The Cardiovascular Health Improvement Project (CHIP) is an active study of the Central Biorepository, a unit of the University of Michigan Medical School Office of Research, which facilitates discovery and improves healthcare outcomes by providing high-quality, highly annotated biospecimens donated for basic, clinical and translational research.

The unit receives biospecimens and data from U-M contributors and collaborators across a spectrum of medical research. These samples, annotated with clinical and research data, are accessible to members of the U-M research enterprise.

**CARDIOVASCULAR HEALTH IMPROVEMENT PROJECT**

**TYPES OF BIOSAMPLES**
- Aortic tissue samples
- DNA
- Plasma
- Serum

**POPULATION**
6,000+ participants and counting!
Comprehensive phenotype data are available. Currently enrolling patients:
- Aortic disease
- Bicuspid aortic valve
- Connective tissue disorders
- Heart failure

**CHIP SAMPLES BY PHENOTYPE**

Disclaimer: Patients who have multiple diagnoses (TAA, BAV, etc.) are calculated in the total number of phenotypes more than once.
ACCESS

The Central Biorepository enables access to the thousands of available CHIP biosamples from Michigan Medicine patients and offers secure linkage to laboratory and clinical data offered by the Data Office.

**Get started:**
- Search the Cardiovascular Disease cohort on the self-serve tool, DataDirect.
- Complete and submit a CBR Use Proposal Form available on [research.med.umich.edu/biorepository](http://research.med.umich.edu/biorepository) and send to CBR.requests@umich.edu.
- With IRB and oversight committee approval, datasets can be downloaded.

The Central Biorepository is an enterprise-wide resource, serving all members of the University of Michigan community, and operates as a recharge unit. Services are subsidized by the UMMS Office of Research.

**LEARN MORE ABOUT THE CENTRAL BIOREPOSITORY**
[research.med.umich.edu/biorepository](http://research.med.umich.edu/biorepository)

CHIP aims to learn more about individuals with aortic diseases and other cardiovascular-related conditions through collecting and analyzing biospecimens and clinical data from patients. By doing this, the team can learn more about the genetics behind cardiovascular disease, provide information to clinicians to facilitate precision medicine initiatives, and develop prevention strategies to delay disease onset.

**LEARN MORE ABOUT CHIP**
[www.umcvc.org/cardiovascular-health-improvement-project-chip-study](http://www.umcvc.org/cardiovascular-health-improvement-project-chip-study)

* Access requests are subject to the approval of the program-specific Oversight Committee, as well as the appropriate regulations and IRB approvals. Whenever possible, the CBR and the Data Office deliver a final coded dataset without any direct identifiers.

“CHIP utilizes the UMMS Central Biorepository because of the high-level management of biospecimens with the capability to perform DNA isolation, subaliquoting, and sample shipment to assist us with downstream sequencing projects and analyses. We have observed high-quality DNA from the Central Biorepository with well-tracked sample management systems.”

Cristen Willer, Ph.D.
Associate Professor of Internal Medicine

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**SEARCH THE COHORT!**
[datadirect.med.umich.edu](http://datadirect.med.umich.edu)