Genetic and Environmental Contributions to Racial and Ethnic Differences in Complex Disease and Their Relations to Health Disparities in the US and UK

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There are ethnic differences in c-reactive protein and another on how the gene APOL1 can affect millions of African Americans. Genetic ancestry and socioeconomic conditions are factors to which a disease is contracted and spread in a community. Looking at the gene history of an individual can give insight to how a particular disease occurs in that person. Populations facing discrimination based on historical circumstances and current unequal distribution of resources are prone to health disparities. I then linked the susceptibility of chronic kidney diseases based on ethnic differences and socio-environmental factors. Socioeconomic factors contribute to CRP ethnic differences more than genetic history, with differences in CRP being associated with ethnic disparities for chronic diseases. These results indicate a relationship between ethnic differences of CRP levels, socio-environmental factors, and health disparities. CRP levels are highly related to ethnicity. I then leveraged data in the UK Biobank to model the relationship between race, ethnicity and genetic ancestry with chronic kidney disease status in its different stages?. I learned coding Linus using the Powershell application to make the charts and graphs, learning the basics and becoming proficient in making these graphs. This is the precursor to me being able to work on an ongoing American based gene databank next semester, the All of Us Research Program.

Awards Won: