Introduction to Course and overview of intervention strategies to improve public health

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Nutrition and physical activity are key determinants of health and these lifestyle factors influence well-being and risk of disease throughout the life-course. Recent evidence from the Global Burden of Disease consortium shows that diet and physical activity contribute to 15 of the top 20 determinants of disability-adjusted life years (the accepted measure of burden of disability) in the UK and similar countries (Murray et al., 2013). In addition, the same lifestyle factors are causal factors in the development of obesity which has been increasing in prevalence globally for at least 30 years (Ng et al., 2014). For such reasons, attempts to improve public health focus on changing dietary and physical activity behaviours. However, interventions to change such behaviours tend to have relatively small effects which may be difficult to sustain (Hobbs et al., 2013; Lara et al., 2014).

More recently, the idea has emerged that personalised nutrition (PN) interventions may be more effective than the conventional generic or “one size fits all” interventions (Celis-Morales et al., 2015). In addition, since interactions between genes and diet influence health, many approaches to PN are based on the assumption that genetic information is a useful means of tailoring dietary advice and that knowing one’s genotype may motivate appropriate behaviour change. This NuGO Short Course will introduce the scientific basis of PN, explore examples of PN and give course participants the opportunity to design their own PN intervention to address a particular public health problem.

Ng M et al. (2014) Lancet 384, 766-781.