's Mercy Kansas City

Project: The impact of a music enrichment program on health and development outcomes during early childhood

Alexandra Prosser-Dombrowski, M.D.
Children's Mercy Kansas City

Project: Functional evaluation of a novel RPL30 mutation and its role in diamond blackfan anemia: a model for studying ribosomopathies

Sarah Weinsztok, Ph.D.
The University of Kansas

Project: A prospective behavioral economic analysis of alternative sources of reinforcement for hazardous alcohol use

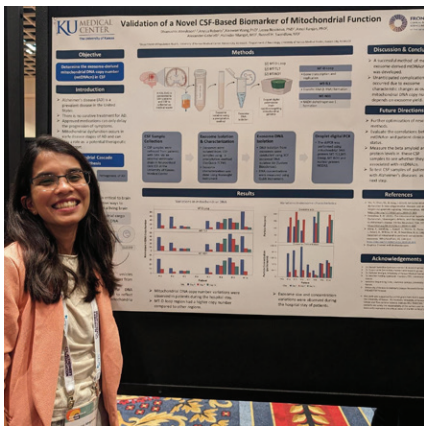
Trainee Accomplishments

82 scholars
trained by Frontiers since 2011

418+ publications
produced by Frontiers scholars related to their work during their training program

KL2 scholar April McNeill-Johnson, M.D., at Children's Mercy Kansas City was selected for the Health Policy Scholars Program through the Academic Pediatric Association.

Former KL2 Scholar Amanda Emerson, Ph.D., is currently a fellow with the Betty Irene Moore Fellowship for Nurse Leaders and Innovators at the University of California Davis. She has also received a Patient Centered Outcomes Research Institute (PCORI) grant.



TL1 Predoctoral Trainee Dhanushki Abeykoon at the University of Kansas, was awarded Top Poster at the Association of Clinical and Translational Sciences 2024 conference.

> I owe so much to Frontiers. They took a chance on me as someone who didn't come from a medical school that was really focused on research. I'm so grateful to Frontiers and the help they have given me.
>
> **Jennifer Villwock, M.D., FAAOA**
> University of Kansas Medical Center

Training Opportunities

Graduates of the most recent TIARA program.

TIARA

In Spring 2024, the Healthcare Institute for Innovations in Quality (HI-IQ) hosted their second Training in Implementation: Actionable Research Approaches (TIARA). Translating evidence into practice is a complex process that often spans several years or decades. Recognizing the need to urgently act in the quickly evolving healthcare landscape, TIARA provides physicians, nurses, pharmacists, students/trainees, researchers and other healthcare professionals with the implementation science and quality improvement knowledge needed to prioritize more rapid adoption of evidence-based practices. This year's institute had 35 attendees and received high satisfaction ratings from all attendees.

Bi-directional communication is encouraged as part of the CIMER Mentor Training program.

CIMER Mentor Training

This year, Frontiers helped bring the Center for the Improvement of Mentored Experiences in Research (CIMER), an evidence-based mentor training program, to the local network. This course developed by the University of Wisconsin's CTSA has demonstrated to improve mentoring for both experienced and new investigators. Four training courses have been held this past year with 40+ people in attendance. Four courses are planned for the coming year.

Genomics Short Course

This year, Emily Farrow, Ph.D.,CGC,FACMG, ran the sixth annual Genomic Medicine Short Course. This four-day National Institutes of Health (NIH) funded course is designed for clinicians and scientists to learn more about translational genomics through a combination of lectures and hands-on workshops. Genomics is an area that is rapidly changing and becoming more and more important in understanding basic biology, disease states and environmental impacts on individuals. Topics covered in this course include examining technical and analytic aspects of DNA and RNA, gene regulation and epigenetics, clinical and ethical implications of genomics as well as analysis of long read genomes. A unique aspect of the program is the opportunity for enrollees to have genomic sequencing completed on themselves. Each year, registration is limited to 50 participants, both in person and virtually, and and each year there is an increase in diversity in our course participants. So far participants have hailed from 13 countries across the globe.

Graduates, both in-person and virtually, pose for a photo at the end of the Genomics Short Course training.

Research Symposium

In March 2024, Frontiers' annual Research Symposium focused on Mentorship and Career Development and was held at Children's Mercy Kansas City. In addition to panel discussions, breakout sessions and a keynote speaker, the event also hosted 45 high school students and included a Speed Mentoring session to begin the day that included researchers and research support staff.

View event highlights: bit.ly/470HGxO

Faculty from Kansas City University took part in the Speed Mentoring session for early career faculty at the 2024 Research Symposium.

Implementation Science Meet-ups

Since summer 2022, Frontiers has hosted seven implementation science meet-ups. These meetings are an informal gathering of scholars who are interested in the field of dissemination and implementation science. This is an opportunity to share the latest national resources, present works in progress and discuss timely topics. We have had 184+ attendees over the past two years and have solidified a growing network of local scholars.

