Healthcare in Europe:
Scenarios and implications
for digestive and liver diseases
Healthcare in Europe 2040: Scenarios and implications for digestive and liver diseases

CONTENTS

Future scenarios in GI healthcare: Why do we need them? 6
Making sense of a complex world 7
Key uncertainties 8
Healthcare in Europe 2040: Our scenarios 9
Ice Age 10
Silicon Age 12
Golden Age 14
From 2014 to 2040: Scenario timelines 16
The GI patient pathway: A glimpse into the future 18
The GI doctor: Possible healthcare provision 21
Starting the conversation 22
Of course, it is impossible to predict how Europe will look in 2040 from a political, societal or healthcare perspective. But while we may not be able to foretell the future, as a society and as clinical specialists, we can create plausible future scenarios for healthcare in Europe, enabling us to focus our thinking, sharpen our strategies and inform our decision-making.

Where will the European healthcare system be in 2040?

Will there even be one?

Will we have a flourishing, well-coordinated and unified Europe delivering high-quality healthcare to all?

What might any of this mean for digestive and liver health?

Will society have slipped into impoverishment with little access to healthcare?

Will you be prepared for the consequences?

If you hold a stake in the health of our nations, especially if you have an interest in digestive and liver health, please read on.

One day, could one of these scenarios become reality?
Future Scenarios in GI Healthcare: Why Do We Need Them?

Current models for healthcare delivery in Europe are unsustainable. A rapidly ageing population supported by a shrinking workforce presents major challenges and requires new thinking.

Gastrointestinal (GI) diseases contribute significantly to the healthcare burden in Europe, accounting for substantial morbidity, mortality and cost. GI diseases kill more than 200,000 EU citizens every year and are one of the most common reasons for primary care consultations and hospitalisation. Over one-third of all acute hospital admissions are due to GI diseases, and most Europeans will visit a gastroenterologist at least once in their lives.

Faced with inevitable change in our healthcare environments, and recognizing the need to better anticipate and prepare for the future, UEG’s Future Scenarios Working Group has been collaborating with specialist scenario planners to develop a set of plausible, relevant and challenging scenarios that may impact the delivery of GI healthcare in the future. These are presented in the following pages of this booklet.

Why? What? How?

To focus our thinking, sharpen our strategies and enable us to have courageous conversations about the future of GI healthcare.

Three challenging yet plausible scenarios relating to the future delivery of healthcare for those with digestive and liver diseases.

By combining expert knowledge, quality research, hard work, dedication and a lot of imagination.

Making Sense of a Complex World

The world of scenario-building focuses on many complex factors. To build our healthcare scenarios for 2040, we needed to look first at those factors that affect our everyday lives but cannot easily be influenced or changed by any individual. These are the ‘contextual environment’ in which we work and include factors such as the political landscape, legislation, environmental and demographic change. These factors in turn affect the ‘transactional environment’, which has a more immediate impact on our work as healthcare professionals and includes our interactions with, for example, our investors, suppliers, employees, patients, competitors and regulators.

After establishing a broad contextual and environmental framework, the factors most likely to influence healthcare in 2040 were identified. ‘Structured imagination’ was then used to envisage how these factors might evolve in the future and to develop 24 end-states. Extensive debate and discussion then generated a range of insights that became the building blocks for a range of potential scenarios. These were extensively analysed, refined and merged, resulting in the three, equally plausible scenarios that are presented here.

Scenarios Are of Something For Someone and For a Purpose

CONTROLLING CONTEXTUAL ENVIRONMENT
INTERNATIONAL FINANCE
ECONOMICS
LEGAL
MINISTRY OF HEALTH
INFLUENCE & CO-DESIGN
CONTROLS
TECHNOLOGY
ECOLOGY
NGO
EMPLOYEES PATIENTS
INVESTORS
SUPPLIERS
REGULATORS
COMPETITORS
ENERGY PRICES
SOCIAL VALUES
MACROECONOMICS
GEOPOlITIcAL TRENDS
EXCHANGE RATES
INTERNATIONAL TRADE
INTErnATIONAL FInANCE
CONTrOl
EMPlOyEES PATIEnTS
InvESTOrs
nGO
s
TEcHnOlOGY
LEGISlATIOn
MACROECONOMICS
INTERNATIONAL FINANCE
ECONOMICS
LEGAL
MINISTRY OF HEALTH
INFLUENCE & CO-DESIGN
CONTROLS
TECHNOLOGY
ECOLOGY
NGO
EMPLOYEES PATIENTS
INVESTORS
SUPPLIERS
REGULATORS
COMPETITORS
ENERGY PRICES
SOCIAL VALUES
MACROECONOMICS
GEOPOlITIcAL TRENDS
EXCHANGE RATES
INTERNATIONAL TRADE
INTErnATIONAL FInANCE
Key Uncertainties Facing GI Healthcare Delivery

- Political Changes
- Climate Change
- Globalisation
- Migration
- Religion
- Technology
- Research Funding
- Drug Resistance
- Self-Medication
- High Non-Compliance
- Social Inequalities
- Ageing Population
- Alcohol and Tobacco
- Food Industry
- Future of Family and Home Care
- Future of the Doctor
- Changing Landscape of Diagnostics and Treatments
- Standardisation of Healthcare

Healthcare in Europe 2040: Our Scenarios

**Ice Age**
Where European impoverishment will have led, by 2040, to two-tier medicine and eventually to the collapse of public healthcare in Europe.

**Silicon Age**
Where advancements in technology, science and social interactions will have led, by 2040, to very extensive automation of diagnoses and treatments and redirected health behaviour, resulting in a positive change in healthcare.

**Golden Age**
Where a strong, well-coordinated, unified Europe will, by 2040, ensure high-quality healthcare for all European citizens.
Health and Healthcare

The Ice Age sees the development of a two-tier healthcare system and eventually to the collapse of public healthcare in Europe. An ageing population with an increase in age-related chronic diseases like cancer, antibiotic resistance as well as a lack of new drugs and outbreaks of infectious disease epidemics all threaten the population. Poverty and poor healthcare have led to high rates of morbidity and mortality within the general population. Most individuals have little or no access to healthcare and are also plagued by diseases associated with alcohol, tobacco and obesity. In desperation, people are turning to alternative medicine and uncontrolled self-medication.

For the rich minority, there is excellent healthcare available in the private sector. Science is market-driven and healthcare services, primarily provided by profit-hungry insurance companies, are only available to those who can pay. Healthcare workers are leaving Europe seeking better conditions and access to the latest technology and treatments. Patients are increasingly seeking healthcare outside Europe or from off-shore floating hospitals.

Ice Age Healthcare Provision
Silicon Age

During the Silicon Age, global trends and crises have led to changes at every level: individual behaviour, social priorities, industrial strategies and government policies. Population growth has encouraged innovation and there is widespread acceptance of technology. Social media has become highly influential across the healthcare sector.

The European Union still exists and has contributed to the modernisation of health legislation across Europe. There is a large non-EU immigrant population relying on social security and draining resources and escalating healthcare expenditure.

Health and Healthcare

Whilst inequalities in healthcare still exist, the dominance of technology in the Silicon Age has provided a means of delivering high-tech, cost-effective care to the majority.

E-algorithms, detailing risk profiles for multiple diseases are developed through genomic screening at birth. Individuals take responsibility for self-monitoring, self-cure and prevention assisted by comprehensive lifestyle and health data stored in their personal electronic patient cloud record. Automated diagnostics and interventions, including robotics, are readily available by self-referral.

With the adoption of e-health, the role of the doctor has fundamentally changed from delivering healthcare to assisting individuals with navigating and understanding their medical e-data.

Collaborative ventures as well as innovative public and private partnerships work for the benefit of the patient. Widespread use of social media platforms has helped to integrate significant advances in medical research and data capture.

Alongside e-health is a shift into a new e-economy which includes novel monetary systems which carry the risk of using unofficial currencies and unethical and even criminal activities. Social media and advanced technology bring with them privacy concerns, some poor quality health practices as well as complex systems which are hard to navigate.
Golden Age Healthcare Provision

**Health and Healthcare**

An influx of immigrants and widespread cross-border movement of Europeans has resulted in a more multicultural and united Europe. Here we see a United States of Europe (USE), with no borders, homogenized education, taxation and legislation systems and universal access to healthcare for all. Economic growth has slowed, environmental issues are being addressed, and preventative health is high on the agenda. The resultant peace and stability denotes a Golden Age for Europe.

