

# The EHFG Health Futures Project

## Scenarios for health in 2037



# Contents

<b>INTRODUCTION</b> .....	<b>03</b>
<a href="#">Why a “Health Futures Project”?</a> .....	03
<a href="#">A note about scenarios</a> .....	03
<a href="#">Our approach</a> .....	03
<b>HEALTH IN 2037 – THREE VISIONS FOR THE FUTURE</b> .....	<b>04</b>
<a href="#">Scenario 1: The Future is Local</a> .....	04
<a href="#">Scenario 2: Your Health, Your Responsibility</a> .....	07
<a href="#">Scenario 3: Technology Delivers</a> .....	10
<b>MESSAGES FOR POLICY-MAKERS AND INTEREST GROUPS</b> .....	<b>13</b>
<a href="#">Policy-makers</a> .....	13
<a href="#">Stakeholder groups</a> .....	15
<b>IN CONCLUSION</b> .....	<b>17</b>
<a href="#">Appendix 1 – Expert Advisors</a> .....	18
<a href="#">Appendix 2 – Scenario Builders</a> .....	19

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# Introduction

## Why a “Health Futures Project”?

The EHFG Health Futures Project forms part of the European Health Forum Gastein’s (EHFG) celebration of its 20th anniversary. What better way to mark the passing of time than to imagine what the future might hold for the health of European people?

This report sets out three visions for health 20 years ahead, in 2037, with the main aim to help us consider the policy choices for the intervening period. It also aims to highlight what these possible futures might mean for the various interest groups involved, and which questions policy makers will respectively have to face.

The EHFG Health Futures Project has concentrated primarily on the health of people in the EU, although we recognise that many developments in the wider European region, and indeed globally, influence health and wellbeing closer to home.

You can find an executive summary of this report and further materials [online](#).

## A note about scenarios

Over the past few years, there has been a resurgence in the use of scenarios for a whole range of topics – the future of the European Union, changing patterns of healthcare, the impact of big data on employment, climate change, coping with terrorism, and ageing – to name just a few. It is perhaps not surprising that as our world develops more quickly and less predictably, there is renewed interest in exploring alternative futures and rehearsing our responses. There are many different approaches to developing scenarios. Some combine qualitative reviews with detailed quantitative analyses of key trends. Some involve large numbers of people working over long periods and some rely on computer-based, quantitative modelling. The key point to note is that all scenarios share a common characteristic – they are about how the future could as opposed to will unfold; they are neither predictions of the future nor plans of action. What they want to achieve is to foster an understanding of the choices and roles we have in making the future happen, and dealing with it once it is here.

The scenarios the EHFG Health Futures Project produced are qualitative in nature, based on the combined experience and judgement of over 50 leading scientists, academics, clinicians, civil society representatives, policy makers and industry executives from within and beyond the health sector.

## Our approach

The EHFG Health Futures Project combined two key stages. The first was research to identify those factors likely to have greatest influence on the health of people in the EU. The primary source was a set of semi-structured interviews with [expert advisors](#) from a wide range of backgrounds. The outputs from the interviews and some supplementary research were summarised in a series of [mind maps](#), each covering one of the key determinants of population health, including those with a high uncertainty about their specific impact.

To provide a foundation for the scenario generation process, we also developed three brief glimpses of the future of health, based around different areas of unsustainability, such as the environment or the widening health and wealth inequalities within and between countries, that also emerged from discussions with our contributors.

Both mind maps and glimpses provided inputs for the second stage of the EHFG Health Futures Project, a workshop held in Leuven, which brought together a different set of experts: the [scenario builders](#), again from a variety of backgrounds, but all with a direct interest in health and policy making. Their task: to draw on own experiences to expand and refine each glimpse into a fuller picture of health in 20 years’ time, and then explore how each of the scenarios might affect different interest groups. The scenarios outlined in this report draw on the outputs from the Leuven workshop, the interviews, and further background research.

# Health in 2037

## Three visions for the future

### SCENARIO 1: THE FUTURE IS LOCAL

*Achieving better quality of life is now more important than economic growth – ‘health’ is increasingly approached as a holistic concept, and gradually being integrated into the broader notion of ‘life satisfaction’. A guaranteed basic income for all citizens and devolved, local-level responsibility for services and initiatives that enhance and equalise life satisfaction and foster community development have unlocked new resources and capabilities. This is complemented by national strategies to restrict ‘unhealthy’ products and help individuals, families and employers to view ‘healthy’ behaviours as an integral part of everyday life.*

*All citizens are expected to pursue healthy lifestyles and to make positive contributions to their communities. Physical and mental well-being are rigorously monitored by the state, so that outcomes for individuals and communities can be improved. There is mounting concern about constraints to individual freedom and the grip of the ‘nanny state’.*

#### How did we get here?

Widening inequalities in wealth, social mobility and health had been persistent trends. A tipping point was reached following a season of extreme weather events, causing the premature deaths of thousands of older and poorer citizens, coupled with a dramatic rise in unemployment associated with the adoption of new technology. Widespread and aggressive online protests, labour strikes and violent social unrest on the streets occurred across Europe. With participation in democratic processes at an all-time low, governments decided to make fairness a central feature of the policy discourse to restore social order.