The January 2024 meet-up was hosted at the Diastole Scholars' Center.

Mock Study Section

Since 2022, Frontiers has hosted six Mock Study Sections, reviewing 27 in-preparation R and K grants from investigators across our partner institutions. These sessions provide valuable feedback to investigators prior to submitting their grant applications to the National Institutes of Health (NIH).

> The reviewer's feedback was extremely helpful. This was a positive environment to take a risk. It was great to hear both about strengths of my application as well as concrete suggestions for where to improve, both in terms of the rigor of the design itself and also the grantsmanship aspect of clearly articulating the approach. Being new to the NIH funding environment, I was nervous about participating, but I am so glad that I did. It is great to have the inside perspective of what will happen in real life to demystify the process and understand what grant reviewers are looking for when they evaluate proposals. The level of detail they provided in terms of feedback was also exceptional. I have really clear direction for how to improve. Thank you!

Anonymous
Survey Feedback

Rural Health Initiatives

All of Us Research Program – Heartland Consortium

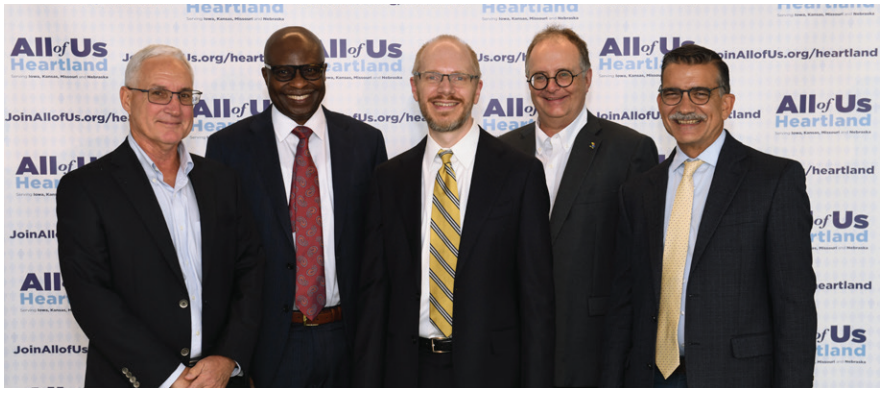
All of Us Heartland is proud to partner with the All of Us Research Program, from the National Institutes of Health (NIH). Together, we hope to speed up the future of health.

Members of All of Us Heartland represent urban, suburban and rural communities across four states. They are academic medical centers, hospitals and community organizations: the University of Kansas Medical Center, The University of Kansas Health System, University of Missouri, University of Nebraska Medical Center and University of Iowa Health Care.

Our goal is that one million or more people will join All of Us, 30,000 of whom will be represented by All of Us Heartland.

Learn more about All of Us Heartland: bit.ly/4e0hbuW

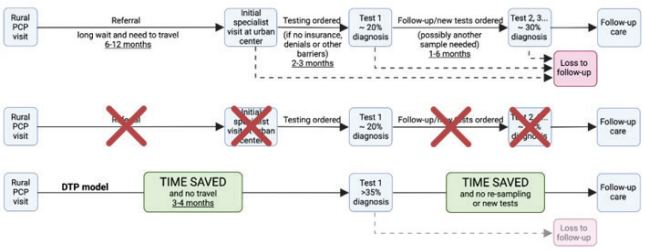
The University of Kansas School of Medicine Executive Dean, Akinlolu Ojo, M.D., Ph.D., M.B.A., MPH



The All of Us Heartland Consortium held a ribbon cutting on their location at the University of Kansas Medical Center. From Left: **J. Steven Leeder, PharmD, Ph.D.** (Frontiers co-PI), **Akinlolu Ojo, M.D., Ph.D., MBA** (Executive Dean, School of Medicine, KU Medical Center), **Josh Denny, M.D., MS** (CEO All of Us Research Program, National Institutes of Health), **Matthias Salathe, M.D.** (Chief Research Officer, University of Kansas Health System; Chairperson of Internal Medicine, KU Medical Center), **Mario Castro, M.D., MPH** (Frontiers co-PI).

Genomics Site Expansion

Investigator Ana Cohen, Ph.D., FACMG, an Assistant Director of Molecular Genetics at Children's Mercy Kansas City, wanted to find ways to help families potentially get answers about their children's development faster, while also trying to alleviate the burden of long travel time for those living in rural areas. She was able to explore this research with a Lauren S. Aaronson Pilot Award from Frontiers in 2022, working with a primary care clinic in Salina, Kansas (approx. 172 miles from Children's Mercy).



