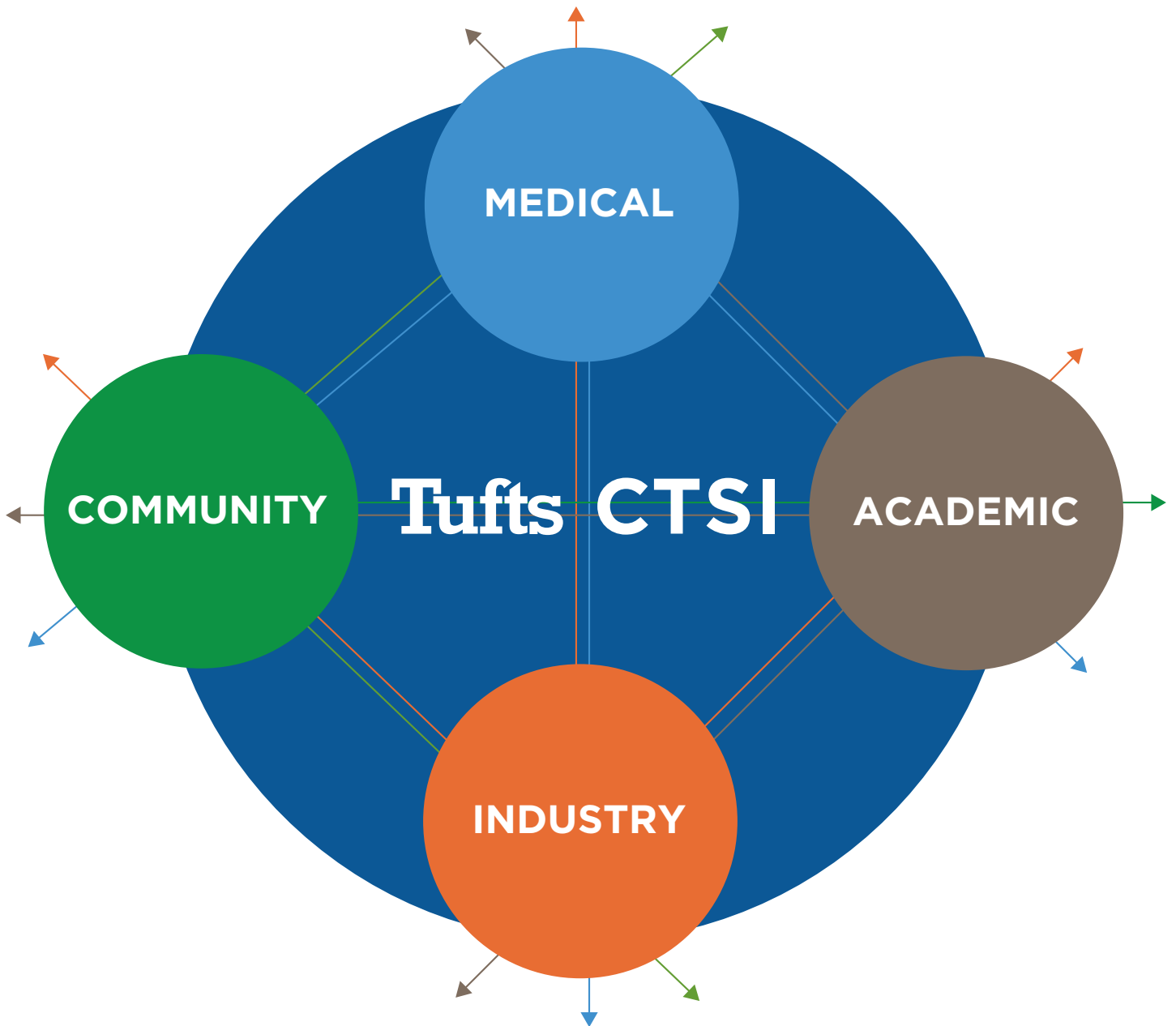


Tufts

CTSI

Tufts Clinical and
Translational Science Institute

**ANNUAL
REPORT
2024**



Translating Research into Impact on Health

Our Mission

The mission of Tufts Clinical and Translational Science Institute (CTSI) is to stimulate innovative broadly engaged team science across the translational research spectrum to improve clinical care and health.

We support the conduct of innovative research: from pre-clinical development to initial human studies (T.5), bench research to the bedside (T1), bedside to clinical practice (T2), clinical practice to widespread clinical practice and care delivery (T3), and public benefit and policy (T4). We help improve clinical care and health by providing education, consultations, services, and direct support.

We are supported by a Clinical and Translational Science Award (CTSA) from the National Center for Advancing Translational Sciences (NCATS), part of the National Institutes of Health (NIH). Tufts CTSI was founded in 2008, supported by four sequential CTSA grants, currently NCATS award UMITR004398.

The Aims of Our Fourth NIH CTSA Grant

Our current grant began in 2023 with the following aims:

- Aim 1:** Harness the collective impact of Tufts CTSI to advance clinical and translational science (CTS) and improve public health through responsive Hub leadership, an inclusive and collaborative culture, and continuous improvement of programs and research.
- Aim 2:** Provide outstanding education, training, and mentoring, tailored to different roles and disciplines, to develop an expert and diverse CTS workforce, and share these resources nationally.
- Aim 3:** Cultivate broadly engaged team science, with active inclusion of all stakeholders, to promote relevant and impactful translation for diverse populations and to promote health equity.
- Aim 4:** Create the environment, resources, and services to stimulate and support the full spectrum of CTS by leveraging the diverse expertise and assets of Tufts CTSI partners.
- Aim 5:** Foster translation by developing, demonstrating, and disseminating innovations that address significant translational roadblocks and provide generalizable translational insights and solutions.

Our Partners & Collaborators

Tufts CTSI's partners and collaborators include an engaged network of hospitals and medical practices, academic institutions, health sciences institutions, community stakeholders, and industry partners. Each brings unique insights to our support of clinical and translational science and makes major contributions to that work.