As large-scale wealth redistribution was too challenging politically, finding a shared, common level of citizens’ health became the principle way the fairness of societies was judged. Awareness programmes helped to reposition ‘good health’ in people’s minds as the key to a happy life.

Years of slow economic growth meant that most states had limited scope to increase public expenditure. Instead, they unlocked other resources – particularly those in the community sector – to realise the fairer future goal.

#### The policy context

Having recognised the links between health and wellbeing, social stability and economic performance, governments restructured traditional ministerial departments to be better at handling the interconnectedness of factors which determine health. They also realised that due to the range of local circumstances, traditions, cultures and preferences, state-led, centrally managed initiatives did not work; the public was alienated and did not trust central government. The buzzwords used to describe the new political process were decentralised, participatory and experimental. A larger share of national budgets was devolved to local governments and smaller communities on the basis of ‘freedom within a framework’. This framework specified the outcomes local communities had to deliver, including community solidarity and reduction of inequalities in life satisfaction. New forms of participatory democracy emerged and citizens were not only encouraged, but expected to put forward and implement ideas to improve their communities.

National governments used tax and other regulatory levers to address income differentials, influence food production and pricing, reduce pollution from transport and power generation and match the best health and education professionals to work in communities with the greatest needs. Some countries introduced stringent laws banning or taxing saturated fats, sugar and food additives. Meat and alcohol became progressively more expensive. New housing developments had to include space for social interaction such as communal

kitchens and meeting rooms. Child health and well-being was prioritised to ensure everyone had a good start in life. Poorer families had financial incentives to complete health checks. Parenting programmes and immunisations were compulsory. Health and well-being became part of a radical overhaul of school curricula. Systemic approaches to encouraging students to explore the connections between facets of life and their place in the world replaced traditional teaching and individual subjects.

European governments collaborated to address global health threats, including those associated with climate change, the safe production of medicines and preparedness for pandemics. International agreements also led to the fairer taxation of global corporate interests (such as internet companies). A number of states used this 'dividend' to introduce a guaranteed basic income. This proved a simpler method of meeting the basic living needs of all citizens than using complex systems of selective welfare benefits.

### **The business environment**

Against a backdrop of international agreements fighting tax avoidance by global corporates, and a growing technical and sharing economy, business leaders became increasingly involved in national change programmes. For some, this was a personal commitment to the fairer future philosophy – for others it was a marketing opportunity, a way of restoring public trust in their company and its products.

Employers found ways of enhancing the life satisfaction of their employees, and many extended this to the wider communities in which they operated. These initiatives improved worker productivity, were attractive to investors, made it easier to secure local authority support for business development and entailed tax benefits. Company success stories about improving life satisfaction started to replace the product 'hypes' of earlier marketing campaigns. Pharmaceutical companies switched their attention to local communities, as they were now more powerful, offering sponsorship of community events and health education programmes to help people manage long-term conditions.

### **Healthcare rebalanced**

Local communities were able to set up Community Health Organisations (CHOs) responsible for the health, well-being and care of the local population. To demonstrate the impact of national policies and the performance of local providers, life satisfaction of all citizens was rigorously monitored via proxy measures, including subjective and objective health indicators. Some information came from sensors in homes and mobile phones.

CHO's limited budgets provided an incentive to shift the centre of effort from treatment and cure to prevention and early intervention, working with other civil society service providers across a wide range of fields and actors, including Participatory Arts Programmes and Community Centres, in line with the gradual integration of the concept of health with other aspects of life. The health premiums paid by local people and employers fell with the reduction in inequalities that they managed to achieve. CHOs subjected all treatments to rigorous analysis of effectiveness and efficiency, reducing both availability of a number of more traditional treatments, and overall healthcare expenditure. Mental health was given greater priority, to redress the marked increase in depression and substance abuse that had accompanied the years of widening inequality. CHOs, "life coaches", and community referral gradually eroded the role of traditional health providers.

Health system reform was not without its problems. While the national and community efforts to tackle the determinants of health were beginning to show results, it would take many years before demand for traditional health services shifted significantly. Healthier and wealthier citizens complained about the growing list of treatments they could no longer access from their CHO, and some resorted to legal challenges. There were complaints too about the constraints on individual lifestyle choices, but a black market enabled people to get everything they wanted, albeit at a price. Private health care started to increase. Some states experienced severe political pressure to roll back their support for 'the undeserving poor' or be far more explicit about how people were expected to use their guaranteed basic income to help themselves. Other burning questions were how to deal with marginalised groups and those refusing to contribute to their community.

### **An individual's reality**

Communities interpreted their responsibilities in diverse ways. Time banks and skill swap schemes engaged people without paid work – both younger unemployed and older citizens recovered their sense of purpose and many learned new skills. Informal caring schemes for children and elders, digital and health literacy programmes, community transport and language support proved popular initiatives and helped reduce the social isolation of older people and refugees. Some communities brought vacant land back into food production, supported housing refurbishments or innovation hubs to help people set up new businesses. Others invested in micro-generation of electricity to address issues of fuel poverty and concerns about sustainable energy supplies. In an effort to make the best use of public funds, some communities closed or reutilised schools, clinics and libraries, clustering several services in one location.

### **A personal experience**

Irena, a single mother and self-confessed sugar addict, has just started a new job as a web search optimiser. Having taken time out to look after her elderly parents she is delighted to have the opportunity to get back to work – even though receiving a basic income during her leave had made a huge difference; Irena found they could continue to heat their home, buy some new clothes and fresh fruit and vegetables. Chocolate, cakes and fizzy drinks however, are so expensive they can only afford them on special occasions. But her tastes are changing too – some of Irena's old snacking favourites have been replaced by healthier options. Irena has a six-year-old son, Sully, who has helped too – he is quite the little policeman if he catches his mom sneaking one of her old snacks – the things they pick up at school! Irena put the health incentive payment for completing all of Sully's health checks into a savings bond to pay for his further education. Irena has also found carers who help her parents with cleaning and gardening. Irena's mother is teaching her carer to knit and her Dad's overall mood has improved now he is helping the carers pass their citizenship exam.

Irena's world of work has also changed a lot. She can now control her shifts to fit with her family circumstances and her work station is ergonomically designed to her shape and weight to prevent injury and improve productivity. Irena has continued to find time to give something back to the community, she is a member of a community choir that regularly performs at local festivals and runs singing groups in care homes. Irena makes time to contribute to the numerous online surveys sent by the Community Health Organisations (CHO) – the system is not perfect but the provider seems to be listening to what local people want and need. For Irena and her family, health and wellbeing are just part of everyday life.

## SCENARIO 2: YOUR HEALTH, YOUR RESPONSIBILITY

*A number of governments have launched a new 'contract' between the state and the individual, clarifying their respective responsibilities for personal health: With the increased focus on prevention, one of the state's main tasks is now to make reliable health information accessible; the individual has to act accordingly and self-monitor his or her health. 'Your health, your responsibility' is the popular theme that catches the spirit of the age. A mix of state and employer incentives – like premiums for reaching health improvement goals – and deterrents – like stigmatising unhealthy behaviours in the media – as well as a proliferation of health devices and apps help the majority of citizens improve or maintain their health, and reduce healthcare costs. Others feel blamed and discriminated against for their disabilities and conditions, and overwhelmed by the sheer amount of available health information.*

### How did we get here?

States recognised that they needed to do more to prevent ill health. After years of long-term studies demonstrating the burden of disease associated with lifestyle choices, governments decided it was time to use all possible levers to encourage and incentivise citizens to take responsibility.

The cost of providing healthcare to ageing populations with complex and chronic health needs had been rising steadily for many years. For well over a decade, health systems warned they were at breaking point and needed radical and life-saving surgery of their own. There was a marked drop in the number of people entering the labour market, also due to falling birth rates. All this at a time when increased life expectancy meant there were growing numbers of older and frailer people to support.

Citizens were dissatisfied with the cost of healthcare, the level of co-payments, reduced access and falling standards. At the same time, the health and well-being market provided an endless array of advice and devices to help people understand and monitor their lifestyle and health. The tools were all there – they just needed better promotion and incentivisation to ensure everyone used them.

### The policy context

Irrespective of their politics or constitutions, most states introduced some form of 'health contract' – a variation of the 'social contract' – which set out the levers the state was prepared to use for positive health and well-being, and the part individual citizens had to fulfil. While the language used by governments of different political persuasions varied, many of the interventions deployed were quite similar:

There were tax-breaks for companies that offered wellness schemes for employees, and VAT was reduced for healthy products and services. Sophisticated social media campaigns stigmatising lifestyle choices considered detrimental to health were among the more controversial measures.

