



Charles R. Drew University of Medicine and Science **Research Capability Statement**

CDU Overview

Charles R. Drew University of Medicine and Science (CDU) is a private, non-profit, non-sectarian, minority-serving medical and health sciences institution located in the Watts-Willowbrook section of South Los Angeles. CDU is the only designated minority-serving health-sciences university in a county with a population of more than 10 million residents, 70 percent of whom are from minority communities. The University earned designation as a minority-serving institution by the U.S. Office for Civil Rights, and recognized by the Department of Education under Title III, Part B as a Historically Black Graduate Institution. CDU is also a charter member of the Hispanic-Serving Health Professions Schools, a national not-for profit organization dedicated to improving the health of Hispanic people through research initiatives, training opportunities, and academic development. The University serves as the only academic health sciences and medical research center for the local service area's 1.5 million residents – the largest underserved urban area in the United States.

CDU's mission is to cultivate diverse health professional leaders who are dedicated to social justice and health equity for underserved populations through outstanding education, research, clinical service, and community engagement. At its creation, CDU was conceived as a postgraduate medical school and later a medical education partnership program with UCLA was established —an arrangement that remains today in addition to multiple programs in the College of Medicine, College of Science and Health and Mervyn M. Dymally School of Nursing.

CDU Research Enterprise

The Charles R. Drew University of Medicine and Science (CDU) Research Enterprise has emerged as a leading player in the national effort to eliminate health disparities, specifically through three areas of focus, which disproportionately affect the surrounding Los Angeles Service Planning Area 6: Cancer, Cardiometabolic disease, and HIV/AIDS.

Over many years of significant effort from talented faculty, dedicated staff, aspiring students, and incredible community champions, CDU's Research Enterprise has grown to address these areas of health disparities through a multi-pronged translational research approach. The efforts of our research have garnered national and international recognition, awards, and competitive grant funding from the National Institutes of Health, the Department of Defense, and other national sources. The excellence in research at CDU has resulted in CDU consistently receiving federal funding. In addition to the excellent record of extramural funding, CDU's research has built a \$90M endowment, which continues to complement the resources from extramural funding and sustain research efforts at CDU.

The excellent research at CDU is a critical component for sustaining the visibility and credibility of CDU as an academic institution. However, more can be done to address the health issues facing members of the local community, which presents CDU with an opportunity. In the coming years, CDU will embark on efforts to grow and reorganize its research administration while maintaining the research mission. Extending the research pillars to health areas that chronically affect the underserved communities is particularly advisable. Given that the research strengths at CDU currently lie in areas such as Cancer, Cardiometabolic disease, and HIV/AIDS — which have an established record of success in training, and community outreach activities — it is logical to further develop academic programs integrated and built upon these research areas as well as mental health and health services and policy.

Website: <https://www.cdrewu.edu/research>

Office of Vice President for Research and Health Affairs

The Office of the Vice President for Research and Health Affairs supports research activity on campus. The OVRHA oversees safety and effectiveness of the research enterprise and provides regulatory support to researchers. The Office assists researchers so they can dedicate their time to research that aims to eliminate health disparities.

Research Offices/Units:

- [Office of Sponsored Programs](#)
- [Division of Comparative Medicine](#)
- [Institutional Review Board \(IRB\)](#)
- [Environmental Health and Laboratory Safety](#)
- [Institutional Biosafety Committee](#)
- [CDU Patent and Intellectual Property Committee](#)

Research Pillars

CDU's new translational research paradigm led to the conceptual and organizational realignment and prioritization of research into research pillars. Each area is a focal point for a group of faculty with basic, clinical, and community-level expertise and for methodologists with interests in the area.

Cancer Research

The goal of the Cancer Research Pillar is to foster communication and collaboration among all CDU faculty members who have an interest in cancer research, enabling them to accelerate research breakthroughs and address complex health problems in novel ways. Dr. Jay Vadgama is the Cancer Pillar leader, and he identifies the educational needs of pillar investigators, lectures topics that promote collaboration, and research areas for potential pilot projects. Individual core investigators have conducted workshops, lectures, and meetings strategically to create relationships with other programs and centers across the campus to build multidisciplinary working groups. Dr. Vadgama notifies cancer researchers on a weekly basis about upcoming research seminars, visiting faculty, workshops and focus group meetings held on the CDU campus, as well as at UCLA's Jonsson Comprehensive Cancer Center.

Cardiometabolic Research

The goal of Cardiometabolic Research at CDU is to foster collaborative solutions for improving minority health and reducing ethnic and geographic disparities in cardiovascular and related diseases including diabetes and obesity. The pillar aims to accelerate research advances by employing innovative, multi-disciplinary and inter-institutional team-science approaches including basic science, clinical and epidemiological methods aimed at improving cardiometabolic diseases. Our faculty are noted for their commitment and contributions to the improvement of diabetes and obesity in clinical practices. They devote their time in educating, improving, and empowering the lives of patients with diabetes, obesity and the metabolic syndrome in areas such as South Los Angeles.