Tufts Schools and Centers

- Cummings School of Veterinary Medicine
- Fletcher School of Law and Diplomacy
- Friedman School of Nutrition Science and Policy
- Institute for Clinical Research and Health Policy Studies (ICRHPS) at Tufts Medical Center
- Jean Mayer USDA Human Nutrition Research Center on Aging (HNRCA)
- Jonathan M. Tisch College of Civic Life
- Graduate School of Biomedical Sciences
- School of Arts and Sciences
- School of Dental Medicine
- School of Engineering
- School of Medicine
- Tufts Center for the Study of Drug Development

Health Care Systems

- Baystate Medical Center
- Kaiser Permanente
- Lahey Hospital & Medical Center
- Maine Medical Center
- Newton-Wellesley Hospital
- St. Elizabeth's Medical Center
- Tufts Medicine (Tufts Medical Center, Lowell General, Melrose Wakefield)

Academic Institutions

- Brandeis University
- Massachusetts General Hospital (MGH) Institute of Health Professions
- Massachusetts Institute of Technology (MIT)
- Northeastern University
- RAND Corporation
- The Jackson Laboratory
- Tufts University Schools and Centers
- University of Pittsburgh
- Urban College of Boston

Industry/Non-Profit Partners

- Boston Public Health Commission
- Center for Information and Study on Clinical Research Participation (CISCRP)
- Critical Path Institute
- Massachusetts Biotechnology Education Foundation (MassBioEd)
- Museum of Science, Boston
- Novartis
- Pfizer, Inc.
- Point32Health

Community Organizations

- Asian Community Development Corporation
- Asian Task Force Against Domestic Violence
- Asian Women for Health
- Authentic Caribbean Foundation
- Boston Chinatown Neighborhood Center
- CSI Support & Development
- Greater Boston Chinese Golden Age Center
- National Council of Negro Women Greater Boston Section

Message from the Dean

Dear Tufts CTSI Friends, Partners, and Collaborators,

We are delighted to provide this report on our 16th year as an NIH Clinical and Translational Science Award (CTSA) hub. Since our start in 2008, there have been changes in the CTSA Program. One has been an increased focus on translating research into real-world health and health care improvements. With our dedicated core team, partners, collaborators, and with our focus on broad clinical practice, communities, and policy, we have been at the forefront of this focus. The pages that follow will give you a sense of that work.

Since our last report, Tufts CTSI was awarded our fourth NIH CTSA grant portfolio, including the main core UM1 grant, now two T32 training grants (with 10 predoctoral and five postdoctoral positions), a larger (total 11 positions) K12 career development grant, and an RC2 specialized innovation grant. Together, they represent more than \$100 million in NIH support for our CTSA, a significant increase in our funding.

Our primary work remains unaltered, but there are differences in our new grants. A new part of the core UM1 is the requirement of a Clinical and Translational Science (CTS) Research Program. Since the inception of the CTSA program, hubs have focused on *supporting others' research*, providing research services, resources, training, education, and pilot awards — and we still do. However, hubs now also have a mandate to do research to address systemic roadblocks to translation of breakthroughs into impact on health and health care. To facilitate such innovation, Tufts CTSI believes that research must be seamlessly embedded in real-time usual clinical care to ensure that it is efficient and applicable to real-world health care. Accordingly, our CTS Research Program is embedded across Tufts Medicine with plans to add our partner, Kaiser Permanente, and then, ultimately, other settings. The three projects now underway include 1) creation of a device-based clinical trial platform, 2) development of a useful and sustainable model for N-of-1 trials in usual clinical care, and 3) the assessment of the impact on care of clinical predictive models.

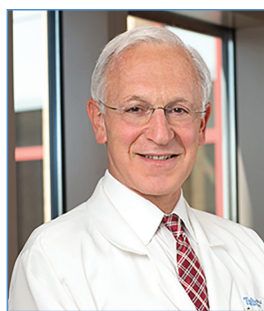
While these changes and expansions have been underway, we have continued long-standing and added some new programs, a sample of which is in this report. Some not noted in this report are the fruition of long-term investments. An example is the maturation of our artificial intelligence (AI)/machine learning (ML) Tufts Analytic Platform (TAP) Discovery, which connects clinical, -omics, and chemical data to create new insights into biomedical phenomena. After six years of development, it now is addressing challenges posed by researchers and health care leaders at Tufts Medicine. A new program is our Firearms Violence Prevention Program. With 48,000 deaths annually in the US and many more injuries and great social impact, gun violence is a *health* problem. Thus, we have created a program to develop and put in place policies that could mitigate mortality and morbidity from guns. We consider this part of our commitment to translating evidence into impact on health. We look forward to reporting on this work in coming years.

There have been changes in our leadership. After a decade of exceptional service to Tufts CTSI, Alice Rushforth, formerly Executive Director and then Associate Dean for Program and Partnerships, has left Tufts (though she remains in our Firearm Violence Prevention Program). In January 2024, Erin Gibson joined as Tufts CTSI Executive Director, bringing great energy, experience, and insights from having led major NIH programs and community engagement. Please join me in thanking Alice and welcoming Erin.

We hope this report will give you a picture of Tufts CTSI as a maturing 16 year old. With your engagement, we look forward to continued growth and contributions into our adulthood!

Very best wishes,

Harry P. Selker, MD, MSPH



Our Programs, Resources, and Services

Addressing Disparities in Asian Populations through Translational Research (ADAPT)

Biostatistics, Epidemiology, and Research Design (BERD) Center

Center for Clinical Trials (CCT)

Clinical and Translational Research Center (CTRC)

Collaboration for Research Equity, Sustainability, and Trust (CREST)

Comparative Effectiveness Research (CER)

Community and Stakeholder Engagement (CSE)

Data Safety and Monitoring Board (DSMB)

Dissemination and Implementation (D&I) Core

Education, Training, and Workforce Development

Evaluation and Continuous Improvement (ECI)

Funding Opportunities and Voucher Programs

Health Informatics

Human Nutrition Research Center on Aging Metabolic Research Unit (HNRCA MRU)

Maine Community Engagement Councils

MIT Center for Clinical and Translational Research

Nutrition Research Consultations

One Health

Program Evaluation

Qualitative and Mixed Methods Service

Recruitment and Retention Support Unit (RRSU)

Regulatory Knowledge and Support Research Process Improvement (RPI)

Science Communications

Stakeholder Expert Panel

T.5 Capacity in Medical Devices

Tufts Analytics Platform (TAP) Discovery

For more information, please visit tuftsctsi.org

Program Highlights and Tufts CTSI 2024-2025 Portfolio

Selected Highlights

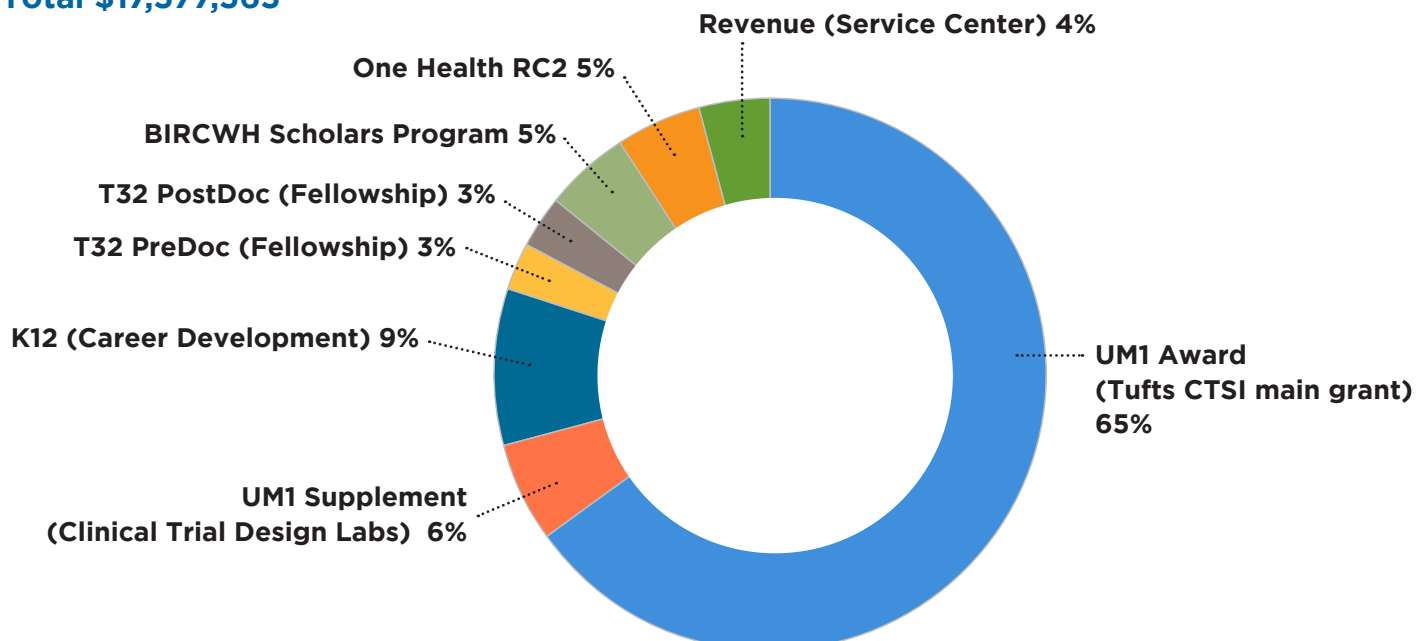
- From 2009-2022, we awarded **119 Pilot Studies** grants for innovative, interdisciplinary research, which generated more than **\$59M** of subsequently funded research, **200** professional presentations, and **171** scientific publications.
- We launched a new funding program — **Small Grants to Advance Translational Science (S-GATS)** — to solve common roadblocks to translation and develop novel approaches to advancing translational science, supporting eight innovative projects since 2023.
- Our **One Health** veterinary data warehouse and research center has overseen more than 40 veterinary trials and more than 1,000 research visits annually.
- We engaged more than **800 community members** and other stakeholders in cultivating a culture of communication for inclusiveness and enhanced public trust in clinical research.
- Since 2014, our **Symposium Plus** and **Mentored Research Studio** programs have supported 40 teams in producing high quality funding applications. Fifty percent of the resulting funding applications were awarded, which is substantially higher than the typical rate of awards.

In 2024

- Our Navigators and content experts provided more than **1,180** research services, a **19% increase** from the prior year.
- The **Biostatistics, Epidemiology, and Research Design (BERD) Center** fielded 301 service requests and provided their expertise to investigators during 93 Drop-in Sessions.
- Our **Informatics team** delivered 122 services to mine existing clinical data to determine feasibility and support achievement of participant recruitment for specific studies. The team also provided access to data management software for 836 research team members.
- The **Clinical and Translational Research Center (CTRC)** supported 59 clinical studies, involving pediatric, adult, and geriatric participants in research.
- Our **Junior Faculty Research Career Development Forum** mentored 50 early-career researchers, providing K Scholar funding for 9 of them.
- Our **T32 Fellowship Programs** funded 22 clinicians and medical students enrolled in our Clinical and Translational Science Graduate Program.
- The **Professional Education Team** delivered seminars, workshops, and symposia events to 252 attendees from 63 organizations. In addition, 934 learners engaged in self-paced courses or archived events on the Tufts CTSI | LEARN platform.

Tufts CTSI Portfolio 4th Grant Period, Year 2 2024-2025

Total \$17,577,565



Training the Clinical Research Workforce through Professional Education

The Tufts CTSI Professional Education Program supports broadly engaged team science and workforce development through training, educational events, and mentoring for all research team members. The team provides leadership and consultation for CTSI staff and faculty on instructional design and continually enhances our [Tufts CTSI I LEARN digital learning ecosystem](#).

Tufts CTSI Blue Star Investigator Certificate Program Expands its Reach

Launched in 2021, the Blue Star Investigator Certificate Program is a 10-week blended training program that builds operational skills in developing and running clinical trials tailored to new investigators who have not yet been a PI on an industry-sponsored or investigator-initiated study. Developed by the Professional Education and Regulatory teams, the program combines a mix of online didactic pre-work with hands-on in-person active learning sessions where participants practice clinical trial elements such as developing a protocol, maintaining study documents, and reporting adverse events. One highlight from 2023 was a revised module on Engaging Participants and Stakeholders where the Blue Star team engaged two members of the Tufts CTSI Stakeholder Expert Panel (SEP) to revamp the content and structure of the module, including both SEP members as expert consultants during the live session.

