OPPORTUNITIES AND CHALLENGES FOR PUBLIC HEALTH IN GENOMICS

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Public health genomics is the use of genomics information to benefit public health. This is visualized as more effective preventive care and disease treatments with better specificity, tailored to the genetic make-up of each patient, and ultimately towards a better quality of life. Since the completion of Human Genome Project, the progress of genomic technology over the past two decades has allowed the discovery of many disease associated variants, and advanced our fundamental understanding of many complex disease aetiologies. Public health genomics aims to translate the advances in basic research to clinical settings and public health programmes. Although the aim may seem far-fetched at present, many success stories have been seen. For instance, surveillance and control of infectious diseases with genomic technology, genetic risk prediction for type II diabetes, and breast cancer, and the lowest hanging fruit –pharmacogenomics. Several examples of the implication of pharmacogenomics were given in the presentation, including Warfarin, Tamoxifen, Herceptin and Abacavir. In the presentation, I have also suggested the pipelines, and therefore lined up several potential challenges and opportunities, for the translation of pharmacogenomics discovery to the bedside.

Keywords: Genomic, public health genomic, pharmacogenomics