

Summary

In 2011 STT initiated a future study into the role of food and medicines in relation to prevention of disease. The purpose of any STT future study is not to predict the future, but to gain insight in what the future could be like. In this way, the studies aim to support current strategic decision making. The first stage of the future study food and medicines has been completed. What are the results? And what are the next steps?

STT future studies cover subjects on the interface of technology and society. Important characteristics of the studies are their multidisciplinary approach and involvement of a broad range of experts. Over 100 experts have contributed to the first stage. People with many years of experience in relevant industries, scientific disciplines, governmental organisations or NGOs. Most experts were Dutch, but many with broad international experience.

A wide range of developments and uncertainties in relation to food, medicines and prevention of disease has been discussed. From measuring body radiance as a scale for health to the production of highly complex design molecules. And from the extent to which we will be left a free choice when it comes to food consumption to the effect of commercial competition on prevention. Also some more general uncertainties were mentioned, due to their relevance to developments in the areas of food and medicines. For example climate, economic developments and social change.

At times, the viewpoints of different experts varied a lot. Nonetheless, consensus seems to have been reached on some issues. For example in relation to the challenge to understand the causes of chronic diseases. Very often these turn out to be multifactorial diseases, meaning that they are caused by a set of factors. Diseases such as diabetes type 2, rheumatoid arthritis, certain types of cancer, but also Alzheimer's and depression are most likely multifactorial.

Most likely, because a lot is not known yet and research results regularly bring new insights that do not seem to be compatible with previous findings.

It is expected that it will take many years, quite possibly many decades until sufficient knowledge is available to determine whether or not someone will in fact get a disease and when. Some experts actually doubt whether that will ever be possible, taking into account the complexity of the body. All the more so, because the complex body system will then have to be understood in interaction with external complex systems, such as food. It is expected that new findings will allow for the gradual personalisation of risk profiles and therapies. Already, some therapies are taking into account certain genetic traits. Age or body weight can also play a role in determining the most appropriate therapy. Many more biomarkers could play a role in personalisation. To find out which are the most relevant ones is an important challenge in current research.

There was no consensus on the role of food in the development of certain diseases. The same holds for the role of medicines in prevention of disease. Differences in opinion already arise when it comes to the set up of research projects. Some experts criticize the current approach to health research which they think is not capable of rendering the understanding needed. And even if there would be more consensus, an important question remains what the general public would do with any such knowledge. Past experiences show that providing information on healthy food choices, whether or not coming from a governmental body, does not necessarily make people change their diet. Peer pressure, habits and emotions are also important factors. Factors that are subject to research, resulting in new insights used to improve the efficacy of the promotion of healthy lifestyle by the government.

The role of industries was also an interesting issue in this regard, in terms of marketing activities and in the development of new products. Some argue that marketing is one of the main causes of unhealthy diets, while others suggest that new products could contribute to a healthier diet. It seems that regulations are very relevant here. Health and medical claim regulations, but also privacy, patents, tax reductions on research investments and other tax measures, and regulations related to health insurance. Increased taxes on unhealthy products as in Denmark (saturated fats) and England (high sugar content drinks) do not seem to be wanted by politicians at present. This may change rapidly if a positive effect is seen in Denmark or England.

The above described findings and more will be taken into account in the next phase of the project. The main objective of that second phase is to develop visions of the future in which the role of food and medicines in relation to prevention of disease can be studied. Challenging but realistic visions as well as visions of ideal futures. The visions will be created with the help of both experts and non experts. The results will be discussed with a broad range of experts and stakeholders.

Could this be news in 2040?

Gluten replacement improves memory

Researchers of the Temporary Research institute for Brain-Food Interactions (TOBI) have proven that people that use many gluten-free products, have a better memory. Especially in elderly people above the age of 70, the difference is significant. There appears to be a clear correlation with the consumption of gluten-free bread and pies. The larger the quantity and frequency of consumption, the better the person's memory. For that reason, researchers believe that gluten replacement GV345 causes the effect. GV345 was originally developed as a medicine to cure Alzheimer's disease. However, it rendered no significant effect in short-term trials. Due to the excellent structuring properties of the molecule, it has been used in gluten-free products since 2020, to make the bread and pies lighter and less dry. The Dutch Ministry of Research and Innovation has requested an advice regarding the compulsory use of GV345 in bread. This might bring an end to the dramatic increase in Alzheimer's disease over recent years.