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Evidence based public health to precision public health

Precision medicine by the personalized medicine now became possible. We can use genetic testing for drug metabolizing enzymes such as CYPs to estimate the adverse effect or efficiency of the drug for each patient. We also can check the genetic change of a cancer to see how it acts for the particular patient. Also, recent findings suggest possible genetic background for high risk for many diseases such as cancer, hypertension, dementia, autism or allergy. These high-risk markers are effective for prevention of the disease, which is a new style of public health. This precision public health is the key for making the personalized prevention care the next step. This is possible not only by the genome data, but also transcriptomics, wearable sensors and other big data can have relation. Also, such genotype combination with the food habit also has strong relation with the disease. Neonatal screening or recent maternal blood genetic testing is also very effective to early find the inherited disease. Evidence based public health is the key word for us. It is very important to get patient database for evidence based public health and precision public health. For this purpose, we need big data to make the evidence.

Biography

Hiroshi Mizushima has his expertise in medical informatics, computer science, public health informatics, molecular biology, etc. He has graduated from University of Tokyo, Faculty of Pharmaceutical Science in 1983 and obtained his PhD in 1988 at University of Tokyo. He has established Cancer Information Service and Cancer Information Network at National Cancer Center and became Professor of Medical Omics Informatics at Tokyo Medical and Dental University in 2009. He moved to National Institute of Public Health (NIPH) in 2011 and became Director of Center for Public Health Informatics at NIPH in 2017. He is currently the President of Japan IT-Healthcare Association and others.

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