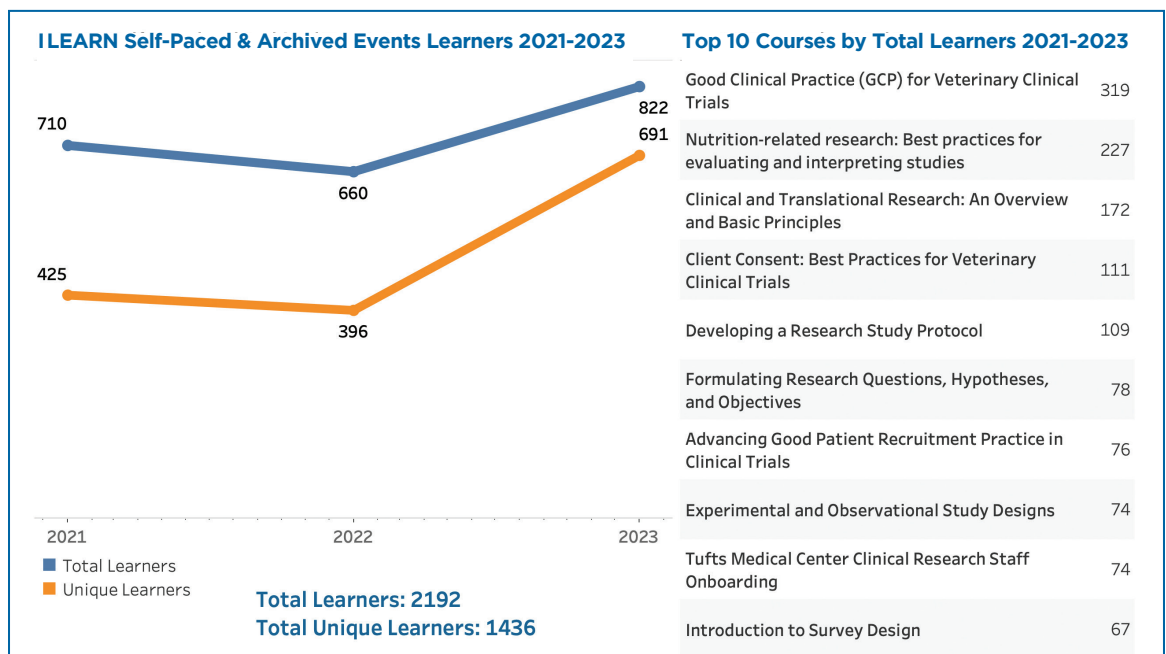
Based on the success of the Blue Star program at Tufts, in 2024 the team collaborated with the Professional Development Core of the Northern New England Clinical & Translational Research Network

(NNECTR) on an adapted version of the program to help expand local capacity for clinical trials. The pilot curriculum focused on serving as a site PI for industry-sponsored trials and was adapted to four hours of pre-work plus 1.5 days of in-person instruction at Maine Medical Center.

Key to the future sustainability of the program is a “train-the-trainer model” designed to allow faculty leads at our partner institutions to offer the Blue Star – Maine version of the program independently and with other NNECTR sites. In 2024 the Blue Star team began building a third version of Blue Star for the patient advocacy community. Working with Sharon Terry, Tufts CTSI Director of Recruitment and Retention, and an advisory panel of patient advocacy stakeholders, the program will equip participants with the knowledge and skills necessary to initiate, conduct, and manage clinical research studies, particularly in the context of rare diseases.

Enhancing Clinical Research Staff Skills Through Training and Mentoring

Combining traditional education with mentoring is central to Tufts CTSI’s Workforce Development strategy. In 2024, Professional Education expanded the scope of mentoring to include clinical research staff. Building on the successful Clinical Research Staff Quarterly Training series, the Clinical Research Staff Peer Mentoring Program will enhance communication and community across Tufts Medicine by supporting career development and networking. This innovative program combines elements from traditional mentoring programs with a rotating approach that will match participants with a new mentor or same-level peer each quarter, providing opportunities to share best practices and explore career pathways in clinical research. The program will run as a year-long pilot in 2025.



Addressing Health Disparities from Many Angles

Tufts CTSI's community-academic coalitions focus on addressing health disparities within our local Boston neighborhoods. More than 13 years ago, we established **Addressing Disparities in Asian Populations through Translational Research** (ADAPT) in partnership with community organizations in Boston's Chinatown neighborhood where the Tufts Health Sciences campus resides. In 2021, we launched the **Collaboration for Research Equity, Sustainability, and Trust** (CREST) which focuses on using research, education, and advocacy as tools to promote a healthy, sustainable livelihood for the populations we serve.

ADAPT

ADAPT is committed to advancing the health, well-being, and visibility of underserved Asian communities through community-engaged research, education, and advocacy that translate into improved service delivery, policies, and health equity. Serving as an incubator, convener, and co-learning space, ADAPT was founded in 2011 to foster bi-directional conversations linking academic research expertise with community-identified priorities, including mental health, data equity, advocacy, and environmental justice.

In 2023, ADAPT adopted a new Strategic Plan to guide the coalition's work, engagement, and partnerships. In 2024, to facilitate further collective action across coalition partners, ADAPT formed working groups to pursue collaborative activities and capacity-building around the coalition's priority areas. The Mental Health Workgroup aims to develop and implement a project to address mental health priorities of Asian communities in Greater Boston. The Data Equity Workgroup supports the Asian Pacific Islanders Civic Action Network's efforts to track the implementation of the MA Data Equity Law and encourage data disaggregation in research. This effort will allow us to better understand how specific populations are faring in terms of health and wellbeing.

As part of its commitment to foster bi-directional conversations linking academic research expertise with community-identified priorities, each year ADAPT hosts an Asian Health Symposium with support from Tufts CTSI. On October 8, 2024, more than 100 community leaders and advocates, researchers, clinicians, and elected officials convened for the 8th annual symposium, "Equity-Centered Data: Making Communities Visible," at the Tufts Health Sciences Campus. The event featured multidisciplinary leaders

in data equity in Massachusetts and nationally, and attendees across sectors and communities explored strategies to promote data equity in Massachusetts while uplifting community voices to illustrate the impacts of intersectionality.