This timeline is reflective of the work from Cohen's pilot study.

In the pilot project framework, the primary care providers were able to: initiate the genetic testing process, send patients' samples to Cohen's team at the Children's Mercy Research Institute (within the Genomic Answers for Kids program) to process the test, and then receive the results back without the patients and families having to travel the distance to see a specialist in person pre-test. The initial results from the pilot study were positive, showing that participants had the same diagnostic rate as patients that would have gone through the traditional referral process and seen a specialist in-person, except that they received the results much faster given that they virtually skipped the waitlist. Importantly, this could not have happened without the structural support of the Genomic Answers for Kids program for test logistic processes and counselling pre- and post-test, as well as that of the Clinical Genetics staff at Children's Mercy.

Consortium of Rural States (CORES)

Frontiers has participated in the Consortium of Rural States (CORES) since 2019 with the goal of improving clinical and translational science research and capacity in rural settings. Each year, a different hub hosts an on-site meeting to bring together leaders of the institutes to share ideas on how to improve community engagement, evaluation and training for translational science in rural settings. Rural communities, which constitute 20% of the U.S. population, experience severe health disparities compared to their urban counterparts. According to the CDC, an array of demographic, environmental, economic and social factors put rural residents at higher risk of death and poor health outcomes than people who live in urban areas.

The Consortium of Rural States (CORES) is a collaborative research consortium of eight academic medical institutions that are working to improve health in rural communities and are funded by the Clinical and Translational Science Award (CTSA) from the National Center for Advancing Translational Sciences (NCATS) at the National Institutes of Health.

Through inter-institutional pilot funding and sharing best practices, CORES aims to accelerate research efforts that can reduce the burden of illness and mortality in rural populations.

Learn more about CORES: ctsacores.com

It's very important in clinical trials to have diversity because different people react differently to drugs, vaccines, etc. Having a Clinical and Translational Science Unit in Wichita makes it easier for people in rural Kansas to participate in trials.

Garold Minns, M.D.
Dean, University of Kansas School of Medicine, Wichita

Community Engagement

Broderick Crawford Community-Research Partnership Award

The Broderick Crawford Community-Research Partnership Award started in 2023 to support the development of new academic-community partnerships or to strengthen existing partnerships. This mini grant is used to facilitate community-based activities that build trust and strengthen relationships between researchers, patient advocates, community members and/or community-based organizations.

With over 30 years of experience in health care and community advocacy, Broderick Crawford was a national leader for community voice in research. Many of us were fortunate enough to call him a friend and colleague and he more than deserves this award to be named in his honor.

LaTanya Lipprand
Bringing Lupus Survivors and Physician Researchers Together to Develop, Foster Understanding and Improve Outcomes

Dola Williams
ICan.Sir!

John Tumberger; Stephani Stancil, Ph.D., APRN
Teen Research Advisors Expansion

Linda D'Silva, Ph.D., PT, NCS; Marianna Ramirez, LCSW
Listening Sessions to Understand the Lived Experience of Latino Roofers and Construction Workers after Unintentional Head Injury

Additional Funded Projects

Shalese Clay
What Does Your Zip Code Say About You?

Matthew Kleinmann
Broderick Crawford Basketball Court

Christy L'Esperance
Music as Medicine

Christina Pacheco
Indigenous Health Listening Sessions in Kansas and the KC Metro Area

JUNTOS

This past fiscal year, JUNTOS sponsored 51 community engagement health fairs and vaccine clinics with the support of Frontiers. They saw over 5,500 attendees across all these events.

JUNTOS has also partnered with the All of Us program to help improve the inclusion of the Hispanic community in research. They hosted their first outreach in 2023 with the All of Us bus.

More details on how to participate can be found here: bit.ly/4e0hbuW

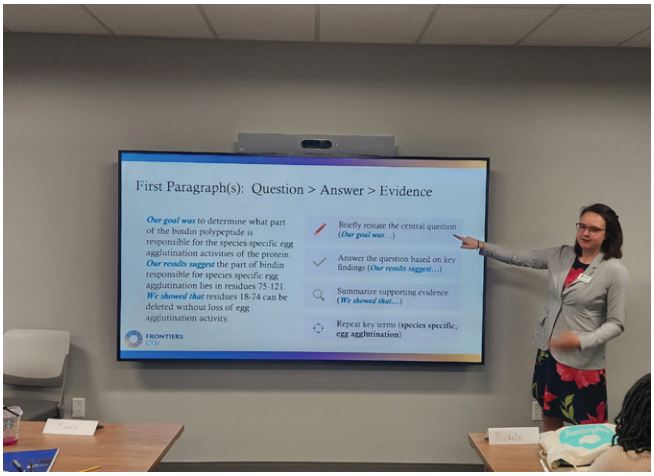
JUNTOS hosted a table at the 2024 Frontiers Research Symposium.

JUNTOS hosted the All of Us Journey bus to encourage sign-ups.

Community Input on Frontiers Pilot Awards: Rapid Reactor Panel

We implemented a Rapid Reactor Panel (RRP) to ensure that pilot applicants are intentional about community engagement. We ask applicants to incorporate community thoughts and perspectives into their proposed studies. The RRP also serves to train researchers to look through the lens of community partners when designing a study. This year, participants on the RRP are Rev. Tony Carter with Salem Missionary Baptist Church, who is involved with the All of US Research Heartland program, the Mayor's Law Enforcement Advisory Board, the Wyandotte County Health Equity Task Force and the Mayor's Task Force for Community and Policing, the Masonic Cancer Alliance Community Advisory Board, Patients and Investigators Voices Organizing Together (PIVOT) and the Kansas Birth Equity Network; Felecia Cunningham, who is a certified Community Health Worker with the Communities Organizing to Promote Equity (COPE) program at KU Medical Center; Callie Dyer, who is the Executive Director of the Finney County Community Health Coalition; Maria Parra Acero, who works in medical information in the pharmaceutical sector and advocates for underserved populations and promoting equitable healthcare; Jamie Rich, who is involved with community education and cultural arts programs, and past director of the Lesbian and Gay Community Center of Kansas City; Kristen Topp, who has a background in social work in Wyandotte County; Vonzel Sawyer, who is an entrepreneur, consultant and minister; Christal Watson, who is the Executive Director of the Kansas City, Kan. School Foundation for Excellence; and, Rev. Eric Williams with Calvary Temple Baptist Church, who is the founder and Executive Director of Calvary Community Outreach Network.

Building the Research Career Pathway



Frontiers Biomedical Writer, Dr. Heather Fielding-Gebhardt, presented to Summer 2024 STAR 2.0 attendees on the basics of research writing.

STAR 2.0

The Summer Training in Academic Research (STAR) program is in it's fourth summer at Children's Mercy Research Institute. This program provides students and teachers from underrepresented backgrounds in STEM and medicine the opportunity to experience and gain an inside perspective on the world of science and medicine. The hands-on research experience allows them the opportunity to make contacts within the local medical research community and hopefully spark future career interest. To date, 42 students and five teachers have participated in the program. This year, 17 students representing nine area schools participated.

2024 Frontiers Research Symposium

For the first time, Frontiers invited local high school students to attend our annual Research Symposium at Children's Mercy Research Institute, where 45 students interested in STEM and medicine careers got to hear about the various research being done locally. A few students even got to participate in the Speed Mentoring activity at the beginning of the day.

> Being able to hear about the different pathways and how they got to where they are now was great. And to learn about the research and clinical sides and that I could do both was nice to hear.
>
> **Olathe North High School student**
> on the Research Symposium

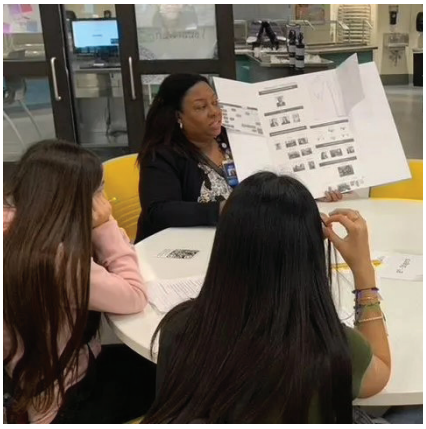
15%
of our Frontiers membership identify as being from racial or ethnic groups that are underrepresented in STEM and Medicine

16.5%
of our Frontiers membership indicated they come from a socioeconomically disadvantaged background

33%
of our K and T Scholars come from racial and ethnic groups underrepresented in STEM and Medicine

Informatics Career Day Data Dialogues

Over the past year, the informatics team spoke to over 1,200 elementary, middle and high school students as well as college students across the Kansas City metro area about different career opportunities within the field of bioinformatics.



Photos are representative of the types of opportunities that the Informatics team and students had to interact during career days.

Workforce Heterogeneity Navigator

In Spring of 2024, Frontiers hired Joanna Weidler-Lewis, Ph.D., as a navigator to join Bridgette Jones, M.D., and Carrie Francis, M.D., on the Workforce Heterogeneity team. Weidler-Lewis comes with years of experience in community participatory research and is deeply invested in expanding opportunities within Frontiers to create more diverse and innovative workspaces.

Become a Frontiers Member!

Membership is FREE and provides you with access to all the resources, funding and events that Frontiers has to offer. Membership is open to all in the research and broader community.

frontiersctsi.org/become-a-member

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bit.ly/3PoU02C

Cite Our Grant

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