First and foremost, responsibility meant giving people the necessary information to make informed choices. More and more health information and advice was available online, though some of it was contradictory. Governments struggled to get their own evidence-based messages across. Some states introduced a form of certification to accredit the quality of health information. The most effective approaches proved to be heavy regulation of advertising combined with education programmes to improve health and digital literacy.

### The business environment

Employer contributions to health insurance were reduced for companies offering workplace wellness programmes. Although some employers used recruitment processes to 'screen out' workers who might reduce their employee health scores, most businesses found the theme of 'your health, your responsibility' helpful in achieving compliance with their own health and safety policies. It became common for businesses to include wellness support in their reward packages. 'Your health, your responsibility' proved good for the productivity

of individual businesses and of the wider economy, triggering an expansion of the market in personal health products – everything from home monitoring and food additives to clothes that claimed to improve muscle performance.

### **Healthcare rebalanced**

In the short term, demands for health checks and diagnostic tests overwhelmed health providers. People were constantly monitoring their health and were generally more aware of signs and symptoms. While personal health monitoring devices had become more accessible and affordable, a series of high profile legal cases on symptoms that had not been identified triggered more mature agreements between health systems and medical technology companies about risks, pricing, regulation and the general contribution of personal diagnostic devices.

In parallel with the new 'health contract', health systems restricted access to healthcare for minor illnesses and injuries, which individuals now were expected to take care of themselves. Chronic diseases and major injuries were taken care of by the national healthcare system. Some states introduced co-payment charges to people who used the health system for minor problems and some restricted treatments until people could demonstrate that they were actively trying to improve their health. Health insurance systems differentiated their products and pricing based on individual risk profiles, offering their members a range of tools to demonstrate lifestyle compliance and online health coaching to enable them to make the necessary adjustments and lead healthier lives. People who adhered to these requirements had insurance contributions significantly discounted.

Both health status and compliance with treatment programmes were assertively monitored. For people who had to rely on the state there were still 'safety net' health services.

States expected the focus on personal responsibility to result in healthcare cost containment - if not reduction - as people became healthier due to the increased emphasis on health promotion and prevention. Health systems treated more diseases earlier, as formerly insecure patients became successively more knowledgeable about detecting symptoms.

This also meant health professionals had to make adjustments, as they lost authority over their patients – the former information asymmetry was no longer valid. People taking responsibility for their own health meant they had become more assertive with clinicians, asked more questions and brought ideas about their diagnosis and treatment into the consultation. People expected to be treated as equals, the education and training of clinicians was slow to respond.

### **An individual's reality**

Local authorities set up online portals to help citizens access services, products and advice about their health. Local businesses had to comply with national requirements on transparent reporting of risks and benefits for their products. Schools had to play their part with compulsory health literacy and exercise classes. Parent teacher meetings to discuss educational performance now included reviews of pupils' mental and physical health and how well parental responsibilities were being carried out. Universities and colleges found that the focus on health provided new opportunities - they offered online and class-based adult education programmes on different facets of health, and some benefited from additional state-sponsored research on the social and psychological aspects of health behaviour and lifestyle risks.

Some people however felt overwhelmed by the sheer amount of health information and the pressure to adequately process it. Others, who could or did not want to look after their own health – from the rebellious teenager to persons suffering from a hereditary disease – felt discriminated against and disadvantaged. Philanthropic organisations tried to fill the gaps the state left and lend support to people struggling with meeting their part of the "health contract".

### **A personal experience**

Paulo is 60 and a chronic asthmatic. He has recently lost his job in a biscuit factory. The company was in trouble – demand for their products had fallen dramatically, just at the time they had purchased a new robotic production system.

Paulo is despondent – it's going to be much harder to keep healthy on a reduced income. To get assistance, he logs into *Airly* – an international peer to peer network for people like him, who have asthma and other respiratory conditions. He finds several of his friends are already in the chat room, exchanging information on new self-management options. Some have also experienced job loss and offer to support him over the next few weeks. Through the network Paulo enrolls in a new clinical trial which might cover the cost of medication for the next few months.

Paulo's brother Rick has urged him to 'get his life back' by simply tricking the system: Since there are numerous drugs available on the internet to disguise evidence of smoking and drinking, he could easily hide the fact that he is not following the health advice of his doctor – which makes it harder to get full insurance support for his medication and is a disadvantage during job search.

Paulo is confused by the often contradictory advice about being healthy put out by the food and drink industry, promising to help you find quick ways to health. As a result, he continues to enjoy products widely recognised as risky.