HIV/AIDS Research

Drew CARES researchers fight the HIV/AIDS epidemic by studying the behavioral and clinical aspects of HIV/AIDS prevention and treatment. CDU's leadership and commitment to HIV/AIDS research has substantially advanced the understanding of and fight against the HIV/AIDS epidemic in underserved communities, and its research strengthens the efforts of scientific collaborators and community partners in the local community. Drew CARES improves the quality of

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services offered to patients and provides rich opportunities for students to become involved in all aspects of the research process.

Health Services and Policy Research

The Health Services Research and Policy Pillar aims to analyze, share, and develop policies that are consistent with the Charles R. Drew University mission especially those promoting health equity and social justice. The pillar supports the broader “CDU Advantage” aims of (i) excellence in specialized knowledge and research, (ii) social justice, (iii) global-international experience, (iv) community and experiential education, and (v) health policy. The pillar plans to grow into a Health Services Research and Policy Center at CDU dedicated to examining how the plans, decisions, and actions affecting health care delivery impact the health of communities. Additionally, the pillar serves as a bridge across other Institute Pillars, CDU Colleges, and external partners to support the integration of health and wellness.

Mental Health/Behavioral Research

The mental health pillar addresses challenges that are unique to this community, such as absence of adequate health insurance that covers mental health needs, lower income, sociocultural barriers, and lack of access to mental health services. The pillar is committed to addressing mental health disparity by conducting extensive research to improve understanding about causes of disparity and to devise solutions that will make effective mental health services easily accessible to the community.

Research Centers/Institutes

Center to Eliminate Cancer Health Disparities: The Center to Eliminate Cancer Health Disparities focuses on the biology, etiology, prevention, detection, diagnosis and/or treatment of human malignancies, including breast cancer. Dr. Jay Vadgama established the Center in 2009 through the Division of Cancer Research and Training and a grant from the National Institutes of Health. The Center’s faculty and staff are currently conducting numerous research projects that include basic laboratory research, clinical trial activities, and community outreach and engagement. The center’s operational units oversee administration, research, planning and evaluation, and professional development. CDU’s Center has a longstanding partnership with UCLA’s Jonsson Comprehensive Cancer Center (UCLA-JCCC) that enables established investigators at UCLA to mentor or collaborate with promising CDU breast cancer researchers. Researchers at UCLA-JCCC and CDU share resources to create a breast-cancer research program with a focus on minority and underserved populations that exists as a freestanding CDU cancer center. CDU and UCLA have collaborated on several projects, which have secured more than \$20 million in grants from federal institutions.

Accelerating Excellence in Translational Science: The CDU Accelerating Excellence in Translational Science (AXIS) Center operates as an integrated hub for research conducted at CDU, providing experienced leadership, and a myriad of clinical, translational, and community collaborated activities. Research through the AXIS Center continues to grow and expand alongside the University’s vision and mission to be a leader in eliminating health disparities while focusing on three areas that disproportionately affect Service Planning Area 6: Cancer, Cardiometabolic Disease (CMD), and HIV/AIDS, and more recently efforts look to build upon the application of Precision Medicine to understand and eliminate health disparities, while utilizing many of CDU’s outstanding resources in advanced technologies, such as next generation sequencing for identifying genomic data; drug discovery; integrated clinical tissues, biorepository and bio banking facility; clinical studies/trials resources; medical bioinformatics; and methods for statistical and epidemiological studies. The AXIS Center excels at translating scientific discoveries into education, training, clinical care, treatment, and community service and this approach will pave the way for CDU to enhance its resources and services to best serve local communities.

Urban Health Institute: The mission of the Urban Health Institute (UHI) is to guide the university in its allocation of endowment funds to support activities that maximize the university's efforts to substantially improve the health status of underserved communities. The UHI supports biomedical and behavioral research and its translation into high-quality clinical outcomes, improved community health, and progressive health policy. UHI collaborates with CDU administration, faculty, researchers, and the community to develop a strong, diverse cadre of investigators who can productively address solutions to the complex problem of health disparities.

Center for Biomedical Informatics: The Center for Biomedical Informatics provides support in informatics applications in the areas of image transmission, display, video teleconferencing, and multimedia databases between participating institutions, using a high-speed network infrastructure at CDU. It is one of the many infrastructure cores established by the NIH-funded AXIS Center to assist investigators at CDU. Information technology (IT) infrastructure is also useful for acquiring, indexing, archiving, and extracting content (e.g., data mining) from large volumes of data.

Clinical Translational Research Center: CDU's Clinical Translational Research Center (CDU-CTRC) is an outpatient and administrative unit with seven exam/treatment rooms, a processing laboratory and a dedicated consultation space for study participant interviews. CDU-CTRC offers cardiovascular and metabolic assessment resources, a site dedicated pharmacist, negotiated lab fees for assays, and participant transportation. A conference room with state-of-the-art equipment enables meetings with community partners and collaborators.

