A multicentre biobank infrastructure was established in order to support current and future scientific investigations in the field of congenital heart defects (CHD) and cardiovascular diseases. The biobank is an integral part of the German Registry for congenital heart defects and collects DNA from patients plus parents (trios) and affected families, and cardiac tissue from patients undergoing heart surgery. So far, eight ethics committees in Germany have approved the CHD-Biobank concept that implies indefinite storage of samples and their use in on-going and in still undefined future studies. Compliance with data privacy regulations have been confirmed by the Berlin Official for Data Protection. Currently, pediatric cardiology/heart surgery departments of eight hospitals in Germany are involved.

The CHD-Biobank is centrally managed by the Registry team that is responsible for the validation of clinical/phenotype data, the compliance with legal and ethical regulations, the implementation of state-of-the-science protocols for sample acquisition, processing and storage, and the implementation and efficient use of software solutions for data and biomaterial management. The CHD-Biobank operates

1. a central ID management using uniform coding systems (including barcoded sample containers) and a central online-accessible database platform
2. a central facility for blood/DNA processing, storage and dissemination of samples (partnership with the Charité-Berlin centralized Biomaterialbank ZeBanC)
3. a decentralized sample collection structure for cardiac tissue samples that need to be stored in liquid nitrogen gas phase (below -150oC).

The DNA collection currently comprises samples from approximately 3,600 participants covering a wide range of CHD phenotypes. The collection includes 420 trios and 150 families with more than one affected member. The cardiac tissue collection comprises approx. 1200 tissue samples from 500 patients with open heart surgery.

The rising number of requests for collaboration from numerous research institutions (in addition to various German institutions also Newcastle Genetic Medicine, WT Sanger Institute Cambridge) can be regarded as an indication for the high quality of the CHD-Biobank infrastructure, sample logistics and phenotype database.