**Golden Age**

**Healthcare Provision**

- **Climate Changes and Global Warming** put pressure on economics and the environment.
- **Low Economic Growth and Demographic Changes** put pressure on the EU.
- **Migratory Flux**
- **Adaptation of the (Food) Industry to More Stringent Requirements**
- **Need for a More Stringent Legislation and European Economic Governance**
- **Wide but Limited Access to the Healthcare System Requires Rationalization of Resources**
- **Implementation of a More Stringent Legislation: Europe Wide**
- **Taxation and Budget Control at a Supranational Level**
- **Creation of the United States of Europe**
- **E-Health and Generalised Medicine**
- **Homogenization of the Healthcare and Educational Systems**
- **Technological Advances**

**HEALTHCARE IN EUROPE 2040: SCENARIOS AND IMPLICATIONS FOR DIGESTIVE AND LIVER DISEASES**

***Healthcare in Europe 2040: Scenarios and Implications for Digestive and Liver Diseases***

---

*Healthcare in Europe 2040: Scenarios and Implications for Digestive and Liver Diseases*
The CRC Patient Pathway: Ice Age

```
<table>
<thead>
<tr>
<th>'Rich' pathway</th>
<th>'Poor' pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symptoms</strong></td>
<td><strong>Symptoms</strong></td>
</tr>
<tr>
<td>Immediate explorations: Colonoscopy + biopsies for histology</td>
<td>Symptoms neglected, then alternative medicine (plant infusions supposed to stop bleeding) for 2 months</td>
</tr>
<tr>
<td>Confirmation of diagnosis of ADC of the rectum</td>
<td>Improvement of symptoms</td>
</tr>
<tr>
<td>Pre-treatment work-up in private center: CT-Scan, MRI, EUS, +/- PET-Scan: Tumour stage T3N(+)+M0</td>
<td>Relapse after 4/6 months + anaemia + general asthenia</td>
</tr>
<tr>
<td>Multi Disciplinary Team meeting to agree treatment</td>
<td>Entry to public health service via emergency</td>
</tr>
<tr>
<td>Neoadjuvant radio-chemotherapy followed by surgery</td>
<td>1 month wait for colonoscopy</td>
</tr>
<tr>
<td>Post surgery:</td>
<td>Delayed diagnosis of ADC of rectum</td>
</tr>
<tr>
<td>• Surveillance CT-Scan every 3 - 6 months, regular colonoscopy</td>
<td>Pre-treatment work-up with limited means: RTX Thorax + Abdominal USG (or CT-Scan if available): tumour stage IV, with liver and lung metastases</td>
</tr>
<tr>
<td>• Oncogenetic counselling for the patient and their family and family surveillance</td>
<td>First-line metastatic chemotherapy with available drugs (suboptimal, no biotherapies available)</td>
</tr>
</tbody>
</table>
```

The CRC Patient Pathway: Silicon Age

```
| **Risk profile and health risk passport developed at birth through genomic screening** |
| **At age 25, individual screening plan developed using genomic risk data on lifestyle and environmental risk factors accumulated online from self-monitoring apps/phones and governmental databases** |
```

```
| **Eligible for insurance coverage** |
| **Ineligible for insurance coverage** |
```

```
| **Immediate exploration at health station if test is positive: Colonoscopy including biopsies/polypectomy - confirmation of diagnosis, adjustment of screening plan** |
| **Colonoscopy including biopsies & treatment because of symptoms or positive screening - risk of delayed diagnosis** |
```

```
| **Mortality and occurrence of CRC decreased** |
| **Mortality and occurrence of CRC unchanged/increased** |
```
Patient from UK

Complains of fatigue

Goes to the local pharmacy where blood is drawn and sent to centralised lab

Diagnosis of microcytic anaemia due to faecal blood loss is made

The patient receives an endoscopic capsule, which sends images via a wireless system to a diagnostic centre in the Netherlands

A diagnosis of colon cancer is made. The patient receives a genetic profiling on the tumour and somatic cells

According to the most recent trials, he should receive pre-treatment with the anticancer agent KJX before surgery, to maximize the chances of success

The patient is treated with surgery and neoadjuvant treatment

After 15 months, local recurrence and liver metastasis is diagnosed

The CRC Patient Pathway: Golden Age

ICE AGE

Doctors are leaving Europe seeking better conditions and access to the latest technology and treatments

SILICON AGE

Doctors assist individuals with navigating and understanding their personal electronic patient cloud records

GOLDEN AGE

Doctors maintain a traditional role delivering patient centred care supported by cost-effective e-health platforms

The Role of the Doctor: A Glimpse into the Future
These scenarios have been developed with the aim of encouraging Europe-wide debate on the future care of people with digestive and liver diseases. We want to hear your thoughts, capture your ideas, and use them to help us shape the research, teaching and services offered by UEG and its members.

Begin the debate…

Look at healthcare in a different way…

Set our imaginations free…

Refocus our priorities…

Change mindsets…

Starting the Conversation

Help us plan for a better future for people with digestive and liver diseases.

Visit www.ueg.eu/gastro2040 and vote for the scenario you think is most likely.

Post your thoughts and comments on the future of digestive and liver diseases throughout Europe: @my_UEG #GI2040