### SCENARIO 3: TECHNOLOGY DELIVERS

*Governments are now more demanding and strategic about the way they invest in health technology. They are explicit about the health problems they want to address, and have actively engaged in shaping the innovative health tech market through new partnerships.*

*Even before birth, a child's genetic predispositions to illness are known. This presents a fundamental challenge to insurance-based health systems, which are complemented by national solidarity funds. Most people assume technology can cure whatever health problems they experience and are less interested in preventive measures. Patients are increasingly seen as 'clients'.*

*The widespread use of health monitoring sensors, home robots and connectivity across a range of health and domestic devices has enabled people to manage their health at home. Citizens are either unaware or unconcerned that authorities and agencies use Big Data from diverse sources to intervene in every aspect of public life that could affect health and well-being. However, following high profile security breaches, public campaigns for the 'right to disappear' have emerged.*

#### How did we get here?

Through a succession of evaluation reports, governments across Europe recognised that they achieved poor value for money from their investments in information and communication technology, in diagnostics, in personalised medicine and other treatments. The problems highlighted included fragmented and incoherent procurement practices, overly tight specifications and a narrow focus on medical specialties and specific diseases rather than a wider focus on the health of the whole person.

Despite the EU introducing a fast-track technology assessment process, member states continued to have trouble with the diffusion of innovative technology, even if they were recognised as cost effective ways of benefiting patients. Even more significant than affordability were the political, social and professional interests that resisted the large-scale transformation of health and care provision. There were reports that newly developed countries like India, China and Brazil, where these interests were less entrenched, were out-performing EU countries in research, development and adoption of innovation.

#### The policy context

Governments started to steer the deployment of technological developments by defining the desired outcomes and consequently identified three areas of technological innovation with the potential to deliver major benefits:

- **Information** - There had been an exponential growth in data about the health impacts of a range of different determinants, derived from an array of implanted, hand held and home-based devices, and data mining from internet searches, shopping habits and social media. There was also widespread environmental monitoring resulting in a proliferation of hard and soft scientific health orientated research. The challenge was how to deploy all the diverse insights to guide health policy-making.
- **Genomics** - There was now a better understanding of the human genome and the genetic material of infections, as well as advanced tools to manipulate genetic composition. However, the pace of scientific advances had moved far quicker than societal debates about the ethics of 'what should be done'.
- **Personalised medicines and diagnostics** - New technologies detected and identified diseases earlier, and new drugs, devices and even synthetic organs made the provision of tailored and more effective treatments for individuals widespread. The questions raised here were about balancing individuals' benefits with improvements in population health.

Some states had experienced a worrying growth in unemployment and rising numbers of people living just above the poverty line, as automation and artificial intelligence had stripped out manufacturing, administrative and even academic jobs. These governments chose to encourage technologies that helped improve public health in order to achieve greater health equity, more resilience and stronger social cohesion. Others opted to

prioritise technology that improved personalised medicine and care for individuals and redesign administrative and regulatory systems to make better use of the wide array of technological products available.

All states took a more active role as market 'facilitators'. Some states used grants for research and development to do this; another popular approach was to invite specialists in a variety of health and non-health disciplines to problem specific 'health innovation hacks'.

Initially led by industry, the EU had accepted the principle of interoperability and open access across many different technology fields. While this presented great opportunities, it made it harder for European companies to protect their innovative technology and there were many countries outside Europe swift to copy and even improve it.

### **The business environment**

The combination of proactive market facilitation and changes in EU intellectual property laws - including the 'licensing for social benefit' provision, which incentivised innovation beyond the conventional market sector - produced some interesting results. Suppliers welcomed the clarity in government priorities and the opportunity to forge new collaborative alliances. These accelerated the realisation of cost-effective solutions to long-standing health and social problems, including antimicrobial resistance.

As states insisted technology delivered cost reductions as well as better health outcomes, health suppliers pressed for new models of investment in research and development that would provide a guarantee that they could recoup their costs. Interoperability opened up the market for health-related technology to a wide array of companies of all sizes and nationalities. Heated debates about the trade deals in the health market continued.

### **Healthcare rebalanced**

The combination of data, genetics and personalised medicine transformed the way people interacted with healthcare systems, although in some places the shifts took far longer than predicted. The genetic predisposition of people to major diseases and those they could pass onto their children became part of prenatal assessments. Some people adjusted their behaviours and lifestyle as they understood the consequences of risks. A more common response was that people ignored their profiles, believing that medicine would have a cure for any disease.

The knowledge about people's genetic make-up and the proliferation of data analytics to predict and manage health had a profound effect on health system structures. Health insurers made widespread use of this intelligence to justify the imposition of increased premiums, restricting access in some cases. Governments reacted by introducing premium caps and creating complementary national solidarity funds to help those no longer able to afford insurance.

