
University of Pittsburgh Schools of the Health Sciences

The six Schools of the Health Sciences (<http://www.health.pitt.edu/>) include the Graduate School of Public Health (<http://www.publichealth.pitt.edu/>) and the Schools of Dental Medicine (<http://www.dental.pitt.edu/>), Health and Rehabilitation Sciences (<http://www.shrs.pitt.edu/>), Medicine (<http://www.medschool.pitt.edu/>), Nursing (<http://www.nursing.pitt.edu/>), and Pharmacy (<http://www.pharmacy.pitt.edu/>), and each has a remarkably close and effective collaboration with the University of Pittsburgh Medical Center (UPMC) and with other biomedically-relevant schools of the University of Pittsburgh [e.g., Arts and Sciences (<http://www.as.pitt.edu/>), Education (<http://www.education.pitt.edu/>), Engineering (<http://www.engineering.pitt.edu/Default.aspx>)]. Funding from the National Institutes of Health (NIH) is considered the benchmark of overall stature among research-intensive academic health centers, and the research community within the schools of the health sciences, led mainly by the School of Medicine, receive more than 90 percent of all funds provided to the University by NIH.

The University of Pittsburgh Schools of the Health Sciences are uniquely suited to develop translational research because of their:

- EXTENSIVE history of translating innovative biomedical discoveries to humans and clinical practice (e.g., polio vaccine, liver transplantation, cardiopulmonary resuscitation);
- INGRAINED culture of collaboration among investigators in its six health sciences schools;
- INTEGRATION with the constantly evolving and successful UPMC, which today is a health center with 20 hospitals and 400 outpatient sites in a 29-county service area (population of the 7-county Pittsburgh Metropolitan Area = 2.4 million) that accounts for over 3 million outpatient visits and >204,000 inpatient admissions annually (56% county and 30% regional market share);
- TRACK record of institutional commitment to clinical and translational research as exemplified by its Office of Clinical Research, Health Sciences, which has transcendent responsibilities for clinical research across the six health sciences schools and the Clinical and Translational Science Institute (CTSI), which was competitively renewed by the National Institutes of Health (NIH);
- FINANCIAL commitment from UPMC to the research enterprise, which included \$145 million to support biomedical research, primarily at the University of Pittsburgh, and \$102 million to fund educational initiatives to create the next generation of physicians, nurses, and other health care professionals;
- COMMITMENT to clinical research education demonstrated by its institutional support for the Institute for Clinical Research Education, which serves as the home for the existing K30 Clinical Research Training Program (CRTP), Roadmap K12 Multidisciplinary Clinical Research Scholars Program (CRSP), and School of Medicine-supported Clinical Scientist Training Program (CSTP);
- HISTORY of establishing interdisciplinary, categorical translational institutes in partnership with UPMC and charitable foundations (e.g., University of Pittsburgh Cancer Institute, McGowan Institute for Regenerative Medicine, Institute on Aging, Drug Discovery Institute);
- NOVEL relationships with industry partners (e.g., IBM, Intel) and Carnegie Mellon University (CMU) to co-develop, translate, and commercialize emerging technologies that improve disease prevention, diagnosis, and treatment; and
- ESTABLISHED partnership with RAND (RAND-University of Pittsburgh Health Institute) to empirically test and evaluate in the Western Pennsylvania region the most promising health interventions; identify potential clinical, organizational, and systemic barriers to the implementation of these interventions; devise and implement strategies to overcome such barriers; and demonstrate how to sustain the interventions in day-to-day community practice regionally and nationally.

Graduate School of Public Health (GSPH)

Founded in 1948 and fully accredited by the Council on Education for Public Health, the GSPH (<http://www.publichealth.pitt.edu/>) is world-renowned for contributions that have influenced public health practices and medical care for millions of people. The School is the only fully accredited school of public health in the Commonwealth of Pennsylvania, and is one of the top-ranked schools of public health in the United

States. The GSPH boasts the third largest endowment among schools of public health, and is ranked 6th nationally for NIH funding.

The School is considered a leader in the field of women's health research and is one of the original sites for the Women's Health Initiative, the largest research study in the world to focus exclusively on women's health. It is also the site of broad-based research programs to better understand and treat HIV infection: the Pitt Men's Study is part of the longest-running national study of the natural history of AIDS. In the area of human genetics, the GSPH is attempting to identify the links between genes and disease through initiatives ranging from basic laboratory research to clinical applications.

