CLINICAL CARDIOVASCULAR PROTEOMICS AND METABOLOMICS NETWORK
Part I. Biospecimen Repository (2009-2014)

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Cardiovascular disease is the leading cause of death globally. In the past few decades, major improvements have been made in treating some types of cardiovascular disease. In the case of coronary heart disease, for example, therapies such as the administration of statins and the insertion of stents have reduced death rates. However, new treatment options are urgently needed for all types of cardiovascular disease.

Clinical proteomics and metabolomics are rapidly growing fields and refer to the application of technologies to identify disease-related alterations and to develop molecular signatures for disease processes. Recent advances in mass spectrometry instrumentation, protein and peptide separation methods, and informatics tools have fueled the rapid growth of clinical proteomics and metabolomics. However, the integration of proteomics and metabolomics into clinical needs is not trivial and requires a well organized infrastructure with close collaborations among worldwide scientists (analytical chemists, statisticians, medical informaticians and clinical researchers, etc).

In the International Cardiovascular BioBank for the CVI-HUPO, we aim to connect many different types of biological samples (eg. tissue samples, DNA, urine, other body fluidics and blood) and information (eg. health records, diet and lifestyle information, family history of disease, gender, age, ethnicity-haplotypes, proteometabolomic profilings, etc). This Initiative promises to be an essential tool for translating new biomedical knowledge into new clinical practices, diagnostic techniques and preventive. Toward this goal we are implementing the CVI-HUPO e-BioRepository Information Management System (CVI-HUPO-e-BRIMS), which is designed to integrate research data originating from many international sources (disease-based biobanks and population biobanks), allowing handle data that are continually updated. I will outline the current status of this initiative, describing its main components and participants.