Preventive health was no longer organised for populations or even age cohorts but individuals received tailored preventive prescriptions from their health and care providers who monitored their uptake and impacts.

The availability of e-enabled diagnosis reduced the need for face-to-face healthcare appointments. More doctors worked for providers of online services, designing and updating algorithms or providing internet consultations. Redesigned medical curricula gave greater emphasis to treating the whole person. Where people needed specialist procedures they now saw a different range of paraprofessionals – people specialised in providing a narrow range of procedures but without the full medical training - and having surgery performed by precision robots, guided by surgeons who might be working some distance away. Virtual reality was widely used, and people with the most complex needs became reliant on their personal health and care robot.

### **An individual's reality**

Almost all public services were now accessed online, and the citizens managed a wide array of processes and devices. Sharing personal details online had been part of everyday life for many years. Consequently, most people were unaware or unconcerned that public authorities used personal data from diverse sources, mining data from shopping or exercise patterns to internet searches to inform policy and assess the impact of public services and private consumption on the lives and the health of their citizens. With an increasing number of social interactions taking place online - from education to the health sector - there was a marked increase in mental health problems across all age groups.

Analysing data in multiple ways and at different levels of aggregation enabled authorities to ensure that all aspects of public life promoted health and wellbeing. This influenced changes to the physical landscape and atmosphere, the regulation of businesses and products harmful to health, and the design of housing developments. Public spaces and social housing became 'smart environments' so that devices could link to services anywhere and anytime. Everyone, irrespective of income, could make use of this technology-enabled world.

There were frequent and heated debates about whether to make the large data sets (albeit in anonymised form) available - at a price - to commercial providers. After a series of high profile and damaging breaches in data-sharing regulations, public authorities tried to reassure their citizens but a social media campaign championing the 'right to disappear' had gathered international momentum.

### **A personal experience**

Milo is 20 and left his homeland to secure a job in one of the largest cities in Europe. He misses his family but the new generation of online communication tools means that they can talk and see each other and even feel simulated touch through their phones. Milo was born with type 1 diabetes but has never experienced the disease, as the faulty gene was replaced just days after his birth. Milo knows he has a genetic susceptibility to addiction, so he has special skin implants that provide him with feedback on the effects of any risk-taking behaviour, an app on his phone and an active online support group.

Milo's behaviour as a teenager was tightly monitored - a special parental control on the family's broadband system blocked searches related to drugs or alcohol and random health checks were made by the school. Milo ignores most information about keeping healthy - if anything he takes more risks with his health than his peers. He is confident that there will be a drug or procedure that can get him back on track if anything goes wrong.

Milo's grandma Natalie is 98. She lives alone in a tiny village in Milo's home country. Natalie also has type 1 diabetes, but her experience of health and healthcare has been very different. After years of regular insulin injections, a pump and wireless sensor attached to her skin was much more convenient and less painful. However, the artificial pancreas she received a few years ago was life changing. While she can eat just about anything now, Natalie's severe rheumatoid arthritis means she does not go out much. Instead of frequent trips to the big city hospital 50 miles away, Natalie uses a smart phone adaptation to take and interpret blood samples.

# Messages for policy-makers and interest groups

*The EHFG Health Futures Project does not intend to portray one scenario as more plausible or more desirable than the other. Several different developments could respectively lead to each of the visions for health in 2037, a mix of all three or a completely different future. However, in their entirety, our scenarios point to a number of possible challenges for tomorrow – partly already faced now – which may help us consider our decisions today. To help make our health systems fit for the future, we have put together “take-home messages”, reflecting on some of the likely tasks decision-makers will have to prepare for.*

## MAIN MESSAGES FOR POLICY-MAKERS

### Health inequalities

The contributors to this project highlighted a ‘perfect storm’ of relatively predictable trends, such as the increase of lifestyle-associated health risks and diseases, the anticipated effects of climate change on water and food supply, and the knock-on effects on migration and on rising levels of mental illness and social unrest, exacerbated by widening differences in relative and absolute wealth. Their combined effect could mean that the health gains of the last twenty years become reversed over the next decades. The scenarios highlighted different possibilities for achieving health equity in the EU:

- **Health in All Politics** - We need to understand the health impact of different policy choices, their interactions and impacts on different social groups. Political and policy processes need to make synergies and trade-offs across policy choices, different sectors and groups visible before decision-makers formulate and implement them.
- **Equal access** - Focusing on equalising access to the essential resources that influence health status (food, housing, education, primary healthcare etc.) may be faster and more effective in addressing inequalities than policies aimed at wealth redistribution. To foster equal access, securing a ‘guaranteed’ basic income combined with reciprocal contributions to local communities could be one of the policy tools.
- **Health equity** - We need to identify health equity as a crucial criterion when evaluating investments in health technology.
- **Alternative funding mechanisms** - We should consider alternative funding mechanisms to traditional health insurance. With advances in genomics, risk profiles will become more accurate, which in turn may lead to an exacerbation of inequalities in access to insurance schemes and affordable healthcare.