The GSPH consists of seven departments that address today's most critical public health issues, each with faculty who have made national and international contributions to public health. These departments include Behavioral and Community Health Sciences, Biostatistics, Environmental and Occupational Health, Epidemiology, Health Policy and Management, Human Genetics, and Infectious Diseases and Microbiology. Research centers and institutes within the school, such as the Center for Minority Health and the Center for Public Health Practice, provide resources to the community and link scholarly activity with practical application.

UNIVERSITY OF PITTSBURGH CLINICAL AND TRANSLATIONAL SCIENCE INSTITUTE (CTSI): ACCELERATING DISCOVERIES TOWARDS BETTER HEALTH

The Clinical and Translational Science Institute (CTSI) (www.ctsi.pitt.edu) serves as the integrative academic home for clinical and translational scientists throughout the University of Pittsburgh and UPMC in collaboration with Carnegie Mellon University, RAND Corporation, Intel, and the region overall. Under the leadership of Dr. Steven Reis, the primary focus of the CTSI is to develop, nurture, and support a large group of clinical and translational scientists as they navigate the increasingly complex research system. The Institute seeks to integrate investigators across the full spectrum of translational research from bench to bedside to health practice so they are able to collaborate and to leverage each other's knowledge, experiences, and perspectives.

The CTSI, the home of the Clinical and Translational Science Awards (CTSA) program at the University of Pittsburgh, is supported through the National Institute of Health (NIH), grants UL1RR024153 and UL1TR000005. The CTSA program is led by the NIH's National Center for Advancing Translation Sciences ([NCATS](#)), and Pittsburgh was one of the original 12 awardees of a CTSA in 2006.

CTSI is one of approximately 60 CTSA medical research institutions working together as a national consortium to improve the way biomedical research is conducted across the country. Consortium members share a common vision to reduce the time it takes for laboratory discoveries to become treatments for patients, and to engage communities in clinical research efforts. It is also fulfilling the critical need to train a new generation of clinical researchers.

In total, the CTSI has 10 Cores through which participants from the University of Pittsburgh as well as academic, community, and industry partners engage in the clinical and translational research mission:

- Research Education, Training, and Career Development
- Design, Biostatistics, & Epidemiology (DBE)
- Center for Clinical and Translational Informatics
- Development of Novel Clinical and Translational Methodologies
- Translational Technologies and Resources Core
- Regulatory Knowledge and Support
- Evaluation Core

- Clinical Resources and Research Facilities (CRRF)
- Pilot and Collaborative Translational and Clinical Studies
- Community PARTners (**P**artnering to **A**ssist **R**esearch and **T**ranslation)

The Research Facilitator program at CTSI offers a single point of contact through which investigators can customize their request for services. CTSI research facilitators match up the request with available resources (within and outside the Institute) and make appropriate referrals as needed, thus reducing barriers to conducting research. Additionally, the facilitators offer direct, hands-on support, and guidance through all phases of the research process.

Research Participant Registry

The Research Participant Registry (<http://www.researchregistry.pitt.edu/Researchers.shtml>) is a component of the Clinical and Translational Science Institute, in partnership with UPMC. The main Registry goal is to aid investigators with recruitment and to promote a research-informed community of potential research participants. The Registry will ultimately ask every patient who uses an outpatient service at UPMC if they would be interested in learning about research in general, and in being contacted to learn more about specific studies that may be of interest based upon medical record information and/or preference of health interests. Additionally, CTSI staffs booths at community events to provide education regarding research participation and to recruit additional subjects for the Registry. The logistics of the Registry involve the consenting of patients by the clinical registrars, matching patient ICD-9 codes in their medical records with inclusion/exclusion criteria for specific research studies, and contacting patients through a central Registry office. The Registry also includes individuals from the general community of Western Pennsylvania who are matched with studies based upon their stated preference of health interests. The goal of the community portion of the Registry is to provide community members the opportunity to receive educational materials about clinical research, and to receive their permission to be contacted for study recruitment. Currently there are over 20,000 participants in the registry.