ADAPT also holds regular stakeholder meetings to provide space for academic and community members interested in advancing Asian health equity to share and connect. Over the last two years, ADAPT hosted nine virtual events with 265 total attendees on a variety of topics, including language justice, data equity, Asian American and Pacific Islander discrimination and invisibility, and mental health. ADAPT partners and staff have published peer-reviewed articles about their community-based participatory research on racial discrimination in Boston's Chinatown and recommendations for improving the cultural responsiveness and linguistic accessibility of Mental Health First Aid trainings for diverse Asian populations.

In a joint activity, ADAPT and CREST are working to develop a new program to help the coalitions' community partners co-create capacity for community advocacy. Workshops will help participants develop the skills needed to translate findings from community-driven research into action, to increase health equity and promote systems innovation, policy change, and new programs and interventions.

CREST

Since its founding, the CREST coalition has focused on convening organizations and individuals from underserved Black and Brown communities in priority areas such as Dorchester, Mattapan, and Roxbury. Together, the coalition facilitates community and stakeholder engagement to learn how to more effectively address barriers on the translational science spectrum, with the ultimate goal of improving health and wellbeing for underrepresented populations in the Greater Boston Area.

Led by four Tufts CTSI staff members, CREST has undergone two strategic planning retreats over the last three years to update its operating structure, value proposition, and its three core goals: increase awareness of community-academic partnerships; improve the quality of life of Greater Boston area residents; and catalyze institutional and legislative policy change.

In a short timeframe, CREST is already making an impact, achieving the following key successes:

- Adding six new advisors from academic institutions and medical centers from around the Greater Boston area that contribute to CREST's structural development.

- Developing a Research Readiness Stakeholder Training facilitated in partnership with Alisa Lincoln, PhD, and her team from Northeastern University's Bouvé College of Health Sciences to prepare our community partners to be active and engaged participants in community-based participatory research projects.
- Publishing "Community Participation in Research" — a FREE, self-paced, online course available on Tufts CTSI's I LEARN platform which aids the clinical and translational science research process and demonstrates contemporary examples of how community residents and community-based organizations can help to improve the impact research projects have on different populations.

In April 2024, CREST hosted a Tele-mental Health & Community Forum at the Bruce C. Bolling Building in Nubian Square, Roxbury, its most successful in-person event to date. In front of more than 30 attendees, Aleesha Young, LPC, PsyD, moderated a discussion between seven panelists that highlighted the multicultural landscape of telemedicine and opportunities to better meet the mental health needs of traditionally underserved populations.

MaineHealth Institute for Research/CIVA

In Fall 2023, the Tufts CTSI Community and Stakeholder Engagement team introduced the founders of **Civic Intelligence Virtual Assistance** (CIVA), a web-based platform, to Tufts CTSI partner and collaborator MaineHealth Institute for Research's (MHIR) Community Engaged Research Group (CERG). CIVA's mission is to connect organizations and communities to create sustainable social impact through civic engagement. CIVA, an advanced civic engagement platform, facilitates interactive research dissemination and fosters bilateral communication. CERG aims to conduct research, develop resources, and engage in education reform efforts that promote equitable, informed, and effective youth civic and political participation. The CIVA/CERG partnership aims to increase public awareness and engagement with health research, cultivate a network of advocates, and help translate research findings into actionable practices and policy changes, ultimately promoting community health improvements.

At the time of initiating the CIVA and CERG partnership, the research group was exploring strategies to disseminate scientific findings to decision makers and key audiences, who also represented a target audience for CIVA. With this shared focus, the two groups began collaborating to develop and test a strategy using the CIVA app.

In Spring 2024, CIVA and CERG held an interactive meeting with a diverse group of stakeholders — representatives from MaineHealth, Maine Health Access Foundation, Maine Technology Institute, Maine Alliance of Health and Prosperity, City of Portland Housing, and CIVA — gathering feedback on the app's structure to survey both researchers and non-researchers. The survey explored stakeholder connectivity, research dissemination practices, and the potential for a digital tool to bridge gaps between researchers and their intended audiences. Of the 20 respondents, half identified as researchers and half as non-researchers. Notably, 50% of researchers felt "completely disconnected" or "somewhat disconnected" from their target stakeholders, and none felt "very connected." CERG shared with the group a series of one-page research summaries, developed via [Project REACH \(Research Evidence to Action for Community Health\)](#) on MaineHealth's Knowledge Connection website. These summaries were designed to present scientific evidence in a visually appealing, accessible format. The partnership's goal is to transform how research findings are shared, making them more accessible and impactful for community partners and health care stakeholders.

Around 80% of respondents expressed interest in using the one-page format to disseminate research, with 20% open to the possibility. However, while 80% of researchers believed a digital application could help expand their research's reach and implementation, only 50% of non-researchers were supportive of using digital platforms.

Looking ahead, CIVA and CERG will continue their partnership, focusing on building a community outreach network. They plan to test engagement through polls and surveys to assess community priorities and readiness to use research in outreach and advocacy. The project aims to significantly increase community engagement with research by leveraging the CIVA platform. Additionally, an advisory group will be created to deepen collaboration with stakeholders, amplifying the impact of research on public health policies. The initiative seeks to enhance REACH's brand recognition, strengthen community ties, and lay the foundation for sustained advocacy and engagement in future research efforts.

MaineHealth Institute for Research/CIVA's work is supported by a PCORI Dissemination and Implementation grant (Eugene, Washington, PCORI Engagement Award EADI #26877).

Building a Bridge between Research and Patient Care

The **Tufts Medicine Patient-Centered Learning Health System (PCLHS)**, developed in partnership with Tufts CTSI, continues to advance Tufts CTSI's mission of integrating clinical research into routine care to improve health outcomes, operational efficiency, and patient experiences. Learning health systems (LHS) represent a comprehensive approach to seamlessly integrating research and clinical care, moving beyond the conduct of isolated studies. By embedding Tufts CTSI's research expertise and resources within the Tufts Medicine health system, the PCLHS fosters a collaborative environment where continuous learning thrives. This dynamic cycle allows clinical data to inform research, and research findings to be rapidly applied to enhance care, emphasizing patient-centered approaches and accelerating advancements in health outcomes through a shared commitment to innovation and evidence-based practices.