### The policy process

The EHFG Health Futures Project once again highlighted that population health cannot be the sole preserve of health ministries, and the scenarios pointed to possible strategies to embed health in all policies in an encompassing way:

- **Honesty and openness** - We need to inform decision-makers across sectors as well as the wider public about significant trends which affect health and the sustainability of current health systems. Citizens need to be sensitised to the health challenges facing society and its public services, and understand how institutions need to change.
- **Make the connections** - All government departments need the tools to understand the implications of integrative policy choices for population health. While health impact assessment may help, an alternative is to consider systemic and less ‘siloed’ ways of structuring public policy analysis and decision-making.
- **Nimble responses** – The pace of change is escalating, but we can also predict the effects and understand the consequences of alternative actions much better, with technology developments providing the basis

for unprecedented levels of analysis. However, it is important that this complexity does not slow down the decision process. Instead, we need to develop ways of making decisions that are responsive to changes in the policy environment, even after they have been implemented.

- ***The right scale*** – Local communities tend to have a better understanding of the requirements of their citizens and of their political and social geography. The key point may be to have national frameworks that set the context and direction, but provide sufficient freedom and resources to enable local interpretation. Equally, we need a system for screening local innovations to identify those that can have wider benefits if scaled-up. There needs to be a dialogue between Member States about which initiatives might be best taken to an EU level to address common health risks and opportunities.

### **Harnessing value from technology innovations**

Investment in new technology should be considered as a means to an end. The scenarios highlighted a number of possible levers to secure greater public benefits from innovations in health and healthcare:

- ***Conversations about ethics and values*** - We are entering an era in which scientific advances have the potential to make changes to physical and mental health that challenge conventional moral positions and belief systems, and also raise difficult questions about the deployment of public resources. Public debate about the social ethics and values to be applied in decisions about health technology investment is becoming a necessity.
- ***Co-creation in health research*** - Bringing public and patient views together with those of clinicians, academics and manufacturers offers the opportunity to deliver products and devices that have greater potential to be acceptable and effective.
- ***Supplier facilitation/management*** - Health systems must be more proactive in identifying and signalling unmet needs to the market. Governments can add value by facilitating new supplier relationships, bringing together researchers and business leaders from different disciplines.
- ***Supporting adoption on the 'demand side'*** - This is as important as stimulating the supply of appropriate technology solutions. It means making sure there are fast and responsive approaches to regulatory approval, simple procurement processes and healthcare providers with the skills to introduce and adapt innovations to get the best possible results.
- ***Intellectual property laws*** - There is a need for further development and wider use of alternative approaches to IP (e.g. licenses to share) that reflect the pace of change and promote greater public benefit, whilst safeguarding intellectual and scientific innovation. In addition, the perverse incentives created by current IP legislation need to be addressed. By widening the scope of patents to also include areas such as community initiatives or service reconfigurations, innovation can be incentivised beyond the conventional sector.

### **Data sharing and connectivity**

The increasing availability of data and connectivity between devices and systems offer some significant benefits for human health and for health systems but require preparedness to face potential downsides. Areas requiring increased attention include:

- ***Data security and privacy*** - With a rapid evolution of data applications, algorithms and analytics on the horizon, health systems need to be equipped with future-proof safeguards that counteract risks to individual dignity and privacy, particularly as regards medical records and personal genomic data.
- ***Clear legal and operating frameworks*** - These need to cover data sharing, ownership, security and the management of liabilities. While connectivity and open access technology can be positive developments, they may pose a threat to the protection of intellectual property. Here is scope for EU-wide agreements about how best to strike an appropriate balance between social good and incentives for businesses and entrepreneurs to innovate.

### Improving health and digital literacy

Empowering all citizens, including the most vulnerable, to take greater responsibility for their own health will be of relevance in all three scenarios. Most states now recognise that this is a key ingredient for the future sustainability of their health systems, and could work on several areas:

- **Skills-building** - We need to support the development of health and digital literacy for all societal and age groups. It will be best to support these skills from a very early age. Better health 'literacy' means both ensuring people understand the factors that influence their health and wellbeing and also have the skills to act accordingly.
- **Continuing professional development** - As citizens have more information and personalised feedback about their health and lifestyle, the patient-doctor relationship will inevitably change, with both sides needing to adjust and re-evaluate their expectations of each other.
- **Validity of health information** - With an increasing array of information available for those who take more responsibility for their health, policy makers need to consider how they can support individual competence in assessing health information.