Computer

All faculty and staff at the University of Pittsburgh are provided with their own computers. These computers vary in style and type, but are all very new, within 5 years of initial deployment. The University of Pittsburgh has IT programs in place for ensuring that each faculty member has a new computer every 5 years (<http://www.technology.pitt.edu/>). All computers are maintained by the University of Pittsburgh School of Medicine Department of Medicine IT Group, from whom we have access to 24/7 support. All computers are connected to the internet, with access to the Department's secure network storage shares. The IT group maintains this network storage share for the Division (many terabytes capacity) and insures that it is properly backed up. All computer data associated with this project will be stored and backed up by this IT team for a minimum of seven years, as required by the University of Pittsburgh. The following list of software is present on every machine in the Division as the bare minimum, and versions are always maintained at the highest level.

- Microsoft Office Suite
- Microsoft Outlook and Internet Explorer

The University of Pittsburgh supplies high-speed internet to all faculty and staff (www.technology.pitt.edu/). The University's robust network and web services support learning, teaching, research, collaboration, and business operations. PittNet is a high-speed, multi-service network that provides access to University computing resources and the Internet. The secure and easy-to-use Wireless PittNet service is available campus wide, and Guest Wireless provides access to visitors on official University business. Secure remote access allows Pitt faculty and staff to have constant access to University computing resources. Robust Web hosting and server hosting are available to University departments.

INTEGRATION WITHIN UPMC AND WITH THE UNIVERSITY OF PITTSBURGH

It takes unwavering determination to deliver Life Changing Medicine. Walls between disciplines have to disappear. Caregivers, technology, and insurers need to work together to develop ideas that speed the way to healing, and the delivery of quality care always has to be considered before cost. By marrying academic medicine with its large and diverse provider structure, UPMC continues to advance the quality and efficiency of health care delivery while fueling the development of internationally renowned programs in pediatrics, transplantation, cancer, neurosurgery, psychiatry, orthopedics, and sports medicine, among others. Through ongoing investments in UPMC's programs, its people, and its facilities around the world, UPMC continually redefines the standards of excellence and accomplishment for the delivery of patient-centric care and business performance.

UPMC is aligned to deliver outstanding medical accomplishments. Rather than operating as a group of independent entities, UPMC has created a coordinated, seamlessly integrated organization that's built on the foundations of collaboration, flexibility, accountability, and shared responsibility. From a system perspective, all UPMC hospitals are integrated with each other, as well as with the individual caregivers who treat patients on a daily basis. Patient data is centralized through our electronic medical record (EMR) system, which puts critical information in the hands of clinicians the moment it's needed. In addition, insurance operations are coordinated to augment efficiency, align incentives, contain costs, and create a seamless sense of purpose.

As an academic medical center, UPMC integrates breakthrough research, solid financial support, and superb academic leadership to reach our goal of delivering Life Changing Medicine. Collaborating closely with the University of Pittsburgh, the nation's sixth-largest recipient of National Institutes of Health (NIH) grants and the home of the nation's third-largest medical residency program, we continually nurture a vibrant, symbiotic relationship that allows us to marry clinical and research capabilities and pioneer clinical achievements that revolutionize patient care and more effectively personalize the treatment of disease.

UPMC TECHNOLOGY

UPMC continues to evolve its information technology systems into a smarter, more flexible infrastructure that can be used to enhance the relationships and information exchanges among patients, providers, and payers. Through consolidation, standardization, and virtualization, UPMC has streamlined the delivery of Life Changing Medicine by eliminating the need for hundreds of servers across the UPMC network. In addition, it has expanded processing capacity by more than 220 percent without increasing the need for support staff.

The potential benefits of UPMC's EMR and communication technology applications continue to attract substantial national attention. This year, UPMC Mercy, UPMC St. Margaret, and Magee-Women's Hospital of UPMC joined UPMC Presbyterian and Children's Hospital of Pittsburgh of UPMC in holding positions in the elite ranks of hospitals recognized by HIMSS Analytics for advanced use of comprehensive electronic medical records to enhance patient safety.

For decades, UPMC has built an outstanding reputation by coupling high-quality care with cutting-edge medicine. These efforts were reconfirmed in fiscal year 2014, when UPMC was once again the region's only medical center named to the annual US News & World Report Honor Roll of American's Best Hospitals. UPMC ranked as one of only 14 hospitals nationwide that made the Honor Roll of the "nation's best" in the 2014 survey. Moreover, UPMC was recognized for excellence in 15 of 16 specialty areas, including seven specialties for which UPMC is included in the top 10. Only 152 hospitals of the nearly 5,000 nationally eligible hospitals were ranked in any specialty area. This year marks UPMC's 15th appearance on the honor roll.