Guided by our core principles of broadly engaged team science and dissemination and implementation (D&I) science, the PCLHS ensures that our projects reflect the diverse perspectives of patients, clinicians, administrators, researchers, and payers. Tufts Medicine and Tufts CTSI are leveraging this learning health system framework across a broad range of initiatives. These include facilitating local research via the Clinical and Translational Research Center, leveraging informatics for quality improvement and research, and integrating research operational support into the Epic electronic health record system. We are working with key LHS stakeholders to inform the development of tailored educational programs with the goal of building research capacity across the health system and empowering clinical teams to use data to improve care. In addition, we continue to work closely with the Tufts Medicine LHS Steering Committee to align research priorities with the operational and strategic goals of the health system. This collaborative approach is core to the PCLHS and ensures that research activities align with clinical needs and minimize disruptions to care.

A priority initiative for Tufts Medicine and Tufts CTSI is expanding and enhancing dementia care across the continuum of care. As part of this initiative, Tufts Medicine is participating in the *Guiding an Improved Dementia Experience* (GUIDE) demonstration project. The project aims to improve the quality of life for people with dementia and their caregivers while

reducing the need for long-term nursing home care. Implementing such programs within a health system is complex and presents significant challenges. To address this, Tufts CTSI will collaborate with Tufts Medicine to study the program's implementation and identify strategies that foster sustainable, positive outcomes for patients, caregivers, clinicians, and the LHS.

“ Looking to the future, we remain committed to expanding the scope of the PCLHS by identifying new opportunities to embed research into practice.”

~ Harry Selker, MD, MSPH

Collaboration is a key tenet of any LHS, and Tufts CTSI strives to engage our institutional partners and the broader CTSA consortium. A notable collaboration with RAND focuses on developing a LHS self-assessment toolkit to help our organization and others across the CTSA consortium understand the impact of their decisions as they develop as a LHS. This toolkit, along with other implementation resources, will be disseminated broadly to promote the integration of research into health care delivery and to advance LHS capabilities. We also have strengthened our connections across the CTSA consortium by leading a cross-CTSA working group on learning health systems and sharing our PCLHS progress at the CTSA Consortium Collaborative Workshop in May 2024.

Our efforts in the area are a work in progress in response to the new mandate to break down roadblocks that slow health care innovation. Looking ahead, the PCLHS will continue to evolve through strategic collaborations and explore innovative initiatives in areas such as personalized medicine. As Tufts Medicine and Tufts CTSI deepen their partnership, the PCLHS will remain focused on embedding clinical and translational research into routine care, enhancing the capacity to improve health outcomes, value, and patient experience across all care settings.

Broadly Engaged Teams Support Innovative and Impactful Clinical Trial Design

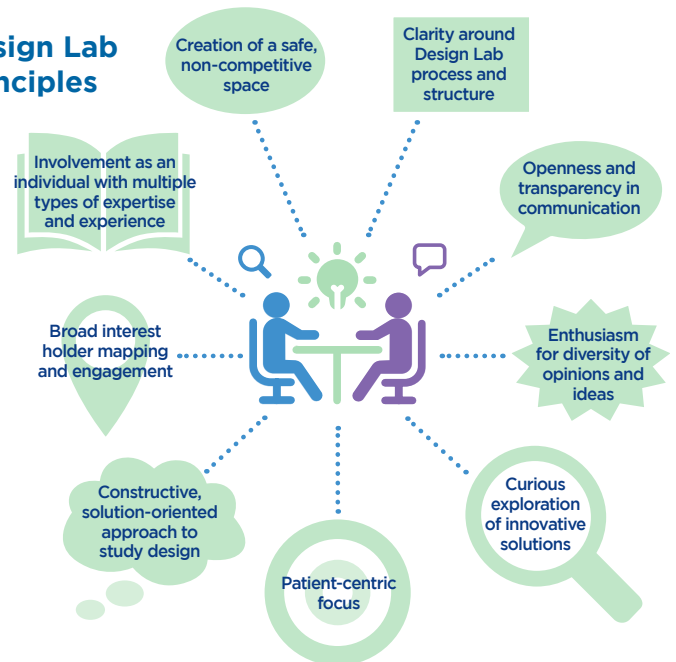
Clinical Trial Design Labs are a powerful demonstration of Tufts CTSI's mission to support broadly engaged team science at the earliest stages of research. Design Labs bring together experts from across the intervention development pathway to support innovative study teams. Teams with an original clinical trial idea are guided to think about the health impact they want to have and which interest holders are key decision makers. Clinicians, patients, researchers, funders, industry experts, policy experts, regulators, and payers come together to discuss each study design and chart a path to impact.

In 2016, Tufts CTSI began collaborating with colleagues leading the New Drug Development Paradigms (NEW-DIGs) group at Massachusetts Institute of Technology (MIT). NEWDIGs developed the Design Lab concept as a way to create space for multiple interest holders to collaborate on patient-centered biomedical innovation. Tufts evolved this methodology to support clinical trial design, and the first Design Lab, focused on innovations in clinical effectiveness trials, was held in 2017. Since then, CTSI has convened Design Labs with teams from CTSA hubs located across the country, and NEWDIGs has joined the Institute for Clinical Research and Health Policy Studies at Tufts Medical Center.

By 2022, Tufts had run Clinical Trial Design Labs with 12 study teams developing a variety of drug, device, and behavioral interventions for specialty areas including neurology, cardiology, pulmonology, and pain medicine, as well as pediatric and adult rare disease. Study teams emphasized the importance of structured collaboration and eliciting the diverse perspectives of different experts with complementary insights. In qualitative interviews following the Design Lab event, study teams reported that the process led to innovative methods development, changes in trial design, improved recruitment efforts, and identification of pathways to funding and market access. Those involved with Design Labs were excited about its potential and asked that there be more opportunities for investigators and study teams to take part.