The CTRC's clinical staff are knowledgeable and skilled in protocol implementation, data collection, phlebotomy, IV insertions, pharmacokinetic studies, administration of investigational drugs, multiple sample collection, Oral Glucose Tolerance Tests, glucose clamp studies, EKGs, and assisting investigators with minor bedside procedures. Pharmacy services include procurement, disposal, packaging, randomization and dispensing. Currently, the CTRC supports seven studies that are actively recruiting in the areas of HIV/AIDS, Cancer, Social/ Behavioral, Cardio-metabolic Research, and most recently COVID-19 Vaccine Trials.

Clinical and Translational Science Institute: CDU is a member of UCLA's Clinical and Translational Science Institute (CTSI) that aims to bring biomedical innovations to bear on the greatest health needs of Los Angeles and the nation. CTSI investigators tackle the most pressing challenges in addiction, cancer, disease prevention, heart disease, HIV, mental health, patient safety, stroke, and women's health. Composed of four partnered institutions located in Los Angeles County, members of the CTSI consortium can leverage resources to engage in multiple activities with other CTSI partners, participate in training activities, and access specialized expertise or resources in the form of statisticians, computer databases, clinical tests, gene sequencers and other sophisticated, high-tech equipment, and study volunteers. Also, CDU's investigators are eligible for various funding mechanisms, including pilot grants, under the CTSI. UCLA CTSI has formed partnerships with community organizations, health clinics, and schools to ensure that its discoveries are relevant to the health needs of Los Angeles.

Training Opportunities

Every student who enters CDU's labs receive the opportunity to work side-by-side with researchers to enhance their own education and prepare for careers in all areas. CDU attracts and encourages research-oriented students to take what they learn today to create a better tomorrow.

Since 1999 CDU training programs have engaged 991 student trainees at all levels in research, from high school students to postdoctoral scholars. CDU's trainees have authored/co-authored over 160 publications, participated in 590 scientific presentations, and received more than \$1.6 million in grants, awards, and scholarships. Our interactive programs ensure that each student acquires the knowledge, skills, and attitudes to become a proficient researcher.

Community Engagement

The University has a number of strong partnerships and collaborations with community organizations and has successfully engaged surrounding communities to participate in research. This work includes over 100 ongoing partnerships that include programs to increase public awareness of health issues, efforts to improve the transfer of evidence-based knowledge to community-based healthcare providers, and supporting, enhancing and actively engaging in ongoing and new community-based participatory research efforts. CDU has cultivated strong relationships with a range of partners, including the South Central Family Health Center, the Nickerson Gardens Housing Project and the Oasis HIV Clinic, among others. Several of the research centers, including the CDU/UCLA Cancer Center Partnership, AXIS and CTSI have dedicated units for community-partnered research and activities.

Facilities & Equipment

Laboratory Space for Biomedical and Clinical Research: The CDU research facilities are for multidisciplinary and interdepartmental collaborative applications. The Life Science Research & Nursing Education (LSRNE) building is a two-story 65,000 sq. ft. research facility that includes 20,000 sq. ft. of state-of-the-art laboratory and clinical research spaces that support functions for the College of Medicine, College of Science and Health and the School of Nursing. The Clinical Research Center and Clinical Trials Unit occupies about 10,000 sq. ft. of space that houses examination rooms, consultation areas, research offices, a conference room and a nursing station. Because of an influx of new researchers, projects are presently located throughout the University and this facility helps integrate research projects to provide a cohesive clinical and translational research environment. The second floor of the building is dedicated for biomedical science research space, which houses several core labs and investigators conducting cancer research. The building has taken over as the main hub of research activities for the University, which are supported and coordinated by CDU's AXIS Center under Dr. Vadgama's leadership. A list of laboratory equipment is available: [CDU Research Laboratory Equipment](#)

Network Infrastructure: Charles R. Drew University of Medicine and Science has invested tremendously in its network infrastructure recently. Changes include a new firewall on a high availability cluster located on 2 different datacenters, new switching gear throughout the University, and a new 10 gigabit per second (gbps) speed fiber connection among core buildings. Additionally, CDU installed new antivirus, web filtering, and intrusion protection software. CDU also upgraded the ISP bandwidth and added a 2nd ISP with failover between ISPs.

Videoconferencing/Communications Support: CDU has developed videoconferencing capabilities that provide support for events including courses, regular meetings, and special events. Research center conferences and events of interest to CDU faculty and students are identified and publicized on campus. Having a single point of contact and support for videoconferencing provides a higher level of service and facilitates better collaboration between programs at CDU and other institutions.

CDU Health Sciences Library: The Montague Cobb Medical Education building houses a 6,400 square foot Health Sciences Library which contains over 7,500 print books and 100,000 electronic books, over 11,000 electronic journal subscriptions and over 42,000 bound journal volumes. The Health Science Library provides the following services: reference inquiries, online bibliography (MEDLINE), inter-library loan, internet access, library circulation, and publication of a quarterly newsletter. The library has 96 workstations, group study spaces and study pods for student and faculty use.