

3rd International Conference on Epidemiology & Public Health

August 04-06, 2015 Valencia, Spain



Homayoon Farzadegan

Johns Hopkins Bloomberg School of Public Health, USA

Critical role of large scale academic repositories in epidemiology and public health

Sequentially obtained biological samples stored at optimal frozen condition provide a powerful tool in epidemiological studies to address the role of biomarkers in epidemiology and public health. Cryogenically maintained sequentially collected specimens from participants of cohort studies or epigenetic studies are successfully used in non-concurrent prospective studies to determine and evaluate predictive values of potential biomarkers. At Johns Hopkins School of Public Health, 2.5 million blood samples were collected and stored at specific time intervals to address natural history of infectious diseases, potential gene-environment correlations in disease progression. The Johns Hopkins Biological Repository (JHBR) included more than 30 cohort studies of infectious disease or epigenetics of diseases on unknown etiology. Important biomarkers such as HIV-1 viral load as predictor of progression to AIDS or effectiveness of antiretroviral treatment were discovered. Using frozen specimen collected in multicenter cohort studies (MACS) or the study of HIV among IDU's collected since 1984-1988 were utilized to address the side-effects of HIV treatment as well as chronic disease among HIV survivors. COPD gene studies including 10,000 participants and Autism genetic studies including hundreds of parents and Autistic children utilized frozen DNA to study the genetic association with these diseases. Examples of data from these studies will be presented describing technical, structural the functional aspects of cryogenic facilities, frozen specimen and study designs in epidemiological studies.

Biography

Homayoon Farzadegan, PhD is a Professor of Epidemiology at the Bloomberg School of Public Health. A native of Iran, he first came to the United States in 1969 to complete his graduate studies, then taught at Tehran University School of Medicine. He immigrated to the United States in 1980, following the Iranian revolution in 1979, and became a U.S. citizen 18 years ago. His research interests include infectious diseases, viral diseases transmitted by blood and other body fluids, epidemiology and natural history studies, and genetic epidemiology. His abilities to engage students—sometimes under less-than-ideal conditions earned him the Golden Apple, as the teaching award is known at the School, in the best small class category. In 2003, 2007, 2008 and 2009, he got the Golden Apple Award for excellence in teaching.

hfarzad1@jhu.edu

Notes: