

The Clinical and Translational Science Collaborative (CTSC) of Northern Ohio

The Clinical and Translational Science Collaborative (CTSC) of Northern Ohio at Case Western Reserve University (CWRU) School of Medicine, provides resources and innovative programs to speed the translation of laboratory, clinic, and community innovations into interventions that benefit human health locally, statewide, and nationally. The CTSC is a collaborative of CWRU schools and affiliated partner institutions: the Cleveland Clinic (CC), MetroHealth Medical Center (MH), University Hospitals Cleveland Medical Center (UH), VA Northeast Ohio Healthcare System (VA), Northeast Ohio Medical University (NEOMED) and the University of Toledo (UT) and is one of nearly 60 Clinical and Translational Science Award (CTSA) Programs funded by the National Center for Advancing Translational Sciences (NCATS), part of the National Institutes of Health (NIH).

Established in 2007, the CTSC is currently funded by a \$56.3M, 7-year award (the largest NIH grant at CWRU) from 2023-2030. Our mission is Catalyzing Linkages for Everyone's Health (CLE Health), which will focus on expanding research engagement and enhancing the effectiveness of health interventions across various settings. Persistent variation in key health indicators, such as life expectancy, chronic disease rates, and access to care, reflects the need for more consistent integration of research into practice. Inconsistencies in recruitment and enrollment across clinical studies may limit the broader applicability and operational impact of research findings. We address these through four aims:

Aim 1. Identify the fundamental barriers to broad representation in research of all groups, and innovate, test and disseminate interventions aimed at breaking down these barriers.

Aim 2. Facilitate and expedite innovation in multicenter clinical and translational research by fully integrating researchers, clinicians, and community collaborators to ensure that our research results in health improvements for all.

Aim 3. Disseminate and implement findings from novel and responsive research programs across clinical and community settings to advance access to health interventions that aim to improve health outcomes.

Aim 4. Create and disseminate high impact educational and training programs for translational research professionals of all disciplines and levels, both in clinical and community settings.

The CTSC has built a robust infrastructure including high impact training and outreach for workforce development (high school to postgraduate), resources and services for research acceleration, health informatics tools and training to enhance translational research, and community engaged research elements led by interdisciplinary faculty experts and staff representing all six hospital and academic partners. At the center of these is the CWRU administrative hub providing leadership, program management, marketing, research grant assistance and research navigation. The hub also coordinates with several companion grant programs like the K12 career development program, T32 pre and post-doctoral training grants, R25 research education program and an RC2 award for high impact innovation research. Funding opportunities to ignite novel translational research are a CTSC priority as well, as evidenced by the development of a 'proof of concept' voucher program, themed pilot grants, annual pilot grants, and core utilization grants, all at varying levels of funding.

The CTSC theme of "Catalyzing Linkages for Everyone's Health (CLE Health)" focuses on expanding research engagement and enhancing the effectiveness of health interventions across various settings. The CTSC offers multiple resources to accomplish this, including the creation of MyCTSC, a digital platform housing multiple CTSC data sources and SPARCRequest, an online resource request catalog to facilitate cross-disciplinary collaboration and evaluation. Other research resources offered to our partners and community include:

- biostatistics, epidemiology, and informatics assistance
- research ethics and community engagement expertise

- regulatory and compliance services
- research navigation and grant development (finding a collaborator, writing, data management, letters of support)
- dissemination and implementation and evaluation consultations
- advanced data tools (RedCAP, TriNetX, Cosmos)
- clinical trial support (contracts, monitoring and oversight, recruitment and retention)

Of note is the availability of a mobile research unit, a fully equipped mobile clinic and laboratory that increases accessibility to clinical research opportunities and improves participant recruitment and retention and expands research services to investigators who do not otherwise have the space or resources to engage in clinical research.

The CTSC's seven-year grant span allows uninterrupted research leading to new treatments, the advancement of best practices, and the economic benefits of advancing breakthroughs that help people live longer, healthier lives. Projects and programs supported by CTSC resources have the advantage of this multiple year investment to advance translational research from conceptual stages to fully-fledged biomedical interventions. Creating and growing CTSC partnerships with hospitals, academic centers, and communities across Northern Ohio add to the development of a foundation of evidence-based knowledge crucial to translational science.