The Evolution of Personalised Nutrition: Key findings from this analysis

Despite convincing scientific evidence that personalisation approaches work in a clinical or interventional study setting, there are still considerable knowledge gaps and new scientific developments that make the offerings on the market appear less scientifically robust than claimed by providers. In particular, the currently used genetic analysis methods seem to be questionable, given that only a very low number of genes are tested. These have been selected based on earlier studies, but their causal significance for metabolic response to food in healthy people is still unclear. Moreover, other likely more important factors for metabolic phenotype, such as epigenetic regulation, are currently not tested for. Following general well-established dietary guidelines may yield significant benefits for many without the need for tailored PN services.

Technology push and investment, particularly in affordable Deoxyribonucleic acid (DNA) technologies and scientific data analysis software solutions have accelerated the commercialisation of science-based advice services. However, current business models are not yet commercially viable for the longer term, and a number of barriers in consumer acceptance need to be addressed first for market growth.

Although there is a perception that consumers are becoming increasingly health-aware and understanding of the importance of healthy food choices, studies find that this is far less prevalent than thought. Consumer resistance specifically against PN services uptake is based on issues around cost of the service, the requirement for longer term commitment, lack of education to understand its benefits based on science, data privacy and security concerns, and science scepticism, among others.

Personalised nutrition services are currently not explicitly regulated anywhere in the world. However, some existing legislation is meant to provide guidance for the sector for adhering to certain standards that should ensure quality of service and consumer protection. Currently a number of laws would impact on the sector, such as regulation for genetic testing in a healthcare setting, or GDPR for data protection, and the Food Law with associated FSA regulation in cases where supplements and vitamins and foods are sold, among others. However, it is not clear that PN providers understand the context of several regulatory agencies being responsible for different aspects of their offering, in particular, for staying within legal boundaries when making claims about their services. This situation creates considerable uncertainty not only for businesses, but also for consumers who wish to make an informed decision when choosing a PN provider.

Wider network effects with the “personalisation of food” segment of the food system might be important to monitor, as several technological innovations enable increasing customisation of production, distribution, and consumer experience of food. This includes technologies such as food 3D printing, or tailoring shopping to very specific micro-markets with personalised delivery options. In the longer-term future, synergies between personalisation of food providers and PN providers may lead to more integrated services that may involve actual food items, which will pose food safety risks at a larger scale.

Food safety risks of PN are difficult to assess in particular when only advice is involved as the longer-term health effects of following scientifically unsound advice will be hard to ascertain. Hence food risk is currently considered to be minimal in such cases. However, the majority of PN providers in the UK are currently offering supplements and vitamins and therefore fall within FSA

remit. Food safety risks in this sector are generally well understood but might need to be re-assessed for the particulars of the PN context with regards to labelling, claims and safety of longer-term consumption.