

## Improving health through research

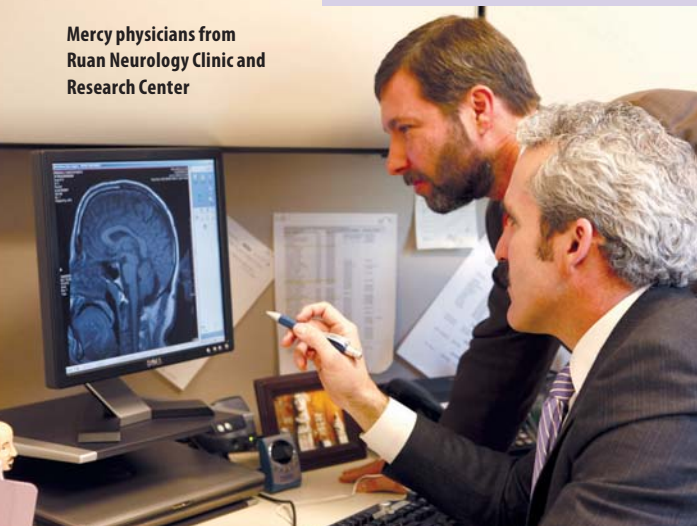
The Iowa Center for Translational and Clinical Research (ICTCR), founded as a collaboration between Mercy Medical Center and Des Moines University, is designed to network scientists and physicians in the pursuit of better health through research.

The alliance joins the strengths of participating institutions to advance research designed to increase effectiveness in treating patients.

**Translational research** seeks to make medicine more effective and compassionate by bringing laboratory research to the patients who may benefit from the discoveries. In addition to bringing science to the patient bedside, important discoveries in the clinic can drive further investigation by research scientists. This two-way street of discovery to application and observation provides a pathway to better health.

**Clinical research** is patient-centered investigation to determine the effectiveness and safety of new drugs, technologies and treatments in carefully controlled and ethically-based research.

Mercy physicians from Ruan Neurology Clinic and Research Center



## Partnerships for discovery & application



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### Founders

DES MOINES  UNIVERSITY

 **Mercy**  
MEDICAL CENTER  
DES MOINES

### Partners

 **MERCY COLLEGE**  
OF HEALTH SCIENCES

 **Drake**  
UNIVERSITY  
COLLEGE OF PHARMACY  
AND HEALTH SCIENCES



*A collaboration between Des Moines University, Mercy Medical Center, Drake College of Pharmacy and Health Sciences and Mercy College of Health Sciences, open to others from the scientific and medical community who share the vision of better health through research.*



## Why collaborate?

**B**uilding an infrastructure to bring clinicians together with scientists will further the progress of translational research and ultimately health care as a whole.

Collaboration enriches the experiences of scientists and physicians, promotes constant learning and discovery and advances medical frontiers by creating practical uses for research findings.

Contemporary patient-centered research through the ICTCR employs multi-disciplinary, multi-specialty teams to bring the broadest range of medical and scientific expertise to clinical problems, paralleling the way in which medicine is practiced.

American research leaders have created a national mandate through the NIH roadmap for medical schools and healthcare institutions to engage in collaborative research that facilitates scientific discovery and its translation into practical application.

ICTCR introduces meaningful research to students at all levels, promoting an appreciation for the research processes that will create the medicine they will eventually practice and prepare them to take part in the process.

## Benefits available through the ICTCR

**Basic Biomedical Laboratory Collaboration**– Contemporary clinical research relies heavily on laboratory resources above and beyond those in standard clinical laboratories. Investigators at DMU and Drake have resources for tissue culture, molecular biology, imaging and a broad range of analytical methods to support detailed study of clinical research materials.

**Biomechanics & Applied Physiology**– DMU has one of the finest motion analysis laboratories in Iowa, staffed by world class biomechanists. The Human Performance Laboratory creates sophisticated models of movement from live data and integrates EMG data with motion analysis and applied physiology techniques for humans.

**Biostatistics Support**– Consultation with experienced researchers with strong statistical skills may be arranged to enable researchers to appropriately power their studies and evaluate their hypotheses at the conclusion. Advice on formal communication of statistical evaluations is also available.

**Clinical Pharmacy/Pharmaceutical Sciences Support**– Faculty with knowledge in drug informatics, drug literature evaluation, pharmacotherapeutics, pharmacokinetic, pharmacogenomics and pharmacy social/administrative sciences are available to assist on projects, guide students in research and answer questions.

**Evidence-Based Medicine (EBM)**– Practitioners of EBM have unique skills for consulting with investigators doing structured reviews. DMU faculty created an online course that offers a practical introduction to using EBM in clinical practice. If an investigator wishes to be a contributor to the EBM literature, consultation may be arranged.

**Grant Preparation Assistance**– Help finding opportunities and grant preparation is available when funding is required for investigator-initiated research.

**Health Informatics**– ICTCR staff uses custom case record forms that integrate with electronic data capture and web-based data collection strategies. Storage and analysis is also available.

**Manuscript & Presentation Assistance**– Authors of published scientific and clinical research papers can preview and offer critique on manuscripts and other presentations. Authors who do not have English as a first language may obtain help in grammar, usage and mechanics.

**Mentorship**– Faculty from partner institutions are available to guide students and research teams, facilitating their preparation and smooth transition into projects.

**Methodology**– Assistance with clinical research study design and protocol development is available. Creation of a testable hypothesis and matching hypothesis to a study design can be facilitated by experienced investigators. Faculty with special skills in epidemiology and methods for qualitative research are available for advice and collaboration.

**Research Ethics and Institutional Review Board (IRB) Orientation** – Formal courses or individual classes on ethical conduct of research and how to navigate an IRB submission are available for all levels of experience. Research integrity is the underpinning of all patient-centered research; the relationship between responsible conduct and scientific soundness forms the core of this educational offering.

**Student Participation**– A substantial number of students from various health professions seek clinical research experience and their interest is expected to grow. Students in programs ranging from medicine to pharmacy to nursing or public health will find opportunities working with clinical projects. Students from partner institutions are encouraged to participate in clinically-relevant research projects.