The positive experiences reported by investigators, teams, and expert interest holders, and the potential for greater benefit led Tufts to be awarded a CTSA supplement in 2023 to develop a flexible toolkit of materials that would support others to develop and run

Design Lab principles



Design Labs. Mara Palm, PhD, MSc, and Harry Selker, MD, MSPH, led these efforts with a team of faculty and staff at Tufts. They worked in partnership with an advisory committee composed of strategic and operational leaders within the Trial Innovation Network and CTSA consortium and individuals with expertise in engagement science, implementation science, and translational research education.

“ I honestly think it’s one of the best learning experiences I’ve had in terms of clinical research ... for me the bigger picture was in the approach itself, the structure, and the importance of having some set goals in thinking about the long term that are present right from the get-go.”

[The Design Lab Toolkit¹](#) was launched in July 2024 and includes an introduction to the Design Lab methodology and principles, step-by-step program development guidance, an overview of resources required, and an appendix with examples, tools, and templates. It can be used as a guide to develop and implement a Design Lab program or as a tool to understand the methodology and apply it to other translational research activities. Design Labs are a broadly engaged team science intervention that harness the power of different types of expertise and support innovative design and translation to health impact.

1. ME Palm, P Beninger, D Daudelin, N Duenas, G Hirsch, K Markman, E Reed, L Trinquart, M Trusheim, C Wieber, LC Welch, and HP Selker (July 2024). Design Lab Toolkit. Tufts Clinical and Translational Science Institute. DOI: 10.60965/4zbg-qc75

Introducing the Small Grants to Advance Translational Science (S-GATS) Program

The [Small Grants to Advance Translational Science \(S-GATS\) Program](#), which replaces the Pilot Awards Program of the prior 15 years, embodies Tufts CTSI's commitment to advancing translational science by supporting projects that address critical barriers and explore innovative pathways across diverse health conditions. In 2022, our program transitioned from a traditional pilot funding model to a more targeted approach, focusing on overcoming common challenges in translational science. This evolution empowers researchers to develop adaptable solutions across clinical, preclinical, and health services research, fostering outcomes with broader real-world impact.

Collaborative Foundations

Our program thrives on collaboration with a wide network of interest holders (formerly termed stakeholders). Internally, Tufts CTSI-affiliated teams — including Community and Stakeholder Engagement (CSE), Dissemination and Implementation Science (D&I), Professional and Workforce Development, and Evaluation and Continuous Improvement — are integral to program refinement. Their insights have informed the creation of valuable resources, such as the Interest Holder Engagement and Dissemination Plan Toolkit, which aids researchers in planning for effective engagement of relevant interest holders, and Case Studies in Translational Science, which clarify core translational science concepts. Externally, we collaborate with other CTSA hubs through networks like CTSA External Reviewer Consortia (CEREC I and CEREC II) and the CTSA Quality Assurance/Quality Control Group to share knowledge and extend the program's reach and impact.

Supportive Framework

Our ability to support the scientific community stems from a purposeful process of internal capacity building and structured applicant support. We guide researchers through a structured process that emphasizes alignment with program goals and project enhancement. Each applicant participates in a pre-submission consultation to align project ideas with S-GATS objectives. They then receive feedback from up to four scientific reviewers who assess translational potential and provide constructive suggestions. This framework of internal and external expertise — supported by additional resources in CSE, D&I, and our Recruitment

and Retention Support Unit — equips researchers to tackle significant translational science challenges effectively.

Implementation and Dissemination Pathways

A core objective of our program is to ensure that supported innovations have clear pathways to practical application. Recently, we worked closely with the CSE team and D&I Core to expand our dissemination resources. These updates include enhancements to the Interest Holder Engagement Toolkit, new guidance for creating lay summaries, and the promotion of tools like the Translational Science Benefits Model, a framework developed by the Institute of Clinical and Translational Sciences at Washington University to help researchers showcase the real-world impact of their work. With support from other CEREC hubs, we held an inaugural dissemination event featuring a presentation on the S-GATS project's study findings, lightning talks, and a panel discussion. We intend to host these events regularly, as this format has proven effective in generating new collaboration opportunities for both the award recipient and the participating presenters. Building on this momentum, we are also committed to leveraging our expertise to amplify the impact of these efforts, fostering innovation and collaboration across the national CTSA network.

Advancing Translational Science for Impact

Through continuous evaluation and phased improvements, our program has established a dynamic framework for translational science. Funded projects leverage disease-agnostic technologies and versatile assessment tools to improve health care inclusivity, enhance patient outcomes, and address wide-ranging clinical challenges. With a firm commitment to collaboration and innovation, our program fosters projects that reshape the translational landscape, driving meaningful health advancements that benefit patients, community members, and clinicians alike.

“Our project benefited greatly from bringing together experts from various fields such as health care, athletic training, quantitative ecology, computer science, and mathematics. The diverse perspectives led to creative approaches and solutions.”

2024 Tufts CTSI Funding Recipients

Tufts CTSI offers funding for innovative, high impact, translational science pilot projects, and for the career development of junior faculty affiliated with our partners and collaborators. Congratulations to our recent recipients.

■ Career Development Award (K12) Programs

Tufts CTSI offers a K12 Career Development Award for highly qualified junior faculty to conduct multi-disciplinary clinical/patient-oriented research for two or three years. This NIH-funded program is designed to foster collaborative research across Tufts-affiliated hospitals/campuses and across disciplines. We also offer a K12 Career Development Award for junior faculty to conduct research in sex/gender differences and/or women's health.

Our current K12 Scholars are:

- **Emma Armstrong-Carter**, PhD, School of Arts and Sciences, Tufts University
- **James Bohnhoff**, MD, MS, Maine Medical Center
- **Larissa Calancie**, PhD, Friedman School of Nutrition Science and Policy, Tufts University
- **Caroline Hsu**, MD, MS, Tufts Medicine
- **Sushrut Jangi**, MD, Tufts Medicine
- **Amy LeClair**, PhD, Tufts Medicine
- **Aston McCullough**, PhD, MS, MA, Northeastern University
- **Tsung Mou**, MD, Tufts Medicine
- **Natalia Olchanski**, PhD, MS, Tufts Medicine
- **Husain Poonawala**, MBBS, MPH, Tufts Medicine
- **Sebastian Ramos**, MD, Tufts Medicine
- **Richard Travers**, MD, PhD, Tufts Medicine

■ T32 Fellowship Program

The T32 Fellowship Program offers research training for scholars and clinicians with an interest in clinical and translational research. These prestigious, NIH-funded programs provide stipends and full tuition for the Clinical and Translational Science (CTS) Graduate Program for predoctoral and postdoctoral fellows. Fellows earn a Certificate or MS in CTS, with the possibility of a PhD.