### Health and work

The links between positive health and work are well known. Some societies currently have high levels of unemployment, particularly amongst young people, growing under-employment and rising levels of employment instability. All the scenarios anticipated significant changes in the nature of work because of technological advances. We need:

- **Work attitudes** - We need public debate about the meaning of work in our cultures, including proactive measures to prepare individuals and societies for a world with less work – or at least less paid work of a conventional kind.
- **Mental health** - Mental health resilience needs consideration alongside economic resilience.

## MAIN MESSAGES FOR STAKEHOLDER GROUPS

The main messages from the EHFG Health Futures Project have been listed under the four stakeholder pillars of the EHFG. However, in 20 years' time the composition of these groups may well be very different to how they are today.

### The public sector

- Society is changing and there are increasingly diverse ways for people to express their views. If these views are ignored, public unrest may be inevitable, especially if the multiplying effects of social media are taken into account. Public sector bodies and governments need to be responsive to such changes, developing alternative democratic processes that embrace and invite participation from all sections of society.
- Medical and clinical curricula need an overhaul to ensure that health professionals have the necessary skills, knowledge and insights to embrace and adapt to future trends, including data and digital literacy, changes in professional roles and more facilitative relationships with 'patients'.
- In response to the speed of innovation and development, governments and regulatory bodies need to ensure that they adapt their approval processes for drugs, devices and treatments, making them faster and more flexible while still ensuring safety and sustainability. They also need to consider ways of developing a more collaborative relationship with suppliers and innovators.
- Governments should consider incentives to promote long-term corporate responsibility and investment for employee health and wellbeing.
- There is the need to consider new forms of public-private partnerships beyond the health sector so that private sector skills, capacity and capital can be mobilised to solve population health problems.
- Cooperation with international bodies to secure appropriate tax revenues from multi-national corporations and shared across all states in which they operate may help offset the rising costs of health and care.

### **The private sector**

The private sector needs to support social objectives as an active form of corporate social responsibility. This means:

- Being willing to consider and declare social results alongside their financial 'bottom line'.
- Becoming aware of their role in helping employees adjust to the new world of work.
- Supporting the health and wellbeing of employees - which can help to improve productivity.
- Considering new business models that match changes in social expectations.
- Being open towards a new transparency culture.

### **Civil Society**

This heading embraces a wide range of stakeholders - from those that represent patient and professional interests to charities and think-tanks. There is scope for civil society organisations to contribute to health policy more effectively, by giving a voice to those they represent across all stages of political and decision-making processes, up to the evaluation of policy impacts. Key points for civil society organisations are to:

- Be active, albeit at times critical, partners in shaping policy discussions and options, and open to change - also with regard to their own role.
- Highlight the difficulties facing disadvantaged groups and co-create solutions.
- Help prepare patients, families and communities to understand the changing pattern of health needs and the range of new developments.
- Use their resources to improve health literacy and increase participation - in both demographic structures and in the health field.
- Be transparent about their funding and the interests they serve.

### **Science and Academia**

Europe needs international, multidisciplinary, collaborative research to understand global and local health trends and develop appropriate responses to promote health over the next 20 years. The main messages for this sector are to:

- Include clauses in research grants which require academics to make recommendations about how the findings from their research might be exploited or deployed for the public good.
- Engage with civil society to get a closer understanding of the problems important to different groups in society, and then use this to establish R&D agendas.
- Pay more attention to practical concerns, including assessment of the societal impacts of policies - both those in practice and those under development.
- Be willing to frame research findings in an accessible way, enabling decision-makers to consider and implement them.
- Allow for data sharing and public scrutiny of the evidence produced.

## In Conclusion

The scenarios presented in this report offer some 'pictures of the future' and highlight some of the risks and opportunities for the health of Europeans. We hope that the EHFG Health Futures Project will stimulate debate and learning amongst representatives from all four EHFG pillars at local, regional, national and European level. One overarching outcome of this rewarding project is that making effective policies in this world of complexity, change and ambiguity requires joined up policies that stretch beyond ministries of health. This calls for three ingredients – first the development of an intellectually coherent framework about how health is determined and sustained, second, a compelling narrative that can gain the support of the public, health professionals and other stakeholders and third, the political will and determination across sectors to make health and well-being a national priority.

We would like to thank all contributors for sharing their advice, expertise and questions.

# APPENDIX I

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# APPENDIX II

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