Our current predoctoral fellows are:

- **Shana Birly**, MS, Tufts University
- **Brian Felter**, BS, Tufts University School of Medicine
- **Sydney Grob**, BS, Tufts University School of Medicine
- **Jonathan Huang**, MS, BS, Tufts University
- **Nicole St. Clair Knobloch**, MSc, Cummings School of Veterinary Medicine, Tufts University
- **Jamie Leiraio**, BS, Graduate School of Biomedical Sciences, Tufts University
- **Mei-An Nolan**, BS, Graduate School of Biomedical Sciences, Tufts University

- **Pratik Reddy**, MPH, BS, Tufts University
- **Patricia Synnott**, MS, Tufts Medicine

Our current postdoctoral fellows are:

- **Racquel Gaetani**, MD, Lahey Hospital & Medical Center
- **Isaac Gendelman**, MD, Tufts Medicine
- **Zahra Najmi**, MD, Tufts Medicine
- **Kristen Thane**, DVM, Cummings School of Veterinary Medicine, Tufts University
- **Melissa Tsoi**, MD, Tufts Medicine

■ Tufts CTSI Small Grants to Advance Translational Science (S-GATS) Program

The Tufts CTSI S-GATS Program seeks to address fundamental obstacles commonly encountered in translational science across various diseases and health conditions, while also encouraging the exploration of novel opportunities and pathways. The primary goal of an S-GATS project is to advance translational science by addressing common barriers to translation and/or exploring novel opportunities. Past awardees include:

2023

- **Alysse Wurcel**, MD
Project: Does Natural Language Processing Improve Identification of Hospitalized People Who Use Drugs?
- **Leanne Chukoskie**, PhD, Northeastern University
Project: Collaborating with the Autism Community to Develop Novel AAC/SGD Access Methods for Individuals with Little or No Functional Speech.
- **Benjamin Stern**, MS, DPT, Tufts University
Project: Empirical Dynamic Modeling: A Path to Predicting Health Outcomes with Limited Data.
- **Abigail Koppes**, PhD, MS, Northeastern University
Project: Next-Generation Nerve Repair: Combined Magnetic and Topographic Cues for Highly Directed Neurite Outgrowth.

2024

- **Srivalleesha Mallidi**, PhD, Tufts University
Project: Optimization of Handheld 3D Ultrasound and Photoacoustic Imaging for Addressing Healthcare Disparities.
- **Isha Agarwal**, MD, Maine Medical Center
Project: Using Natural Language Processing to Detect Bias in Emergency Department Clinical Notes.
- **Karen Chenausky**, PhD, Massachusetts General Hospital Institute of Health Professions
Project: Validation of a Remote Speech/Motor Assessment Protocol for Neurodevelopmental Disorders.
- **Brooke Krbec**, DO, Tufts Medical Center/Tufts Medicine | **Brian Anthony**, PhD, Massachusetts Institute of Technology
Project: Investigation of Non-contact Sensing Technologies and Methods for Vital Sign Monitoring in Neonates.

Tufts CTSI Events Gallery

Each year, Tufts CTSI hosts educational seminars, workshops, symposia, and an annual research conference. Here are some images from our most recent offerings.

► 8th Annual Asian Health Symposium: *Equity-Centered Data: Making Communities Visible* (October 8, 2024)

More than 100 researchers, activists, elected officials, and policy makers gathered at Tufts University School of Medicine to explore the importance of data equity and the vital role of community voices and intersectionality.



◀ **Akil Vohra**, JD, Director of Policy for AAPI Data, served as the event's keynote speaker. Mr. Vohra oversees federal and state strategies to ensure collection, analysis, publication, and utilization of data to advance understanding and support of Asian American, Native Hawaiian, and Pacific Islander (AANHPI) communities.



◀ **Chloe Yang**, MPH, ADAPT Project Manager; **Naheed Esar**, MA, Executive Director of Asian Women for Health; **Dawn Sauma**, MSW, LICSW, Co-Executive Director of Asian Task Force Against Domestic Violence and Co-Chair of ADAPT; **Akil Vohra**, JD, Director of Policy at AAPI Data; Massachusetts State Senator **Jamie Eldridge**; **Bethany Li**, JD, Executive Director of the Asian American Legal Defense and Education Fund; **MyDzung Chu**, PhD, MSPH, ADAPT Director; **Jaya Aiyer**, Director of the Asian and Pacific Islanders Civic Action Network.

Advancing Community Health Through Advocacy Symposium (November 8 and 15, 2024)



◀ On November 8 and 15, 2024, **Tufts CTSI's Community and Stakeholder Engagement** core hosted 22 ADAPT and CREST community partner representatives and guests for the first "Advancing Community Health Through Advocacy" symposium.



◀ **Samuel M. Gebru**, Senior Advisor at Tufts CTSI and Professor of the Practice of Political Science at Tufts University, and **Stephen Maher**, MPP, Director of Government Affairs at Ripple Fiber.



▲ **State Senator Liz Miranda** spoke about communicating effectively with policymakers.

Translational Science Day 2023: *Advancing Health Equity Through Translational Science* (Monday, October 16, 2023)



◀ **Michael G. Kurilla**, MD, PhD, Director, Division of Clinical Innovation at NCATS, delivers a keynote address on "The Science of Translational Science."



► The event closed with an Interactive Research Studio led by **Eric Anderson**, PhD, Faculty Scientist at MaineHealth Institute for Research.

◀ The Translational Science Day **poster session** buzzed with activity and featured 10 research posters and one informational Tufts CTSI poster.



Tufts | **CTSI** Tufts Clinical and Translational Science Institute

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